

Minutes\*

**Senate Research Committee  
Monday, February 12, 2001  
1:30 - 3:00  
238A Morrill Hall**

- Present: David Hamilton (chair), Melissa Anderson, Victor Bloomfield, Robin Dittman, Eric Klinger, Leonard Kuhi, Mark Paller, Scott McConnell, Susan Miller, Sharon Neet, Richard Poppele, Barbara Van Drasek
- Regrets: Daniel Brewer, Esam El-Fakahany, Phillip Larsen
- Absent: none
- Guests: Joe Janzen (Student Organization for Animal Rights), Donald Barnes (Animal Protection Institute), Professor John Beatty (Senate Committee on Social Concerns); Mark Bohnhorst (Office of the General Counsel)
- Other: Kristin Schreiber (Graduate Program in Neuroscience, FACTS, a student organization that supports the use of animals in research); a citizen of Minneapolis opposed to the use of animals in research; others

[In these minutes: (1) end to NIH sanctions; (2) use of animals (primates) in research (presentation by opponents); (3) international traffic in arms regulations]

**1. End to NIH Sanctions**

Professor Hamilton convened the meeting at 1:35 and noted the good news that NIH has lifted all sanctions on the University of Minnesota; he said he wished that fact noted in the minutes of the Committee. He said he wished to thank many members of the Committee who had worked hard to develop policies and procedures to help the University respond to the NIH sanctions. The University has come a long way, he said, but still has a ways to go, and there will continue to be efforts to make the University of Minnesota the hallmark of research administration in the United States.

**2. Use of Animals (Primates) in Research**

Professor Hamilton next asked for a round of introductions, given the large number of guests, and turned to Mr. Janzen, representing the student group Student Organization for Animal Rights (SOAR).

Mr. Janzen distributed copies of a handout and drew the attention of Committee members to a page which contained a one-page proposal to stop conducting research using non-human primates (a copy of the proposal is available from the Senate office). The University uses about 150-200 primates in research, he said, and he has been involved in a campaign over the last two years to abolish primate

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research at the University because of the social and psychological characteristics those primates possess. SOAR wants all primates returned to sanctuaries so they can live out their lives in peace. The other materials, Mr. Janzen explained, contain information about primate species currently being used in research at the University.

Mr. Janzen then turned to Donald Barnes to lead the discussion. Mr. Barnes provided the Committee a brief sketch of his education (graduate in psychology) and career (in part with the U.S. Air Force). His work in the military included work in a primate lab where he studied experimental and physiological psychology; he did 14 years of work with non-human primates on the effects of radiation and on antidotes to nerve gas. In the late 1970s he was ordered to do experiments on 4 rhesus monkeys that he trained; he was ordered to irradiate them and then observe their behavior. He related that he knew that using a sample of 4 monkeys was not sufficient for statistical analysis and that he would not have enough observation time to draw defensible conclusions. He objected to the experiment on the ethical grounds that it was a waste of the taxpayer's money to kill valuable monkeys for scientifically invalid results and refused to do the experiment. That led to a brouhaha with the Air Force.

This experience also led him to look at the work he and his peers had done and the applicability of their work to humans. He said he was appalled that nothing seemed to have any application to real world problems; instead it seemed to be tinkering with research parameters and manipulating statistics with no applicability to the world. He read Peter Singer's book ANIMAL LIBERATION, which raised issues he had not thought about before. Why use animals in research? Because they are like us. If they are like us, why not treat them like us? Because they are not like us. Mr. Barnes said he realized he had been conditioned to think of animals as objects to be used for the benefit of a single species (humans) and that he had been taught to be objective and not to anthropomorphize or his work would not be scientific. He said that in his work he had transferred out staff who had reacted adversely to animal pain and death.

Mr. Barnes said that he sued the Air Force, won the case, was reinstated, and then quit. He had concluded that humans did not have the right to impose pain, suffering, and death on animals for the benefit of humans.

