

SAFS Newsletter

Society for Academic Freedom and Scholarship

Maintaining freedom in teaching, research and scholarship
Maintaining standards of excellence in academic decisions about students and faculty

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REPORT OF CONFERENCE

Clive Seligman
SAFS President

Our annual meeting took place at the University of Western Ontario on May 14, 2005. Attendance was good with over 30 participants. In my opening remarks, I noted that our web page now receives about 1500 visits per month. The overwhelming majority of visits come from Canada and the United States, but we are also of interest to people in over two dozen other countries including Great Britain, Australia, Spain, Germany, Japan, Poland, China, India, United Arab Emirates, South Korea, Israel, and South Africa. My hope is that this increasing interest in our work will translate in the future into increased membership.

On behalf of the Society Phil Sullivan and I paid tribute to John and Chris Furedy for all they have done for SAFS, and to wish them good luck on their retirement in Sydney, Australia where they first met each other as undergraduate students. My tribute appears on page 6 of this issue of the Newsletter. Our main program in the morning focused on Larry Summers' controversial remarks at Harvard earlier this year about why there were not more women at the top of the engineering and science fields. I gave a summary of the controversy (see pages 2-3 of this issue) and Elizabeth Hampson reviewed some of the evidence on women's performance, and the role of family issues in influencing career choices (see pages 4-6 of this issue). Our last speaker in the session was Peter Ossenkopp who provided the biological background for understanding the emergence of two or more sexes among diverse species, with the implication that it would be odd if there weren't some specialization of function between the sexes, even in humans. We hope to publish a summary of his presentation in the January 2006 SAFS Newsletter.

The keynote speaker was Stephen Balch, president of the National Association of Scholars who spoke on "Reopening the intellectual marketplace in academe." He began by citing studies that have shown that a large majority of professors, especially in the social sciences, are ideologically liberal rather than conservative. He wondered whether this imbalance in perspective played itself out in a skewed educational experience for the students. In contrast to the natural sciences, which he says follow the scientific method of careful observation and testing, the humanities and social sciences are more prone to developing consensual ideological positions that are difficult to falsify, yet command strong loyalties in a context where opposing views are largely absent.

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PC AT HARVARD

Clive Seligman
SAFS President

Presented at SAFS AGM, May 14, 2005 at symposium entitled: Controversy at Harvard: Academic Freedom and Sex Differences

Lawrence Summers, President of Harvard University, spoke at a National Bureau of Economic Research Conference on Diversifying the Science and Engineering Workforce on January 14, this year. He spoke unofficially and intended to be provocative on “the issue of women’s representation in tenured positions in science and engineering at top universities...” and intended “to adopt an entirely positive, rather than normative approach, and just try to think about and offer some hypotheses as to why we observe what we observe without seeing this through the kind of judgemental tendency that inevitably is connected with all our common goals of equality” In my view, Summers’ presentation was calm, reasoned, inquisitive, and respectful. I did not detect any signs of an attempt to demean or condescend to women. Obviously, others did.

So what were the ‘hypotheses’ that Summers advanced to provoke his audience to think carefully about what he thought was an important issue. Essentially, Summers discussed three possible reasons for why women were underrepresented in science and engineering at the top universities: First, he offered the high-powered job hypothesis by which he meant that top jobs require long hours and almost total dedication, and that for whatever reason (though probably having to do with family choices), men are more willing to work these long hours than are women.

The second hypothesis concerns his belief that at more than three and a half or four standard deviations above the mean on math or physics or chemistry ability, men outnumber women by about 5 to 1. He refers to this phenomenon as the ‘different availability of aptitude at the high end.’ Interestingly, he doesn’t use the words genetic or biological or evolution in the paragraph where he elaborates this second hypothesis, but it is fair to infer that he is implying a natural difference in variances between men and women on relevant abilities. But this is no in-your-face sexist hypothesis.

Balch worries that creed and not science has captured much of the humanities and social sciences leading to problems like the Summers affair at Harvard that is characterized by dogma and intolerance. He speculated that significant changes in university governance and public accountability may have to occur before the Academy regains its truth-seeking ideals. Those of you interested in learning more about Balch’s perspective should look at a recent article: Balch, S. (2004). The antidote to academic orthodoxy. *The Chronicle of Higher Education*, April 23.

