

Minutes*

Senate Research Committee
Monday, March 11, 2002
1:15 - 3:00
238A Morrill Hall

- Present: Scott McConnell (chair), Melissa Anderson, Gary Balas, Victor Bloomfield, Kathleen Conklin, James Cotter, David Hamilton, Paul Johnson, Leonard Kuhi, Phillip Larsen, Sharon Neet, Mark Paller, Stephanie Root, Sarah Shoemaker
- Absent: Kris Davidson, Robin Dittman, Lawrence Jacobs, Katherine Klink, James Luby, Susan Miller, Diane Nguyen, James Orf, Virginia Seybold, Kenneth Winter
- Guests: Professor Carole Bland (Faculty Development Working Group); Senior Vice President Frank Cerra (Academic Health Center), Mark Cox (Campus Health and Safety), Craig Moody (Department of Environmental Health and Safety); Professor Edwin Fogelman (Task Force on Civic Engagement); Win Ann Schumi (Sponsored Financial Reporting); Ed Wink (Sponsored Projects Administration); Sheryl Goldberg (Sponsored Projects Administration)

[In these minutes: (1) research secrecy and committee business; (2) faculty development working group (highly-research-productive departments); (3) biosafety issues (vulnerability of University sites); (4) civic engagement and public scholarship]

Professor McConnell convened the meeting at 1:20 and welcomed a new member, Professor Paul Johnson from the Carlson School of Management.

1. Research Secrecy and Committee Business

Professor McConnell recalled that when the Committee last met, it approved a second exception to the research secrecy policy. After the last meeting, the Senate Consultative Committee, acting on behalf of the University Senate, voted against granting both of the exceptions that the Committee had recommended be approved. Those votes have been communicated to the President; he said he did not know if the President had made a decision about them. The conversations at the Senate Consultative Committee were different from what he had expected, and hinged on the perceived integrity of the University and the protection of academic freedom. The University Senate has the right to review and reverse the action of the Senate Consultative Committee.

The Faculty Consultative Committee is now putting together a small working group to look at the research secrecy policy and how exceptions to it will be dealt with in the future. Professor McConnell said he is working the Professor Feeney in organizing the working group; there are a lot of technical issues that need to be addressed, issues with which this Committee is familiar, so this Committee will be represented on the working group.

* These minutes reflect discussion and debate at a meeting of a committee of the University of Minnesota Senate or Twin Cities Campus Assembly; none of the comments, conclusions, or actions reported in these minutes represent the views of, nor are they binding on, the Senate or Assembly, the Administration, or the Board of Regents.

Professor Kuhi said he thought the SCC discussions took an unfortunate turn. They focused on principles, which is fine, but there were two concrete cases that needed to be addressed. This Committee spent two hours on the cases; SCC spent perhaps 20 minutes on them and did not fully discuss them. He said it was a good idea to look at the process of considering exceptions so this conflict in committee votes does not occur again. What will happen, he asked rhetorically, if the Senate does not approve what SCC did?

There will be other working groups established in the near future, Professor McConnell reported, and he will be calling on Committee members to serve on those groups.

At the April meeting of the Committee Dr. Hamilton will report on portals and on electronic grants management; in May there will be continued discussion of the IRB and of research infrastructure.

2. Faculty Development Working Group

Professor McConnell next welcomed Professor Carole Bland to the meeting to discuss the Faculty Development Working Group.

Professor Bland reported that she is chair of the Working Group, a joint Senate-Administration group appointed by Regents' Professor Richard Goldstein, Chair of the Senate Committee on Faculty Affairs, and Vice Provost Robert Jones from the Office of the Executive Vice President and Provost. The Working Group was charged to "identify strategies to increase research and scholarly productivity"; the outcome of the effort will be a handbook on the best practices of highly-research-productive departments. The Working Group is interested in helping faculty succeed at the University by making available to departments the best practices with respect to research.