He has worked with many "primatologists" and continues to have a relationship with a research foundation in Texas that does research using animals. He is also involved in establishing primate sanctuaries in Texas that take primates from pet stores and labs and so on; they are fenced areas where the primates can enjoy some semblance of a normal life. He tries to help identify places where they can live unmolested and without stress. He also works to prevent research using other animals as well (e.g., dolphins).

Mr. Barnes said he has gone through the reports on work being done at the University of Minnesota and found disquieting items. He acknowledged that he is not an expert on all the areas in which experiments are being conducted but he does know about experimental design.

Professor Hamilton asked if Committee members had any comments at this point. None did.

Mr. Barnes said his chief concern is with the ethics of using non-human animals. Except for one instance, there is no discussion of ethics in any of the University reports that he read. Experimenters talk about the need for surrogates and that use of animals is a necessary evil. If it is evil, he said, it is evil, and

ends cannot justify the means. There must be a better way found to deal with other species, to deal with them with love and compassion rather than exert dominance over them.

Ms. Schreiber noted that in the Air Force Mr. Barnes had not been trained to treat animals with compassion and to reduce their suffering. What about efforts to make their lives better while in research studies? Mr. Barnes said he would not argue that the lives of animals should not be made better; he does not oppose those efforts but it begs the issue. If people are put in a maximum security institution, it does not matter the puzzles and treats they are provided; they will not be happy. Animals in labs are not in their natural environment; they make choices in real life.

Has the situation gotten better, Ms. Schreiber asked? Mr. Barnes said it has and maintained that the animal rights community has made a difference. Universities focus on how animals are housed and treated and fed. Nonetheless there are more and more animals used in biomedical research, 85% of which are mice and rats. It does not matter to him, Mr. Barnes said, that most are mice and rats; he is not "speciesistic" and does not believe that research should use sentient animals that have a central nervous system. He added that this is the first time a university has allowed someone like him to discuss these issues with the institution.

How do his comments relate to the proposal from Mr. Janzen and SOAR to abolish primate research, Professor Hamilton inquired? He spoke in more general terms, Mr. Barnes said. Would he stop/abolish the work being done at the foundation he works with, Professor Hamilton inquired? Mr. Barnes said he would. It is a tax-exempt organization, one that he does not control, but he tries to help people understand better ways to do things. He said he would like to see zoos and cages emptied. The SOAR proposal is a start; the public has more regard for certain animals, such as primates.

The Minneapolis resident/taxpayer asked Mr. Barnes what he found in the University's records. Mr. Barnes said he had not read all of the reports and repeated that he had been struck that there was no mention of ethics in any of the research protocols except for one. There was also no defensible justification of the number of animals being used; the results were not going to be based on statistics but derived from earlier reports in the literature so that use of a small number was acceptable. The one protocol said that use of animals was "ethically challenging."

Ms. Schreiber drew a distinction between animal rights and animal welfare and asked Mr. Barnes if he made that distinction. Mr. Barnes said he hoped the distinction was not clear; anyone who puts primates in a cage to do research should deal with philosophers and theologians to determine if it is the right thing to do and if the animals are more important than conducting an analysis of variance.

Professor Kuhl said he had read materials on the website and the proposal and it is claimed that there is little relationship between what happens with animals and humans. He asked Mr. Barnes to talk about that.

Mr. Barnes said he did not believe the ends justified the means. He tries to keep up with science but is not an expert in all areas, but observes that strokes, cancer, diabetes have been a major cause of death, are still with us, and there has not been much progress made in treating them. He began to allude to the work of a specific researcher at the University but Professor Hamilton interrupted him and said that the discussion would not deal with individuals. Mr. Barnes said he found Professor Hamilton's interruption to be authoritarian; Professor Hamilton asked that Mr. Barnes's view be noted in the minutes.

The results of the clinical literature are not being applied in the real world, Mr. Barnes said. There are a lot of data but they do not help humans. He told the Committee he is not opposed to biomedical research but he is opposed to this model (using animals) of research. He read an excerpt from one of the University's reports, containing language on why monkeys were being used, and concluded that research was moving backward because it was not using models that equate with human disease. Medicine has gone astray using non-human primates, Mr. Barnes said, and cited the example of saccharine in rats (it does cause cancer in male rats, but not in female rats or mice and not in humans). To assume animals are like humans is a bad assumption.