The minutes of the business meeting will be included in a later *SAFS Newsletter*. But see page 7 for the anti-boycott motion passed at that meeting. □

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His third hypothesis refers to possible socialization differences and discrimination. He thinks that while these happen, they are unlikely to be as important as the previous two explanations. His summary statement of his three hypothesis couldn't be clearer:

“So my best guess, to provoke you, of what's behind all of this is that the largest phenomenon, by far, is the general clash between people's legitimate family desires and employers' current desire for high power and high intensity, that in the special case of science and engineering, there are issues of intrinsic aptitude, and particularly of the variability of aptitude, and that those considerations are reinforced by what are in fact lesser factors involving socialization and continuing discrimination. I would like nothing better than to be proved wrong...”

Unfortunately for President Summers, the response he got in the month following his speech was anything but a scholarly consideration of his hypotheses. The person most responsible for igniting the frenzy over Summer's talk was Professor Nancy Hopkins of MIT, who reported to the Boston Globe that she had to leave his talk “because if she didn't she would have ‘either blacked out or thrown up...When he started talking about innate differences in aptitude between men and women I just couldn't breathe because this kind of bias makes me physically ill.” (Goldberg, January 19, 2005).

Six days after his talk, as reported in the Boston Globe (Bombardieri, January 22, 2005), Summers met with Harvard's Standing Committee on Women who earlier sent him a note saying “his comments serve to reinforce an institutional culture at Harvard that erects numerous barriers to improving the representation of women on the faculty and to impede our current efforts to recruit top women scholars” In a phone interview that reporter Marcella Bombardieri had with Summers on January 21, Summers was said to have used the phrase ‘I was wrong’ four times. He said, “I've seen the distress that people took from the reports...and I've realized that this was a case where the good academic value of challenging and provoking thought just went where it should not have gone...I've certainly learned a great deal. I've certainly been reminded of what's most important, which is that we need more women in science and engineering in America and in the world.”

As a result of this meeting with the Standing Committee on Women, two panels were set up. The first “will seek to ensure that women are considered

for positions of leadership at Harvard and will consider the use of targeted searches to fill faculty and administrative posts.” The second panel “will seek to understand what factors drive the choices of women at all levels who are interested in careers in science and engineering and remove barriers to their success” (Bombardieri, January 22, 2005).

Despite Summers' several apologies and the announcement of the creation of two panels to help in women recruitment and advancement, the presidents of Princeton (Shirley Tilghman), MIT (Susan Hockfield), and Stanford (John L. Hennessy) wrote an essay taking Summers to task: “The question we must ask as a society is not ‘Can women excel in science and engineering...but can we encourage more women with exceptional abilities to pursue careers in these fields.’” (Bombardieri, February 12, 2005). Additionally, the Harvard Faculty of Arts and Sciences' Standing Committee on Women sent Summers a letter of censure which was signed also by 100 professors in the Faculty. However, Harvard Corporation, the university's governing body, gave him a vote of confidence, and thus he gets to keep his job.

I don't think it is unfair to interpret at least part of the negative reaction to Summers' remarks as an opportunistic attempt to increase the number of women faculty. For example, a December, 2004 Harvard report “concluded that there was ‘no statistically significant difference’ between men and women on the faculty in measures such as pay and promotion. But the Standing Committee on Women slammed the methodology as ‘crippling to the use of validity of the report.’” Dean Faust responded that Harvard would “look not simply at counting the numbers but also at some of the less tangible, [less] quantifiable issues... to document a campus climate where women felt pressure to be ‘effortlessly perfect’” (Bombardieri, February 12, 2005).

I look forward to the audience discussion period to examine the implications for academic freedom in this story.

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URL:<http://president.harvard.edu/speeches/2005/nber.html>. □

THE SUMMERS DEBATE: IS CHOICE THE DRIVING FORCE BEHIND SEX DISPARITIES IN SCIENCE AND ENGINEERING?

*Elizabeth Hampson
University of Western Ontario*

In January 2005, Lawrence H. Summers, the president of Harvard, triggered a storm of controversy when he provocatively raised the issue of why there are so few women in tenured positions in science and engineering. Contrary to the portrayal in many news reports, Summers did not simplistically claim it is a matter of 'intrinsic aptitude' differing between the sexes. In fact, he attributed sex disparities in academic departments primarily to what he called the 'high-powered job hypothesis': differential willingness of men and women to undertake the high level of commitment and single-minded devotion that high-powered jobs require. He alleged that the phenomenon is apparent in top professional and managerial positions across the board, and is not unique to science and engineering.

