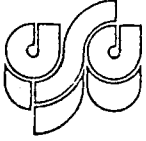


SCIENCE, KNOWLEDGE and TECHNOLOGY

Spring, 1989



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Preparations are well under way for SKAT activities at the San Francisco ASA meeting. Mark your calendars for Thursday and Friday, August 10 & 11. A special panel session, "Women in Science: Needed Research," has been tentatively scheduled for Thursday evening at 8:30. Friday is SKAT section day with a full schedule of events including two paper sessions, informal roundtable presentations, a business meeting, and a 6:30 PM reception. A listing of presentations is included in this issue of the newsletter and additional details will be provided before the annual meeting.

Susan Cozzens' draft of the guidelines for planning for future SKAT programs appears in this issue and will be discussed at the annual business meeting. Please send your comments and/or suggestions for modification to Susan at Dept. of Science and Technology Studies, Rensselaer Polytechnic Institute, Troy, NY 12180.

This issue of the newsletter also includes the inaugural article in a series on the funding process that is being organized by Mary Frank Fox. Daryl Chubin, a sociologist with wide experience both as a grant seeker and a reviewer, attempts to demystify the funding process with his 7-step sequence. If you have comments on Daryl's article or would like to describe your own experiences seeking funding, write to Mary Frank Fox, Dept. of Sociology, Penn State University, University Park, PA 16802.

Tom Gieryn reports an excellent response to his call for course syllabi on sociology of science; sociology of technology; science, technology, and society; and related topics. We plan to publish selected syllabi in future issues of the newsletter and work toward publication of a set of syllabi through the Teaching Services Program of the ASA. Tom is continuing to collect course outlines, reading lists, and associated material. You may send these materials to him at the Program on Science, Technology, and Society, 632 Clark Hall, Cornell University, Ithaca, NY 14853.

Items for the newsletter should be sent to:

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**COMPETING FOR RESEARCH FUNDS:
DEMISTIFYING THE PROCESS***

Daryl E. Chubin
Office of Technology Assessment
U.S. Congress

Books have been written on the fine art of grantsmanship and how to convert the entrepreneurial research spirit into funded research projects. This brief is hardly so ambitious. It is merely an introspective note: one researcher's experience based on over a dozen years of proposal writing and reviewing, winning some and blessing others. Concurrently, I have studied empirically "grants" and "journal" peer review systems. Now that I'm out of this particular competitive spiral and "inside Washington," I have both a first- and a third-person perspective. That makes me necessarily no wiser, just more skeptical, perhaps cynical. It also raises my expectations about penetrating the process that precedes the program/agency decisions to fund or not to fund.

The most recent impetus for these ruminations was the SKAT session at the Atlanta ASA meeting in which three NSF program managers encountered an audience hungry for information on how to succeed at proposal writing. My sense is that their appetite remains hearty. Here are some tidbits (and not restricted to NSF, by the way); you may find them hard to digest, but consider them candidates for debate and discussion. I offer the following hints, presented in a 7-step sequence:

1. Grant proposals are the end-product of a process (that sometimes seems neverending). The process begins with researching the agency and the program within it that you think you want to approach for funding. Check the resources on your campus for assisting in the preparation of research proposals. Call the program manager. Ask for a copy of the latest awards list, project summaries, and program announcement. Prepare a two-sentence description of your research interest and recite it on the phone. Remember, programs must show "proposal pressure," i.e., that researcher demand exists for their scarce resources. Unless your ideas are far afield the program's scope, you will probably be encouraged. Ask about the recent success rate and average award size for applications in the last two cycles. (Sometimes being directed initially to another program is the biggest favor a program manager can do for you.)

*I am grateful to Mary Frank Fox for the invitation to commit these thoughts to paper. Although no endorsement of my views is implied, thanks go to four "trusted assessors" for this brief: Willie Pearson, Jr., Henry Etzkowitz, Rachelle Hollander, and Roberta Balstad Miller (the latter two of the National Science Foundation). Miller, Director of NSF's Division of Social and Economic Sciences, is "less skeptical about the process as a whole" than I (personal communication, February 1989), and graciously provided two references about proposal preparation that "give the view from the other side": Ronald F. Abler and Thomas J. Baerwald, "How To Plunge into the Research Funding Pool," Professional Geographer, vol. 41, February 1989, pp. 6-10, and Felice J. Levine, "Social and Behavioral Science Support at NSF: An Insider's View," in Susan D. Quarles (ed.), Guide to Federal Funding for Social Scientists, Prepared by the Consortium of Social Science Associations (New York, NY: Russell Sage Foundation, 1986), pp. 46-63.