Professor Klinger noted that his field is psychology and that there is a subset of the field, comparative psychology, that focuses on the differences and similarities between humans and animals. He said that Mr. Barnes had chosen selective examples. Mr. Barnes agreed but pointed out they only had 45 minutes.

Professor McConnell asked Mr. Janzen to elaborate on the ethical imperative contained in his proposal. Mr. Janzen said that he believed because all primates are similar to humans in their psychological and social needs, and because life in prison is the worst punishment one can give humans, he believes it is unethical to do research using primates even if there are medical benefits.

Does he oppose the domestication of animals, Dr. Paller then asked? Mr. Janzen said he believed domesticated animals suffer but they cannot be released to the wild. They could be released to sanctuaries. This is not in his proposal, he said, and he said he hoped the Committee would help facilitate a debate between scientists mediated by a third party, something he has been trying to set up for two years.

Dr. Paller said that it would be easy to find examples of studies that have been useful as well as studies where mistakes had been made. He asked if was also Mr. Janzen's opinion that it is wrong to have pets? Mr. Janzen said people should not have pets but now there are so many domesticated animals in the United States that would not survive in the wild that they must live with humans; they will not be gotten rid of for hundreds of years. So as a compromise it is OK to be nice to them, Dr. Paller commented. What about research primates, that have been bred for research and that also could not survive in the wild? Should there be no more breeding of such animals? Mr. Barnes said he believed such breeding should stop; breeding of all animals, including humans, should stop, because overpopulation is the greatest danger to the planet.

Ms. VanDrasek asked what was being done on the federal level, since this is a federal policy matter in many ways. Mr. Janzen pointed out that SOAR is a student group and works on campus issues. Mr. Barnes said that the animal rights movement has lobbyists and attorneys in Washington; he personally works in Texas but said that work at the federal level is important.

Dr. Bloomfield said that ethics decisions rest on a hierarchy of values; Mr. Barnes's and Mr. Janzen's puts the value of animal life at the top and does not allow it to be trumped by any other value. Others put the value of research that attacks human disease at the top and will not allow it to be trumped. Mr. Barnes has made his stance clear; the dominant culture most likely takes the other view.

Mr. Janzen agreed that most people take the view it is OK to do to animals what it is not OK to do to humans but that is because they have not deeply examined their views and only reflect what they were taught when they were young. He said he hoped all would believe differently. Dr. Bloomfield responded that that was a very condescending view; he said he assumed that many who have been seriously involved in the issue have thought deeply about it and come to a different conclusion.

The general public has not, Mr. Janzen said. Dr. Bloomfield said he believed it has.

Professor Neet inquired if any major research university has adopted the kind of policy Mr. Janzen proposes. Mr. Janzen said he wrote the proposal; he did not know if others had adopted anything similar. Mr. Barnes said he has looked; Minnesota is unique in being willing to discuss the subject.

Professor McConnell said that one principle that comes out of psychology is to give people alternatives. This proposal says stop the research. If well-intended people believe they are doing good, are there alternative ways to allow them to address the problems? Mr. Janzen said that would have to be done on a case-by-case basis. Mr. Barnes responded that it was not contingent on them to find alternatives to what they consider unethical behavior.

Professor Klinger said this is a matter of taste, not a completely rational process. Mr. Barnes said he found THAT condescending; he said animals with a central nervous system should not be put in pain. What he meant, Professor Klinger replied, is that the position Mr. Barnes takes is not derived from any particular source but is a personal preference.

It is based on a hierarchy of values, Dr. Bloomfield repeated, and it depends on which value one puts on top. One can justify either position. Mr. Barnes said he did not want such a hierarchy to exist; because humans have been endowed with special abilities does not give them the right to dominate other species rather than share the planet with them.