Is Summers right? Are women opting out? Or, as some have suggested, are there other reasons for the sex disparities in science and engineering departments, reasons having to do with inequalities in hiring or inequalities in competence?

Summers argued that women are under-represented in faculties of engineering, relative to the availability of qualified women in graduate school a generation ago. Women comprised 10-12% of the graduate pool 20-25 years ago, according to data from the American Association of Engineering Societies and National Science Foundation. So they should make up 10-12% of full professors today if they entered academia and were promoted in the same proportions as men. In fact, they make up only 4% of full professors in Canada (CAUT Almanac of Post-Secondary Education, 2001-02 figures) and 2.7% in the U.S. At

present, women do make up 12.6% of new assistant professors. But this is low when you consider that women received 21% of the PhDs in engineering in 2004.

Remember – these are women who *had* the cognitive credentials required. They applied to and were accepted into undergraduate programs, successfully earned four-year degrees, had the interest and qualifications to pursue graduate work, and competed successfully for entry into graduate programs with competitive admission. Why shouldn't they be found in representative proportions in the academic workforce? A survey of women engineers by the National Research Council showed that the top-producing doctoral institutions of female engineering faculty were Massachusetts Institute of Technology, Stanford University, University of California – Berkeley, University of Illinois, and Carnegie Mellon – an illustrious group. It seems unlikely, therefore, that women engineers are systematically under-qualified or less desirable than men. Why, then, are they so under-represented in the top ranks of academia?

Attributing the differences to cognitive sex differences is too simplistic. We need only look at other academic fields to see that the situation in engineering is not unique. CAUT data for 2001-02, for example, show that only 4% of full professors of engineering were female, but the figures for many other disciplines are similar: archeology (7%), economics (4%), geography (4%), philosophy (12%), classical studies (8%), psychology (13%). There are exceptions with relatively high percentages of women among full professors, such as English literature (31%). However, if we were to make a prediction based solely on cognitive sex differences, we'd have to predict, if anything, that females would outnumber males among the full professors in some of these fields. Empirically, this is not the case.

CAUT figures show a diminishing proportion of women at each successive stage of the academic pipeline. In chemistry, the proportion of women decreases from bachelor's (51%), to master's (41%), PhD (32%), assistant (21%), associate (13%), and full professor (6%) (CAUT, 2001-02 figures). If this were true only in science and engineering, it would be one thing. But the same pattern is seen across the board: e.g. in anthropology: bachelor's (73%), PhD (62%), assistant (52%), associate (45%), full professor (29%).

Cross-sectional data are hard to interpret because historical demographics could complicate the picture. However, in progressing from PhD to assistant professor, there is usually a spread of only a year or two. Similarly, assistants constitute the pool for promotion to associate. Whence the drop-off? A university-wide survey of graduate students at the University of Western Ontario (van Anders, 2004) seems to confirm that some women are actively opting out of the academic stream, as late as the PhD level. In a survey of career goals, a sex difference was identified in the percentage of men and women who aspired to enter academia upon graduation: more men than women responded “definitely yes” or “probably yes” when asked about their intentions to enter academia, and more women than men responded “definitely no” or “probably no”. There were no sex differences in the perceived importance of interest in research, interest in teaching, extended family issues, financial issues, or the appreciation of the academic lifestyle. But issues related to family mobility and plans for parenthood stood out as concerns among women.

In the National Research Council data, 52% of women faculty employed in engineering departments across the U.S. said balancing work and family responsibilities had had a negative impact on their careers (*vs* 16% who said the impact was positive); 35% said having children had had a negative impact (*vs* 17% who said the impact was positive). Marriage was viewed more favorably – 38% said the impact was positive, only 15% said it was negative.

