

## Giving Advice: Enough Is Enough After Three Solar Cycles

On 1 July 2008, I concluded my 6-year term of service as president-elect, president, and past-president of AGU's Space Physics and Aeronomy (SPA) section. I truly appreciated the trust and confidence placed in me by the SPA electorate, and I greatly enjoyed this unique period of professional service. To have sufficient time to be fully engaged in SPA and AGU matters, I had taken a 6-year leave of service from advisory committees at NASA, the U.S. National Science Foundation, the Space Studies Board of the U.S. National Academy of Sciences (NAS), Department of Defense laboratories, and grant panels at all U.S. federal agencies.

When my SPA duties were winding down about a year ago, I resumed my service on committees and panels. I was surprised to find that not only have things not improved, but they are far worse. The occurrence of self-serving advice, subdiscipline protection, and the shameless promotion of projects linked to one's home institution is now out of control. If these patterns of professional conduct are not addressed seriously, SPA will survive into the 21st century as nothing more than a disjointed series of isolated fads based on bias and hype.

As all program managers assembling a grant panel know, and as every committee convener understands, advisory groups need that prized quality of balance. Thus, for a typical 12-person SPA-type committee, there should be three members from each of its subdisciplines: solar, heliosphere, magnetosphere, and ionosphere-thermosphere-mesosphere physics. The perfect advisory committee has such a roster, composed of several senior scientists, including some women, and a couple of young professionals filling the slots, and things go on merrily as ever.

### Where Is the Concern?

The problem with a constituency formed in this manner comes from the first demographic, the graybeards and the silver foxes. They are accomplished scientists, shown respect and deference by their juniors, and they are far more experienced and knowledgeable than the committee/panel managers they supposedly serve. Widely known as good people to serve on committees, they get invited over and over again, decade after decade. They know how to get things done. Unfortunately, they also know how to get their way. After decades of service, they know just the right time and way to kill priorities suggested by others on an advisory committee. On a grants panel, they know the precise time and manner to push for or against a proposal they want to see placed either just above or just below the line for funding. In short, they are so unbelievably good at manipulating the system that their handiwork hardly ever gets noticed. The end result is that a very small number of SPA colleagues exert a wildly disproportionate clout over the field. On committee after committee and on panel after panel, they push and most often succeed in getting their version of a subdiscipline to be defined as the dominant vision of the full field.

The "seniority system" is not a new phenomenon. It happens in every science, in business, in Congress, and in all fields that

require policy input from a dependent community. Because my credentials are in the SPA disciplines, I am confining my thoughts to those experiences. I know our community well, and the number of colleagues I am referring to, perhaps a dozen or so, are the very ones who helped bring space physics to maturity, in no small part by their own significant scientific accomplishments. They are terrific dinner companions and are wonderfully connected. Unfortunately, they just cannot stop themselves from being in control, and—somewhat sadly but understandably—they welcome their self-image as apostles of the past becoming prophets of the future.

This is my generation. We went to graduate school in the 1960s, did our postdocs, got professional positions, and then in our early 30s started service beyond our institutions.

My suggestion is that using the age of about 31 as the starting point, after we provide three solar cycles worth of committee and panel service (approximately 33 years of giving advice), we should step down. As a member of the Beatles' generation, the words that come to mind are those famous ones asking about still needing us and feeding us when we're all 64. The refrain I urge is, "Yes, of course, but not as an advisory committee member, and certainly not as its chair."

This is not a call to give old geezers a break. Quite the opposite. They are just too skilled at manipulation, overly successful at offering self-serving advice in the guise of impartiality, and wickedly good at managing to have awards and honors assigned to their friends. To allow them a fourth or even fifth decade of manipulation masquerading as advice simply must be out of the question.

### Examples Behind the Rhetoric

Providing some evidence that the system is broken is as easy as aurora. Just take a look at the *Decadal Research Strategy in Solar and Space Physics* [*Solar and Space Physics Survey Committee*, 2003], prepared by the Space Studies Board of the National Research Council. As our community's first-ever decadal strategy, I would have hoped for a more expansive and exciting agenda that broadened the envelope of SPA science. Instead, statements of high-level goals led to a narrow, ever-myopic, listing of the pet projects of the most forceful senior panel members. The committee subpanels did a terrific job, providing innovative and exciting new options and suggestions. Then the graybeards took over the process, and in the 59th minute of the 11th hour of finalizing the report, a few committee members met for some final wordsmithing, i.e., ostensibly to get all of the draft text into a shorter format for the full committee to approve. Decisions on what to include and exclude had to be made, and this important service was accomplished by a small seniority group within the committee. Not surprisingly, their views became the guiding ones for the final strategy. Masters of control also know how to time things so exquisitely that significant changes are impossible once a final text is presented to the rest of the committee at press time.