Dr. Paller suggested the Committee could affirm that researchers should design experiments well, minimize the use of animal and human subjects, be sure that there is greater benefit than harm from the research; the discussion would help to ensure that research is conducted along these lines. Views on the use of animals are widely divergent and if the University were to abolish animal research, many would view THAT action as unethical.

The term "rights" is used in two ways, Professor Klinger said; one is in the sense of a contractual right reached through social agreement and the other is in the sense of an inalienable right. There is no basis in law for the claim of inalienable rights of animals so it is a strongly-held emotionally-based wish that things were different; to use the term "right" blurs the issues. Mr. Barnes agreed that "right" confuses things but he does not want to use the term animal liberation. He said he did not agree that his view is emotionally-based. He said he was not ashamed of his feelings about animals because the essence of life is emotion. Professor Klinger said his only point was that there is no legal basis for the "rights" of animals.

Professor Hamilton thanked Mr. Janzen and Mr. Barnes for their presentation and asked that a copy of Mr. Barnes C.V. be provided so it could be included with the minutes.

Following the departure of Mr. Janzen, Mr. Barnes, and others interested in the topic of the use of animals in research, Professor Hamilton said that the Committee will have to say something about the issue, and noted that it would hear in March from a student group that favors the use of animals in research. Professor Kuhi asked if it is normal for a student to bring a proposal to a Senate committee; he wondered about the amount of student support that existed for the proposal. SOAR is a registered student group, Ms. VanDrasek noted; Professor Hamilton said the Committee must take up the matter.

Professor Kuhi then inquired again about the relationship between research on primates and humans. Those who are not in the life sciences do not know.

Ms. VanDrasek asked if this issue had been referred from the Social Concerns Committee; Professor Hamilton said it had not been REFERRED but because he knew it would come, he took the initiative to put it on the agenda. [The Chair of the Faculty Consultative Committee, Professor Morrison, had also declared that any issue dealing with research--which this one does--would have to come to the Research Committee before anything could be brought to the Senate.]

### **3. International Traffic in Arms Regulations**

At the suggestion of Mr. Bohnhorst from the General Counsel's office, Professor Hamilton asked for and received a motion that this portion of the meeting be closed inasmuch as it dealt with legal matters; the motion was made and unanimously voted. [At the end of the discussion, Professor Hamilton said he was perplexed why the discussion had to be closed; a nodding of heads and Mr. Bohnhorst's assent suggested that a record should be made.]

Mr. Wink distributed two handouts, one a set of slides outlining changes in the International Traffic in Arms Regulations (hereinafter ITAR) and the other a summary of the issues. (This summary is appended to these minutes.) In 1985, National Security Decision Directive 189 provided that fundamental research was exempted from ITAR and that federal agencies were responsible for classifying defense research (and typically the University would not accept classified research projects). ITAR was regulated by the Commerce Department.

In 1999 all satellite (space satellites) research was switched to the Department of State, which has a very different approach to export control and the free dissemination of ideas. Exports can consist of an item or article, technical data about the article or item, and "defense service." Practical issues include foreign nationals, students, and collaborator participation in research involving satellites as well as removal of items from the country.

Mr. Wink described the short-run and long-term approaches to the problems that might arise. The role of the Senate Research Committee is that it is given a "heads up" on the issue, serve in an advisory role to Vice President Maziar as the University deals with the Defense Security Service, react to any "Technology Control Plan," and if necessary support any national efforts (such as a Senate resolution on the issue that President Yudof might use).

Professor Hamilton thanked Mr. Wink and Mr. Bohnhorst and adjourned the meeting at 3:00.

-- Gary Engstrand

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## SUMMARY OF THE I.T.A.R. DILEMMA

### “OPENNESS IN RESEARCH” POLICIES

Based on the primacy of “openness in research” principle, a number of universities have written formal policies that preclude the acceptance of certain restrictions on the conduct and dissemination of fundamental research.