2. After chatting with the program manager and reviewing the documents sent by the agency, you are now poised to enter serious negotiations. Is this program welcoming of your research interest, approach, methodology, etc.? Do you really want to submit a proposal there? If so, call a principal investigator who appears on the program's award list and request a copy of his or her successful proposal and the reviews received on it. Use the opportunity to explore the PI's reactions to the review experience. My guess is that the approved proposal came only after revision. Find out how long ago the negotiation process began with this program. Be solicitous. Successful PIs love to give advice. (You may be a future competitor for funding, but now, you're an eager neophyte/not-quite-peer.)
3. Draft the proposal adhering to the agency guidelines. Take nothing for granted. Assume little knowledge on the part of the reviewer. (They aren't all specialists in your area of interest.) Be explicit. Write in short sentences. Eliminate jargon. Explain why the work should be done. What will it contribute to a disciplinary research tradition or to advancing theoretical or empirical knowledge in a research area? Why, in short, should a reviewer or program manager care? Use the literature (not just your own bibliography) to locate your intellectual history and credibility. Don't overdo it, but indicate that you have read relevant work - including that published outside mainstream disciplinary journals - and are building on or departing from it. Most proposals are shoddily researched and abysmally written.

And now a word from the sponsor: some peer review is neither "review" nor done by "peers." In large part, proposal review is an anonymous, confidential task. Some people use the advantage mercilessly. Assume that life is not fair and you could be a victim. But don't be paranoid or pessimistic - it's easily spotted.) Just one naysayer can undercut even a good-to-excellent proposal, and there tends to be a bandwagon effect among review panels. They would like to eliminate as many proposals as possible from serious consideration. Most science studies proposals are prime candidates because (a) they may be seen as a small specialty by disciplinary programs, and (b) in a given review cycle, panels are unlikely to approve many (any?) of these proposals if other specialties are well-represented. (There are many facets to "competition.") Although program managers are also likely to assure you that "merit counts," not area of proposed research, review panels (like all of us) have proclivities and vested interests. They, however, get to vote.

4. Give the draft proposal to 2 "trusted assessors" - local or otherwise - for candid criticism. Include one fellow specialist and one outside your area of interest. Then try to revise so as to strengthen the language, style, and content to satisfy both readers. Since track record is one award criterion, be sure to highlight your publications and previous grant awards, if any. Your c.v. may suffice here. Appending a one-page description of your research program and how the proposal advances part of it is also useful.
5. Soon after you submit the proposal, call the program manager to get an idea of how long the review cycle will take. When can you expect a decision? If the decision is negative, then be sure to request copies of the reviewer reports (if they are not automatically sent to you). Note where the proposal failed to communicate with the reader (type I error). Note where you communicated and the reviewer misunderstood (type II error). Call the program manager to get a

verbal assessment of what needs to be revised to increase the likelihood of funding. Write the program manager with your reactions to the disposition of the proposal. Don't argue and don't bother appealing through the official agency grievance mechanism. You have invested time and energy; the goal is to produce a funded proposal. Decide whether it's more cost effective to revise or start again.

6. If you decide to revise, try to extract as much information from the program manager as possible about necessary changes. This convinces him or her that you share the program's objectives and are willing to continue the process. You will also get some hints that - as an act of faith - must be more a help than a hindrance. (It's impossible for program managers to second-guess ad hoc reviewers and panel members. Not all barriers to funding, in other words, can be anticipated, especially in multidisciplinary programs where a common discourse and standards are lacking. There is inevitably, in proposal review, an element of double jeopardy.) So adjust your expectations, rhetoric, and perhaps your budget, too. (That's what negotiations are all about.) If this is basic research, you have flexibility in pursuing leads, modifying sampling design, etc.
7. Finally, share your intelligence about the process. Everyone fails sometimes in the search for research funding. But remember, you are a member of a community. You may be competitors, but you are also colleagues. If the process is seen as merely zero-sum, you will deny the lessons provided by the experience and somebody else is likely to repeat your mistakes. There are also students to think about. You are a role model and they learn by observing. Make the process explicit by discussing it.

We demystify by scrutinizing that which others would rather leave implicit and unexamined. The implicit and unexamined make not only for dubious proposal writing behavior, but bad social science as well. I invite others to share their wisdom on the process of competing for research funds by writing their own "memoir" for this column. Good luck.