They know from the literature a good deal about what makes a successful researcher; there are both individual and environmental characteristics that are important. Environmental characteristics, however, can trump individual characteristics, so they decided to focus on the characteristics of departments that facilitate research.

A second part of the charge to the Working Group was to survey tenured or tenure-track faculty who left the University and went to another academic institution (not faculty who retired or went into private industry). The major finding of that survey was that faculty who left were not unhappy with the University or with the community but they were often dissatisfied with their department culture, the support for research, and the support they received from their department head.

The criteria for identifying highly-productive departments were these: impact of the research [which includes scholarship in all cases in these minutes] on the discipline, quantity of the research, number of grant dollars acquired, reputation as a productive department, and the dean was asked if any of the departments had made a dramatic increase in the last five years in their research productivity. From the 23 colleges and approximately 3400 full-time faculty, 43 departments were identified from across the University (except for the Crookston campus). In some cases, the unit of analysis was the college itself, in the case of small colleges such as the Law School (some colleges have 500 or more faculty, some have less than 50, and not all are divided into departments). The final study included 37 departments--one

chose not to participate and they were unable to arrange the necessary interviews in the other five. The number identified, Dr. Bloomfield said, represents about one-fourth of all departments in the University.

Asked if they used any external measures of the departments, Professor Bland explained that they asked the departments what their national rankings were and the basis for the rankings. Most were in the top 10 or top 20. This includes research defined broadly, Professor McConnell asked? It does, Professor Bland affirmed; they used the tenure code definition of "disciplined inquiry" for their work.

The demographics of the highly-research-productive departments included one striking statistic: faculty in these departments spend about 45% of their time on research.

The interviews of department heads (which lasted about 90 minutes each) began with an open-ended question: "In your assessment, what are the key factors that contribute to the research productivity of your faculty?" Professor Bland described how the data from the interview (about 1000 manuscript pages) were analyzed and then reported that they found three themes that came out that were not expected.

-- Collaboration with other departments as well as colleagues is seen as enormously important in facilitating research. The stress on collaboration often begins at recruitment.

-- Teaching: they asked no questions about teaching (the focus of the work was on research productivity), but it was repeatedly emphasized. Some department heads said they would not hire someone who was not a good teacher as well as stellar researcher.

-- Differentiation: Many departments are moving toward faculty who emphasize either teaching or research, rather than having a more balanced emphasis. Often this is accomplished naturally when a few tenured faculty choose to focus on teaching, thereby freeing up more time for those who want to focus on research. Sometimes this occurs by hiring P&A "faculty" solely for teaching, again freeing others to spend more time on research.

In terms of the key factors that facilitate research, the five that stood out were recruitment, clear goals, culture, collaboration, and mentoring. Dr. Larsen asked if they pursued the "culture" factor. Professor Bland said they did and in fact department heads/chairs were very clear about the importance of a research-oriented culture and positive climate. Further, they had strategies they used to maintain such a culture.

One of the themes in recruitment centered around how a department decides it needs to recruit a faculty member in a particular area. First, they use old-fashioned strategic planning to set goals, and then use those goals to determine the areas in which faculty will be hired. This approach reduces the tendency to fight over positions and can allow early hiring. Departments also consider curriculum needs and the potential for external funding in an area.

Another of the themes in recruitment is the criteria departments use in looking at faculty recruits. Primary factors are a strong motivation to do research and demonstrated research experience. They must be passionate and driven about research. Other factors include a good "fit" with the department, the ability to collaborate, a high standard of excellence, and good teaching skills.

Professor Kuhi asked what "fit" with the department meant. Professor Bland said that the department heads talked about this carefully, with well-chosen words, and "fit" and culture were often mixed together. "Fit" carries with it the idea that the faculty member's research will fit with that being done by other faculty in the unit and with potential collaborators in other departments. These units spend a lot of time with faculty on this, including taking them around to other units to identify possible research collaboration. At the same time, the departments also value uniqueness in their faculty and their research.