### NATIONAL SECURITY DECISION DIRECTIVE 189:

"National Policy on the Transfer of Scientific, Technical and Engineering Information" (President Reagan, 1985, released by the National Security Council pursuant to Executive Order 12356)

NSDD 189 defines "fundamental research" as the conduct of basic scientific and engineering research, the results of which are to be published or otherwise made available to the interested scientific community. It also establishes that fundamental research conducted by U.S. academies in basic science and engineering is to be excluded from the International Traffic in Arms Regulation (ITAR), and provides that academic research or technological developments truly giving rise to national security concerns are to be handled by resort to the classification process rather than through export control, except where otherwise provided by statute. The burden is on the government to review its proposals and projects for classifiable portions before release.

### THE LEGISLATION:

In the wake of the Cox Report and the Los Alamos spying allegations, Congress on Oct. 17, 1998, legislatively reiterated the importance of the Missile Technology Control Regime. ". . . due to the sensitivity of technologies involved, it is in the national security interests of the United States that United States satellites and related items be subject to the same export controls that apply ... to munitions." That Act went on to state that all satellites and related items that were on the Commerce Department dual-use list as of 10/17/198 were transferred to State Department jurisdiction and made subject to the International Traffic in Arms Regulation (ITAR). The State Department issued its conforming regulation in March 1999.

### THE RELEVANT ITAR PROVISIONS:

As a general proposition, a "deemed export" (one requiring a license and imposing access restrictions) exists whenever a foreign national on U.S. soil may be exposed to or be able to access in any manner an export-controlled item or export-controlled information. However, items and information falling within the "fundamental research" exclusion are not export controlled, so the "deemed export" concept will not be brought to bear.

With regard to satellites and related equipment, the changes to the implementing State Department regulations listed, for the first time, "experimental, scientific, and research" satellites, which

were not called out as such on the Commerce Department's Dual Use List as of the date of the relevant legislation. The changed regulations are summarized below (bear in mind that work that is characterized as "Fundamental Research" is not subject to export controls).

ITAR 120.1 states that the purpose of ITAR is to control export/import of defense articles and services-,

ITAR 120.2 points to the Munitions List established effectively in 1984 as controlling -this list includes satellites generally (see ITAR 121)-I

ITAR 120.3 establishes that anything that is to be added to the Munitions List after 1984 must meet the criteria set out for "defense articles" or "defense services" - that this, they must be items designed or intended for military use and activities intended to support military use, which do not have a preponderant civilian use or civilian performance equivalence;

ITAR 120.11 establishes an exclusion from ITAR controls for "public domain" information, which expressly includes fundamental research, defined there as research in basic science and engineering that is broadly disseminated to the scientific community;

ITAR 121.1, XV, (Munitions List - Spacecraft Systems and Associated Equipment), provides at subparagraph (a) that scientific, research, and experimental satellites are to be deemed Significant Military Equipment (SME) if intended for use by foreign armed services (SME is a designation which may make anything subject to ITAR 120.7 based on "substantial military utility" or capability].

121.1, XV, (e) includes satellite "payload" as Associated Equipment subject to ITAR.

121.1 (f)... [last sentence of the first paragraph] states "Further, technical data directly related to the manufacture or production of all spacecraft, notwithstanding the nature of the intended end use (e.g., even where the hardware is not SME), is designated SME."

ITAR 120.10 in defines technical data generally as information regarding "Defense Article" (see above) but excludes information in the public domain (e.g., related to fundamental research).

ITAR 120.11 excludes fundamental research from export on the basis that it is within the "Public Domain."

## THE PROBLEM - DIRECT CONFLICT WITH UNIVERSITY POLICY

Universities are being told by the various launch and satellite manufacturers on whom they rely that, for example, any "form, fit, function" data that they may need to share with the researchers may constitute export-controlled SME. Consequently, if it is to be shared with foreign collaborators or students, it becomes subject to all the strictures normally applicable to a "deemed export." That means any foreign collaborators maybe denied access and participation,

Adding to the confusion, at least one relevant government agency has opined that the very scientific equipment, experimental instrument, measuring device, or research apparatus that was developed and fabricated by a university to conduct its research (the scientific payload) shall be subject to ITAR rather than being treated as fundamental research. There seem to be two steps to reaching this



conclusion. First, the research tool is export controlled because it is not a research "result" (this ignores the fact that NSDD 189 protects the very "conduct" of fundamental research) - rather, it is a piece of hardware and, they assert, only the written research results qualify for exclusion from ITAR as "fundamental research." Second, this hardware, either because it is a satellite or it relies upon a satellite, is "satellite-related" and thus part of a spacecraft system and spacecraft systems are per se listed on the ITAR munitions list.