DRAFT guidelines for SKAT program planning
Susan Cozzens

The objectives of the SKAT program committee are:

1. To stimulate the intellectual development of the subfield.
2. To make the SKAT program as lively and attractive as possible.
3. To encourage interaction among SKAT members.
4. To allocate program space equitably among the research interests represented in the section.
5. To follow an understandable, fair process for allocating program space.
6. To use the selection process to improve the quality of research in the section by providing constructive feedback to contributors.

I. Full sessions

A. Contributed paper sessions

1. At least one of the full sessions should be devoted to contributed papers.

2. The sessions should be formed around coherent themes rather than scattershot choice of the best papers.
3. The coherent themes should rotate over the years to reflect the full range of research interests of the section.
4. The session should be planned in a way that makes links between the coherent area that forms the focus and other areas of research in the section, for instance by having a discussant from another area.

B. Sessions at program initiative

1. The committee should consider the intellectual needs of the section and organize sessions as appropriate. These might appear as regular section sessions, additional requested sessions, or sessions cosponsored with other sections and appearing on their programs.
2. Sometimes these sessions may represent areas of research in the section where papers are not being contributed through the normal submission procedure.
3. Sometimes these sessions may represent active efforts to link science, knowledge, and technology to other subfields and areas of sociology.

C. General points

1. Discussants should synthesize and comment on the overall topic, drawing on the papers for examples, but NOT necessarily comment on the papers individually.
2. Debate and controversy should be encouraged.
3. Presenters should receive guidelines on effective presentations, including points such as speaking from notes rather than reading and making sure visual materials have large enough type to be readable from the back of the room.
4. In general, interaction will be encouraged most by taking questions after the presentation of each paper, rather than by holding questions until the end of the session, a pattern which puts the audience in a passive role.
5. Guidelines for effective chairing and discussing should also be prepared and passed on by the program committee.

II. Roundtable sessions

- A. Two or three papers on related topics should be grouped into roundtables (to insure audience).
- B. Roundtables should be used as a balance wheel to distribute program participation equitably among the various research interests in the section.
- C. Special roundtables for work in progress or professional development issues (e.g., preparing effective proposals) can be organized.

III. Selection process

- A. All section members should know that the process is competitive, that full papers will receive stronger consideration than abstracts, and that preference will be given to those who were not on the SKAT program the preceding year.
- B. Enough copies should be submitted so that all program committee members can receive one. It is best for everyone to see everything submitted to judge papers by realistic standards and give knowledgeable feedback to the chair on the best shape for the program.

- C. Call for papers and explanation of selection process should appear in the newsletter.
- D. All submissions should be promptly acknowledged.
- E. Proposals for theme sessions should be submitted by a deadline at least two months before the paper deadline. If some are encouraged, full papers should be available by the full paper deadline so the committee can judge the session in comparison with other submissions.
- F. Depending on the number of submissions, review tasks may need to be divided among the committee members; but at least two committee members should read each submission.
- G. Reviewers should use an informal feedback form that conveys their recommendation and provides a few words of substantive comment that can be passed along to the contributor.
- H. The program chair will make final decisions on the program after consultation with members of the program committee.
- I. At time of acceptance, the program chair should stress the responsibility of the presenter to show up and do a good job. A letter should be sent to those who do not appear or make arrangements to have their work presented.

IV. Other matters

- A. The program chair is responsible for preparing a brief report to Council (can appear in newsletter) which describes the program planning and paper selection process, as well as the attendance and mood of sessions.
- B. The program chair is also responsible for considering revisions in these guidelines and passing on program files and experience to the next chair.
- C. As a part of encouraging interaction in the section, a party is needed. This should be the responsibility of the Section Chair, not the program committee.

The preceding principles for program planning should be re-examined regularly in light of accumulating experience.

SKAT Program for Annual Meeting ASA Section on Science, Knowledge and Technology

Special Session (tentatively scheduled for Thursday, August 10 at 8:30 p.m.)

Title: Women in Science: Needed Research

Organizer: Henry Etzkowitz, SUNY Purchase and Center for Science and
Technology Policy, Rensselaer Polytechnic Institute

Presider: Jim Beniger, Annenberg School, University of Southern California

Panel Members:

Enina Abir-Am, History of Science, Harvard
 Mary Frank Fox, Sociology, Penn State University
 Scott Long, Sociology, Washington State University
 Phyllis Moen, Sociology Program, National Science Foundation
 Lynn Mulkay, Sociology, Hofstra
 Lois Peters, Management, Rensselaer Polytechnic Institute
 Harriet Zuckerman, Sociology, Columbia

The following sessions will be held on Friday, August 11.