Dr. Bloomfield said he had recently participated in a focus group discussion about the message the University should send externally. The discussion led to what the University believes it is internally; two points came out. First, people are rushing around because of time pressures; second, there is a lack of feeling of community. Did these factors show up in the Working Group results, he asked? Both did in the exit surveys, Professor Bland said.

What about in those who are at the University, Dr. Bloomfield followed up? The department heads spoke about the value of community, Professor Bland reported; they have retreats, a lot of communication, and social events. The problem of the pressure of time shows up in differentiation. It is often because of the lack of time to do both research and teaching well that departments are moving toward differentiation. A caution in this, however, is that it is difficult to build a community when faculty are broken into differentiated fields.

The handbook that will come from the Working Group is intended to provide concrete examples and specifics for department heads to use in assessing and improving research productivity, Professor Bland explained, although the results will doubtless also be of interest to faculty members in general.

Dr. Paller noted that his department is ranked 30th nationally, out of 135 departments. Were the answers given by those ranked in the top 10 different from those that ranked lower? Professor Bland said they have divided the results by those in the top and those lower-ranked; there may be differences in the responses, she said, but they are not large.

Is there any plan to talk to researchers, Professor McConnell asked? It may be that the reason the Working Group received so much information about the importance of departmental functions is because they interviewed department heads. The answers might be different if they had talked to researchers. Professor Bland pointed out that the interviews were with departments that had long-standing records of research accomplishment and that most of these department leaders were themselves highly-productive researchers, and were CHAIRS not heads, and were thus a short time ago researchers in the department.

What happens next, Professor McConnell inquired? There will be handbook; what changes can be expected or what should the faculty governance system watch for, monitor, or encourage? The manual will be for department heads, Professor Bland reiterated, and can be used for department-head training. Will there be any recommendations to central administration about what it should do, Professor Kuhi asked? That is a good idea they had not thought of, Professor Bland responded; recommendations that will come from the Senate Committee on Faculty Affairs include the administration conduct exit interviews and that research productivity be used in evaluation of department heads.

Professor McConnell thanked Professor Bland for her report.

3. Biosafety Issues

Professor McConnell welcomed Mark Cox, Campus Health and Safety, and Craig Moody, the Department of Environmental Health and Safety (DEHS), to talk about biosafety issues.

Mr. Cox began by explaining that after the events of last September 11, although not only because of them, there has been a lot of examination of where on campus the University might be vulnerable to attack and where it could increase security. Then came the anthrax scare, which led to questions about what biological and radioactive materials were on the campus. Radioactive materials have long been regulated by the Nuclear Regulatory Commission and the University has a good handle on those materials. That situation is less true with respect to biological agents, although the Institutional Biosafety Committee has been reviewing, as they are submitted, grant proposals that include biohazardous agents.

They looked for anthrax, Mr. Cox said, and they did find some--it was long dormant, a sample from research decades ago (and has now been destroyed). It is the older materials about which there are questions (and it may be used in research that has not yet evolved to the stage of submitting a research proposal, thus invoking current protocols); more recent acquisitions of biological materials have been subject to appropriate protocols.

Senior Vice President Cerra and Vice President Maziar appointed a small group to do a survey and inventory of biological materials on the campus, Mr. Cox said.

Mr. Moody next reported that the University has been requested to report on biological agents to the State Department of Health. There is also pending both state and federal legislation that will require reporting about the most several biological agents--and there is a lot of attention being paid to universities. The group appointed by Drs. Cerra and Maziar was directed to conduct a physical inventory of labs on campus using biological agents. They have begun by looking at those labs that will be moved into the new Molecular and Cellular Biology (MCB) building; this will be a test case to see how the process works. They have hired two people, biosafety technicians, to look at collections to see that they can be accounted for and are properly labeled (and agents not identified will have to be destroyed). The same process will be used for hazardous chemicals before the labs move into the new building.