Based on this, affected contractors as well as federal funding agencies are insisting that an export license be obtained before U.S. researchers may disclose to a foreign student or collaborator contractor-provided information such as where to place bolt holes on the scientific apparatus, what kinds of connectors to use, or what size it needs to be to ensure proper seating in and compatibility with the satellite. And even if the apparatus has not flight function per se, the government appears to be treating these research-specific one-of-a-kind devices as export-controlled if it will be placed on a satellite (payload), ignoring the fact that fundamental research is, from the outset, excluded from export controls.

This interpretation treats universities basic science and engineering activities as "export controlled" rather than as fundamental research that would be excluded from export controls, and brings to bear on our collaborations the "deemed export" concept (where a foreign national researcher or student is denied visual or other access to export-controlled data while on our soil).

Openness in fundamental research is a critical element of most universities' teaching and basic research. Integral to openness, and just as critical, is participation by an international array of faculty, students, and collaborators. Those with comparable education, experience, and skills earned abroad bring those accomplishments to U.S. academies in order to further their studies or to further the studies of our students. The result is an exchange of ideas and concepts among peers of equal intellectual strength, these ideas and concepts are challenged, scrutinized, encouraged, criticized and honed. Nowhere is this more apparent than in mathematics, the hard sciences, engineering, and related disciplines. Innovation and technological advances are the results of this rich mix of lively minds, a variety of experiences, and an open atmosphere. No price can be placed upon the value of such an environment.

Universities that accede, through contract or otherwise, to this expanded ITAR jurisdiction over their space-based activities will be confronted with three immediate adverse effects,

1. Some students will have to be excluded, arbitrarily, from certain studies- not only does this make country of origin or citizenship a new criterion for admission, the shifting list of "countries of concern" will make continued studies uncertain even if admission may initially be granted;
2. International collaborations, increasingly important as science and technology become more global, will be impeded (at best);
3. An additional academic bureaucracy to implement and police the new policy and attendant restrictions will have to be established -such a bureaucracy will add not value to the educational process but rather will be a surcharge upon research, with only deleterious effect;
4. The mere acceptance of export restrictions and the consequent obtaining of an ITAR export license may operate to erode entirely the "fundamental research" character, of the work and make way for ITAR application in areas not satellite-related.

From the current federal approach may flow a cascade of effects adverse to the vitality and viability of U.S. universities generally. As stated by Neal Lane 'in an appearance on this issue before the National Academy of Sciences in the Fall of 2000, national security is reliant on universities' fundamental research- fundamental research by its very nature is "open-," and this open research is in fact global. Assuming that openness in research" doesn't prevail and the "deemed export" concept is brought to bear, foreign students and collaborators may be barred from significant research efforts. If important courses are consequently eliminated, for example, as class sizes and research projects diminish due to restrictions on participation by foreigners, U.S. students will go abroad, where they can obtain the full complement of courses in their disciplines. Their foreign peers, unable to complete their studies or fully participate in research here, may remain abroad. These impacts alone are pernicious enough, but perhaps of gravest concern is the potential for further diminishment of our academies' ability to provide U.S. graduates in rocketry, satellite technology, and similar fields that draw upon math, the hard sciences, and engineering. The best and brightest American minds in any discipline reliant on space-based research (for example, aeronautics, astrophysics, and environmental and biological sciences related to space exploration) may end up developing and contributing their research talents elsewhere. Thus there will be fewer and fewer of these talented U.S. citizens in domestic academies to engage in federally funded research, which may ultimately have adverse consequences for national security interests.