The implication is that women are opting not to go into academia in the same proportions as men, or if they do, they are less fully engaged. And they opt out primarily for reasons related to family issues, not for reasons of competency. Summers might be right – this is a problem and not just for universities. A recent newspaper article based on trends at the University of Toronto business school claimed the enrollment of women in the executive MBA program had flat-lined at 25% (*National Post*, Aug. 20); and that while women were satisfactorily represented in middle management, they are thinly seen in the upper echelons of the corporate world – only 4.5% of FP500 companies’ top earners are women. For women more so than men, it may come down to an issue of balance: between home, family, and the demands of the high-powered workplace.

As for cognitive specializations that differ between the sexes, this is a red herring in the Summers debate. Summers was not musing about why so few women go into engineering in the first place, but why so few highly qualified women – who have already demonstrated cognitive competence by competing successfully for admission to graduate programs – end up in academia and particularly at the rank of full professor. Yes, research has shown cognitive sex differences do exist in certain domains of intellectual functioning. There is no sex difference in intelligence, but there are other cognitive domains – more circumscribed – where sex differences do occur. For instance, women have been found to excel in many components of receptive and expressive language, including things like the ability to quickly and accurately find the appropriate words to express oneself, the ability to comprehend complex verbal text, to write fluently and grammatically, and to capture one’s thoughts in words. And working memory – the basis for a number of mental operations – shows a female advantage. These differences could be part of the reason for better performance by girls than boys on standardized tests of academic achievement (e.g. Program for International Student Assessment) and, possibly, for greater representation of women than men in a number of undergraduate programs where women now comprise ~60% of the undergraduates.

The situation is different in mathematics and engineering. These are fields where verbal competence is not the primary criterion for advancement. To excel in math or science careers, individuals need to have high levels of intellectual ability, but especially quantitative reasoning. There are sex differences in elementary and high-school mathematics performance – some areas of math show better performance by females, others by males. As always, these differences are statistical averages; there are many females who outscore most males, and vice versa. But in his remarks, Summers was careful to emphasize that he was not talking about elementary and high-school math, nor about individuals in the normal range of aptitude. Rather, he was describing a type of high-level conceptualization and creativity of thought, which could be a basis for outstanding performance at the very highest levels in science and engineering. We do not know which sex, if either, has an advantage when it comes to this type of complex innovative thinking. Current psychological tests simply do not assess this.

The Study of Mathematically Precocious Youth (SMPY) has been quoted in the Summers debate. The SMPY is a longitudinal study of over 5,000 intellectually talented kids recruited in the U.S. between 1972 and 1997 through talent-search methods. ‘Mathematically talented’ was defined as scoring in the top 1% in quantitative reasoning at age 13. In this highly elite group of kids, males did outnumber females. This is the usual context for citing the SMPY data. In fact, however, the SMPY study helps to underscore Summers’ essential point about the importance of self-selection. The SMPY data showed that of the gifted girls who scored in the top 1% – who exhibited exceptional mathematical talent above and beyond the typical physical scientist – only 34% went on to earn undergraduate degrees in math or science. And less than 1% of the girls in the top 1% of mathematical ability pursued PhDs in mathematics, engineering, and the physical sciences *combined* (Lubinski & Benbow, 1992). Eight times as many of the gifted males did so.

Considering all the evidence, I find myself in agreement with Larry Summers. It seems that self-selection goes far toward explaining the sex differential we see in the highest ranks of academia. We need to understand this phenomenon and ask what can be done to involve more women in academic life - so we can capitalize more fully upon the nation’s talent pool.

Useful Reading Websites:

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Elizabeth Hampson is a SAFS member. □

TRIBUTE TO JOHN AND CHRIS FUREDY

*Clive Seligman
SAFS President*

On behalf of the Society, I would like to thank John and Chris for all their efforts in support of SAFS and its goals. Both have been active in a variety of roles as President and as Newsletter Editor, as writers and speakers, and as benefactors.

I first met John about 25 years ago at an Undergraduate Thesis Conference, when both of us were professors of the senior research thesis course at our universities. I don’t remember the details of what we talked about but I still remember my first impression: John was sure of himself -- very, very sure of himself. I didn’t know what to make of that extraordinary self-confidence at the time, but I have since decided that the reason John always seems so sure of himself is because he thinks through problems carefully and fully, seemingly writing a short paper about every argument he’s ever had with anyone. Seldom does one get a response from John that doesn’t include the phrase ‘...but see the attached files.’