Will all the information be put in a database and used to keep track of materials and for verification, Professor Balas asked? It will be, Mr. Moody said, but the information will not be released to anyone except as required by law. Any request for access to the data now come through Senior Vice President Cerra and DEHS, but that may change. They will NOT disclose information. Senior Vice President Cerra reported later in the meeting that they are treating requests for the data in the database as if each were a request under the Minnesota Data Practices Act and are handled by the Office of the General Counsel. They are treated with attorney-client privilege in order to protect the data.

How will they know what to enter in the database, Professor McConnell asked; are there taxonomies or agency lists? Mr. Moody said they will inventory Centers for Disease Control Biological Level 2 agents or above, which will also include "Select Agents" which are most highly regulated. The Level 2 standard, Dr. Paller explained, is any substance that can cause an infection by being airborne.

The second phase of their work, Mr. Moody explained, will be to inspect labs beyond the new MCB building. They will develop an on-line form that researcher will fill out annually to indicate if they

have any Level 2 agents; these forms will be used to determine the priorities for lab inspections. If they find disclosure about organisms that have not been considered by the biosafety committee, they will turn them over to the committee for proper review. The inspections and forms will include hazardous chemical agents and controlled substances.

They also want to be able to certify the ability of the people in the labs to use biological agents, Mr. Moody explained, substances such as infectious agents, recombinant DNA, and biological toxins.

The nature of the facility and the ability to use the materials will be built into policy, Mr. Moody told the Committee. The effort to draft the policy is being led by Mr. Bianco.

Dr. Larsen asked if they were also looking at animal and plant pathogens, which could be used in terrorism, he said. They are interested in them, Mr. Moody said, but their primary focus is on humans. They recognize that animal and plant pathogens can have a huge effect on industry. Dr. Larsen suggested they consider tracking those substances as well.

Is the University ahead of the federal and state regulations, Professor McConnell asked? Mr. Moody said he thought so. They have talked to offices with similar responsibilities at other institutions and none seem to be making the same comprehensive effort. He predicted they will do so, however, because legislation and public interest will drive such efforts.

Dr. Cerra said Dr. Larsen's question was a cogent one. Their operating principle right now is to address any substance that could have a mass effect on humans. He said he was not sure what they should do with Dr. Larsen's question, however, but if there is a substance in plants or animals with mass toxicity, the biosafety people should know about it. There is also the economic effect, Dr. Larsen pointed out; a disease that destroyed the soybean crop, for example, would have devastating effect on agriculture. The agricultural experiment directors nationally, through the U. S. Department of Agriculture, are developing a list of potential plant and animal pathogens; Dr. Larsen said he would get the list to the DEHS if he could. Dr. Cerra speculated that such a list would also work its way into any law dealing with potential terrorist hazards.

Dr. Bloomfield noted Mr. Moody's comments about trying to be sure people have appropriate training to work with biological agents. That implies more certification than what is now required, he said. Are they thinking about more stringent training for people who work with microbes, he asked? They have not developed a set of criteria yet, Mr. Moody said. First they need to set a baseline in terms of the education and experience people who work with Level 2 agents have now. This will be in the policy, and he assured Dr. Bloomfield there will be a faculty advisory group that works on development of the policy.

Dr. Cerra made two points. First, what appropriate safety and security are for labs using certain substances has to be determined. With narcotics, for example, it means the substances are under lock and key and inventoried. Second, if someone is working with Level 3 substances, the education and experience they must have will be codified in administrative policy. Neither of these decisions will be made without consulting with this Committee and others, he said.

Is something needed from the Committee now, Professor McConnell asked? Only that it understand the situation now, Dr. Cerra said, that it help identify omissions, and that it be assured that the information in the databases will be secure.

Dr. Larsen asked if the biosafety group is also working on surveillance of activities on campus that might be terrorist. Dr. Cerra said there is another committee, headed by Vice President for Administration Tonya Brown, that is dealing with such issues; that group will issue a report on where the University is and a priority list of what to do in terms of safety, security, and readiness. That will translate into finance and implementation issues. The Stanford University website has an excellent plan on which the University is drawing significantly (with Stanford's permission).