The resulting document is a milestone in subdiscipline protection. With the solar and magnetospheric physics spaceflight priorities placed atop the list, subsequent items were so blandly worded (i.e., "three to four satellites" to do this, "four or more satellites" to do that, and "50 to 100 satellites" to do more of the same) that the full breadth of SPA science never had a chance at implementation.

For more evidence that the system is broken, consider one of NASA's highest honors: to be asked as a community elder for advice on ultimate programmatic decisions (e.g., whether or not working satellites should be turned off). These are called senior reviews—about as scary a concept as I can imagine. Senior egos, enriched by governmental certification of membership in a sort of "Intelligent Design" Club for Space Science, decide which of the projects they pushed for in the past they would like to push into perpetuity. Just seeing the committee roster is sufficient to predict with certainty the advice to be given. This is not the way community input should occur. The near-term agenda and the far-term future should never be left to individuals incapable of separating self-interest and institution protection from true community needs.

With my AGU hat on, I personally witnessed the SPA Fellows Committee reconvene after it failed to place the nominee of a persuasive graybeard on its short list. I also saw and fought attempts to manipulate committees charged with the selection of editors for some space physics journals, when the not-so-subtle goal was the promotion of close friends of graybeards. There is no area of community control considered beyond the reach of some of our SPA senior statesmen.

### Time for Some Changes

These are the reasons I say enough is enough after three solar cycles. So I ask my colleagues of the Beatles' generation, those of us older than 64, to step aside and let the younger generations determine their future. We had our chance and did a splendid job, but the signs of stagnation are clear. When a few of our most veteran scientists refocused the scientific themes of solar-terrestrial physics to the applications areas of space weather, it was good for funding, but it also was damaging to the intellectual foundation of the overall SPA field.

When it became obvious that NASA did not have the funds to cope with both the cost overruns of missions started and the rest of those missions outlined in the *Decadal Research Strategy in Solar and Space Physics*, the decision to abandon the National Research Council themes of

comprehensive science was again guided, in part, by advice from veteran SPA advisors. This led to the current situation of not a single mission called for by that strategy being in space by the end of the decade covered by the report. The result is that the study of the full solar-terrestrial system from space is no longer a viable space science.

### Actions Needed

Please take a pledge to move on to other aspects of life. In addition to doing good research, replace community control with writing a book, creating a new course, serving as a tutor in your local school system, or just smelling the roses. But please stop trying to be in control. A highly successful career in SPA science does not equate with an inalienable right to determine the future of solar and space physics. Decline requests to sit on proposal evaluation panels and instead offer to submit mail-in reviews. For advisory committees, presenting some testimony certainly makes sense as a way to utilize experience and to offer lessons-learned advice, but do so only as a guest of the committee, not as its driving force.

As young scientists, we had the benefit of a few senior visionary leaders to shape the field at its onset, but we carried forth the program. We have now entered an era of constrained resources, blocked career paths, and uncertain futures. Experience the joy of realizing that your legacy is in the library. The time has come for others to formulate their future. Consider that one of your key failures might be in mentorship if your junior colleagues are still in your shadow.

Finally, I realize that a call for the barons of the realm to step aside might not be heeded. Thus, of equal importance is that program managers at agencies and, in particular, at the NAS Space Studies Board stand up and make the tough decisions required to get new blood into the leadership. Your jobs will be more difficult without veteran volunteers running the show, but have the courage to work with a new generation. Midcareer and younger colleagues also need to step up and serve independently, not merely as stand-ins for their former advisors and mentors. It is, after all, your future. And we will all be better off with your more active participation.

### Reference

Solar and Space Physics Survey Committee (2003), *The Sun to the Earth—and Beyond: A Decadal Research Strategy in Solar and Space Physics*, 196 pp., Natl. Res. Council, Natl. Acad. Press, Washington, D. C.

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