

LETTERS

Comment on “Giving Advice: Enough Is Enough After Three Solar Cycles”

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I read Michael Mendillo's Forum in *Eos* (90(35), 299, 1 September 2009) complaining that grant awards committees have become entrenched and favor their own projects and institutions. How true! It has been that way for too long, and AGU's Space Physics and Aeronomy (SPA) section lives with the results: the lack of new talent and the lack of new discoveries. It is a problem the community should have confronted long ago. However, I question Mendillo's suggested remedy, to limit participation time on committees to three solar cycles and bring in “young blood.”

Perhaps this advice might have worked 30 years ago, but because of the problems Mendillo described so well, present-day SPA suffers from general anemia. It does have young people, but not with the required breadth, depth, vision, and training. It

has not attracted top talent or adequately trained that which it has. Just look at the slow rate at which textbooks with new material appear.

Fifty years ago, SPA disciplines were entering an era of discovery, but now major discoveries and new insights have almost ceased. I commented on that in a collection of essays focusing on “Constellation’ missions and future research” on my Web site (<http://www.phy6.org/Education/introfut.htm> and <http://www.phy6.org/Education/Future.htm>). If there is a metric for the health of our field, it is the rate at which the field develops, by either discovering new problems or addressing and solving existing ones. But little of either is happening, and for one main reason. Rather than actively pursuing new phenomena or theories, many young researchers seek professional security by associating with funded projects, preferably big ones.

NASA policy has encouraged the trend by making it difficult for those left outside to pursue research, and your “graybeards” and “silver foxes” are mainly concerned with tweaking the process in their own directions.

The flaw may be more in the system than in people staying past three solar cycles (I am on my fifth). Those “old boys” of whom Mendillo complains often started as young operators, as “political scientists” from the beginning. For instance, I remember when and by whom the “space weather” campaign was first introduced during an informal session at an AGU meeting, and it was not by old-timers. Age does a lot of things, but it rarely changes outlooks or styles of operation.

I wish I knew how to exit this trap, but sometimes I wonder if too much damage has already occurred. Thirty years ago, it still may have been possible to rejuvenate SPA, but the fresh talent and vision needed for such a change are no longer evident. Nor does NASA headquarters have the visionary talent. Sometimes, a fresh new forest will not grow until the old one burns down completely. Still, I hope that is a bad analogy.

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One of the joys of life is the ability to be surprised. I anticipated e-mails from younger scientists expressing eagerness to serve on important advisory committees but frustrated at the lack of opportunity. Their messages spoke of the comfort zone of being in the shadows of the big boys—doing research rather than politics; but now they saw the need to get more involved. Bravo!

My second surprise was that so many senior scientists, leaders of the geosciences nationally and abroad, voiced strong endorsements of the call to fix a dire situation.

David Stern's comment about the readiness of the next generation mirrors only a small percent of the comments I received. He points more to a failure in our collective mentorship than to any lack of

abilities of younger scientists. Viewed from a university setting, with its constant turnover of students and postdocs, my confidence in the next generation remains strong; they just need opportunities to emerge. His feeling that Space Physics and Aeronomy (SPA) has not “attracted top talent or adequately trained” its students, citing the slow rate of textbook revisions, is off the mark. The SPA programs at the U.S. National Science Foundation foster the recruitment and retention of students and support for new faculty, and these efforts are highly successful. In 2009, the two major textbooks in aeronomy have revised editions to include new discoveries about coupling from below [Kelley, 2009] and the emergence of comparative aeronomy [Schunk and Nagy, 2009]. It is NASA's lack of spaceflight missions in these exciting areas that negatively affects students and young professionals.

My hope is that in starting this dialogue, we all might realize that “protectionist advice” hinders scientific progress. Thoughtful assessments are needed regarding the proper roles for senior colleagues in the space sciences, a field now experiencing its first large cohort of near retirees. I urged that they keep active, but not on major advisory panels, and certainly not for successive versions of the same committees. The last thing a new generation of advice givers needs at the table is senior sources of self-preserving wisdom saying, “This is the way it is done.”

References

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