Title: THE NEW SOCIOLOGY OF KNOWLEDGE:
EMPIRICAL AND THEORETICAL APPROACHES

Organizer: Henry Etzkowitz, SUNY Purchase and Center for Science and
Technology Policy, Rensselaer Polytechnic Institute

Presider: Susan Cozzens, Rensselaer Polytechnic Institute

Papers:

1. Knowledge, Power and Discourse in Public Policy Assessments. William G. Stapes,
University of California Los Angeles.
2. Newton's "Tacit" Social Physics. Dusan I. Bjelic, Boston University.
3. Collective Amnesia and Scientific Progress: The Distorted Presentation of the
Institutionalist School by the Conventional Historiography of Economics and its
Bearings on the Kuhnian-Lakatosian Debate. Yuval Yonay, Northwestern
University.
4. Invention and Ritual: Notes on the Interrelation of Magic and Intellectual
Property in Preliterate Societies. Mark C. Suchman, Yale Law School and
Stanford University.

Discussants: Stanley Aronowitz, CUNY Graduate Center
Stephen Cole, SUNY Stony Brook

Title: SESSION ON SCIENCE, TECHNOLOGY AND SOCIETY

Organizer: Henry Etzkowitz, SUNY Purchase and Center for Science and
Technology Policy

Presider: Rosa Haritos, Columbia University

Papers:

1. University-Corporate Links in Biotechnology II: The Emergence of a Structure.
James G. Ennis, Tufts University.
2. The NSF Science for Citizens Program: Death at an Early Age. James C.
Petersen, Western Michigan University
3. Resource Mobilization and Technology Development: The Role of Power in
Determining Technical Content. Suzanne Onorato, Duke University.
4. American Culture and the Veneration of Science: A Survey of Public Attitudes,
1945-1986. Joan M. Morris, Louisiana State University.

Discussants: Rob Kling, University of California, Irvine
Cora Marrett, University of Wisconsin, Madison

Title: SECTION ON SCIENCE, KNOWLEDGE AND TECHNOLOGY.
INFORMAL ROUNDTABLE PRESENTATIONS

Organizer: Henry Etzkowitz, SUNY Purchase and Center for Science and
Technology Policy, Rensselaer Polytechnic Institute

Tables:

1. One Conversation or Many: A Case Study of Scientific Discoveries. Grant Blank and Marshall Johnson, University of Chicago.
2. Foxes, Hedgehogs, and Peer Review. Susan Cozzens, Rensselaer Polytechnic Institute.
3. Creationism and Curricula: Religion, Public Education and Science. Susan Losh-Hesselbart, Ella Dennis and Phil Blood, Florida State University.
4. Images, Numbers, and Words: Articulations and Translations of Experience and their Communication in Science. Roger Krohn, McGill University.
5. Cooperation or Competition in Science and Scholarship: Societal Influences on the American Academic Elite. Albert I. Goldberg, Israel Institute of Technology, and Seymour Martin Lipset, Stanford University.
6. Harvard Scholars and the Cold War: Producing Social Fictions Through Silence. Charles O'Connell, Sociology, UCLA.
7. Value Constituting Practices, Rhetoric, and Metaphor in Sociology: Issues in the Sociology of Science. Laurel Richardson, The Ohio State University.
8. Research Groups in Academic Science, Carol Kemelgor, SUNY Purchase and Henry Etzkowitz.
9. The Iron Cage and the Academy: An Organizational Perspective on University-Industry Research Relations. Edward Hackett, STS Program, Rensselaer Polytechnic Institute.

Announcements

Ethics and Values Studies (EVS), in the Studies in Science, Technology and Society (SSTS) Program at the National Science Foundation, supports research examining ethical or value issues of current significance to U.S. science or engineering. For more information contact Rachelle Hollander at (202) 357-9894. SSTS program staff may be contacted through electronic mail on bitnet. The address is: dirtssts@note.nsf.gov

The ASA Teaching Resource Center invites materials useful in teaching sociology for Teaching Sociology Using Song Lyrics. All forms of syllabi and instructional material are appropriate. General suggestions on using music effectively in teaching, general comments on what works in class (and what does not) also are solicited. Submit all materials to: Monika Reuter-Echols, Department of Sociology, SS 340, State University of New York, Albany, N.Y. 12222