It might be a good idea to take advantage of the leverage this effort provides to improve standard good lab practices, Dr. Bloomfield said. A lot of labs have "sludge" in refrigerators that people should pay attention to irrespective of the events of September 11. It would improve University culture to call for paying more attention to these substances; one role this Committee could play is to ensure that happens, he suggested.

Professor McConnell thanked Messrs. Cox and Moody and Dr. Cerra for joining the meeting.

4. Civic Engagement

Professor McConnell now turned to Professor Fogelman to lead a discussion of civic engagement and, more specifically, public scholarship.

Professor Fogelman reviewed briefly the background and work of the Task Force on Civic Engagement. He said that this has become a national movement that is accelerating, called different things in different places. Both Michigan and Maryland are establishing university-wide task forces and the University has had visits from other institutions interested in civic engagement. The effort is responsive to several underlying concerns:

- declining public and financial support for higher education around the country, and
- the response to the declining public support, which has been to move to more market-oriented practices. Universities must do this, but must also do more; the piece that will be missed is the PUBLIC or CIVIC contributions the universities make to society. Professor Fogelman said he fears this part of the University will be lost as it moves to a more market-driven philosophy.
- social trends (exemplified by Robert Putnam's BOWLING ALONE) and the decline of social engagements and connections; this is a problem in society that higher education has an obligation to address.

The aim of the Task Force is to help renew the land-grant mission by strengthening University connections to the community and contributions to the common good as central institutional priorities. This has implications for both outreach and teaching as well as research.

In terms of research, the emphasis is that what the University does is and should be public scholarship, which might also be called engaged inquiry (as opposed to disinterested "science"). This

means that research is responsive to community needs and public concerns--and the University is open about the fact. The paradox is that so much of the research done at the University IS public scholarship: it is responsive to social concerns and public needs (e.g., work commissioned by foundations and public agencies).

Professor Fogelman related that he has encountered resistance to the idea of public scholarship because, for example, it is said to detract from basic research. That is a misconception; without basic research there is no public scholarship.

Professor McConnell asked how the Task Force sees public scholarship within the research portfolio of the University. Much already goes on, Professor Fogelman said, but people do not want to acknowledge it, in part for ideological reasons: if one says one is doing "disinterested research," one does not look at public needs or the underlying funding that might be driving the research. Can any researcher ask about the social dimensions of his or her work, Professor McConnell asked? It is always there, Professor Fogelman said, and he cannot see why it would not be acknowledged. Research should contribute to valued public outcomes. The Task Force position was that the University's core activities should help strengthen democracy; he said he personally sees that as central. The critical question, however, is the responsiveness of the research university to the larger society. His view is that research universities HAVE public responsibilities and a special stake in a democratic society--research universities can flourish effectively only in a democratic society.

Dr. Hamilton said that he is a basic scientist doing research aimed at the public good. So what does he do now? Stand on Washington Avenue and publicize what he is doing? "Keep doing research," Professor Fogelman replied. The meaning of public scholarship in practical terms can be different for different people. But there must be a willingness to recognize the value of communicating results to the public. Dr. Hamilton said he communicates his results to the medical community and writes papers that permits the results to be used. That is fine, Professor Fogelman said; others do research with community partners. That is a lengthy process, but if held to the highest standards its value should be recognized. Work with community partners can be legitimate and basic research, and should be considered when faculty work is evaluated.

Ms. Shoemaker said she was concerned that one could pre-package research so the community thinks the University is trying to meet community needs--or should it try to help the community understand what it needs? That is a critical distinction between conventional outreach and community partnerships, Professor Fogelman responded. With outreach, the University sends experts to provide what the community needs; with community partnerships, the people and the University jointly define the direction and scope of research and they jointly benefit from the research. Community partnerships require special skills and attitudes. The research benefits are two-way, and it must be recognized the University can benefit and that it is a partner. The community also needs to be encouraged to come to the University, not just wait for the University to reach out.

Dr. Bloomfield said that with respect to basic science, much of what many universities do contributes to the public good but they are not recognized for doing the public good (and universities do not recognize work for the public good in careers). Being recognized for this work will affect public support for universities. There is the example of the farmer who comes to a university with an animal bleeding problem; the problem translates into biochemical research. One faculty member at the University has worked on an issue for decades and found a way to do something contrary to received

wisdom--and patented a drug that will make a lot of difference in human lives, to the faculty member, to the University, and to the drug company. Both the farmer visiting the professor and 30 years of NIH support that leads to a drug being licensed have benefits to the public, but it is easy to see the benefits of one and difficult to see the other unless it is dramatized. Unless universities tell the second story as well as the first, people lose interest in universities and what they are doing.

What is the unit of analysis for determining "public scholarship," Professor McConnell inquired? The individual? The campus? Individuals can work for a long time in basic research without getting results; one can say that there is a less certain payoff for the public with basic research as opposed to applied research and outreach. Historically, the payoffs from basic research are unpredictable, Professor Fogelman said; but it is the seed corn for practical results: one does not know what or when it will pay off, but there will be a payoff. The social loss would be incalculable if universities do not do basic research.

Professor McConnell recalled that Vice President Gardebring had spoken with the Faculty Consultative Committee about communication; he noted that there is a great challenge in getting individual faculty members' research featured in the University's communications activities, and it is difficult to communicate information about basic research, while people who have community partnerships are often not available to talk about their work. Dr. Bloomfield said he has been talking to Dr. Gardebring's office about exactly this problem. The civic engagement initiative sponsored grants but it is necessary to put the University News Service in touch with people who received them to develop a set of stories.

Professor Neet said that Putnam's book is not just about people not joining community and social groups but it also asks if there is a new "community" movement in development. There is a website that can provide broader information about civic engagement (<http://www.bettertogether.org/>) One social issue is that now charities and non-profits must pay people to do what what used to be done for free by volunteers.

There are two types of civic engagement with the University, Dr. Hamilton said. In general, a partnership between the general populace and basic science is not likely to be very productive--the public will not understand the work and he would not know how to make such a partnership work. But getting information out is exactly what needs to happen. Dr. Gardebring may be missing a tremendous resource in retired faculty, who could be part of the process and would be thrilled to help. Dr. Bloomfield said they are working on that.

Not everyone must do community partnerships, Professor Fogelman said. The issue is VALUING it when it is done. It is not that people should go out of their labs; it is valuing the public scholarship institutionally, and the faculty valuing being in an institution that does such work.

Dr. Larsen said they spent a lot of time interacting with the community--and it takes a lot of energy the develop relationships. It can also be very frustrating. These are difficult to set up and there is animosity toward the University, so the relationships must be built up.

There needs to be a "full court press" to get the word out. Every faculty member in his college is required to write a summary of the impact of his or her work, in lay language, and those summaries are on

the web. They must identify who cares and why anyone should care. It is also necessary to move into the popular press and television, which requires a financial investment.

Dr. Bloomfield offered two observations. First, the impact on Minnesota is one thing; the University views itself as an international and national research university with an impact all over the world and one the world has an impact on. Second, it is possible for members of the public to become very knowledgeable about diseases and technologies (e.g., patient or parent advocates for an ill child). Pressure from the AIDS community led to Congress appropriating money to NIH for work in basic biology and immunology; there are those who understand that basic research can be productive for society.

Professor Fogelman concluded by asking the Committee how public scholarship should be valued and encouraged? He said he would be glad to have help in addressing that question.

Professor McConnell thanked Professor Fogelman for joining the meeting and adjourned it at 3:00.

-- Gary Engstrand

University of Minnesota