John is also cool under the pressure of debate. At the 1992 University in Jeopardy conference, John was a panel member who had apparently aroused the ire of an audience member who took a great deal of time to criticize John for his motives, bad intentions, misguided notions, and the like. John replied to the critic’s ad hominem attack with a devastating retort: The issue isn’t whether my motives are pure but whether my arguments are correct. Silence followed, and everyone realized that the critic had not made one counterargument against John.

Some of you may think that on occasion John can be abrasive, but I believe that that is John’s unique way of showing affection. He and I were both invited to appear on Michael Coren’s show to talk about

preferential hiring in universities. Two other profs were invited to defend preferences. While we were walking the hallway before the show, plotting our strategy as to how we planned to win the debate, John said something that I wanted to add to. Instead of the expected 'great thought Clive,' John replied harshly 'don't interrupt me.' I quickly rationalized: 'Wow he only treats his friends like this.'

One of John's favorite sparring partners in recent years was Robert Birgeneau, the former president of the University of Toronto. John tried valiantly to socialize his president on the right way to think about diversity and merit and the purpose of the university. I don't think John was all that successful, but John had a grudging admiration for Birgeneau that expressed itself oddly, I think. On more than one occasion John referred to Birgeneau as handsome in a Cary Grant sort-of-way. We do not have the time here to delve into the Freudian implications of this characterization, but we do have a gift that is appropriate. John I'd like to present you with a framed photograph of Bob Birgeneau that you could place on your night stand.

I would also like to highlight John's brilliant analysis of contrasting totalitarianism of the iron-fisted, Stalinist type with Political Correctness as totalitarianism clothed in a velvet glove. I'm proud to say that after a great deal of work I was able to obtain the original velvet glove that has been kept in a safe in the headquarters of the National Women's Organization. I present you with the Velvet Glove. Use it wisely!

We also have a couple of other gifts that you and Chris can enjoy when you're settled in Sydney. Here's a book of Canadian Jokes that we hope will help you remember Canada fondly, and here's another humor book, entitled, 'Why I hate Canadians' which will help reinforce your reasons for leaving Canada.

Best of luck from all of us for a wonderful life in Australia. ☐

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SAFS MOTION ON BOYCOTT

Motion passed at the Annual General Meeting, London, Ontario, Canada, May 14, 2005 (Emailed to British Association of University Teachers, May 20, 2005).

On Friday, April 22, 2005, the executive of the British Association of University Teachers (BAUT) voted to boycott Haifa University and Bar Ilan University, and their professoriates, because of the BAUT's view of the politics of the Israeli government.

The members of The Society for Academic Freedom and Scholarship (SAFS) condemn this boycott as violating the spirit and principles of academic freedom. Academic freedom means the right to engage in free inquiry – to conduct research, teach, and communicate the results of one's research without regard to prevailing doctrine. The hallmark of science and scholarship is reasoned debate, based on logic and evidence. Political boycotts of scholars are antithetical to truth seeking. They diminish the dignity of the individuals affected and debase the scholarly process.

We call on the British Association of University Teachers to rescind their boycott.

POSTSCRIPT: At their next meeting the BAUT rescinded their boycott. ☐

HARVARD PRESIDENT PROMISES \$50M 'DIVERSITY' CASH

Lawrence Summers calls for 'cultural' change to accommodate women

BOSTON - Lawrence Summers, the embattled president of Harvard University, has promised to spend US\$50-million on increasing "diversity" after being under the gun for months for suggesting gender differences might account for the scarcity of women in science faculties.

His move follows the recommendations of two task forces on how to boost the training, recruitment and advancement of women, from undergraduates to senior faculty.

The task forces were appointed after Mr. Summers' remarks about women's "intrinsic aptitude" for science

put Harvard's treatment of women in the spotlight.

They recommended the appointment of a senior vice-provost for diversity and the expansion of funds to hire women and minorities, with perhaps as many as 40 new staff being added.

Other suggestions concern subsidies for salaries, mentoring of junior faculty members and extending the clock on tenure for professors who go on maternity or parental leave.

The groups, which looked at other universities, also emphasized the importance of collecting more data about women's status and treatment at Harvard -something the university has been reluctant to do in the past. They also said department and search committee leaders should be trained on hidden biases that can hinder women's advancement.

The reports made clear that Harvard, arguably the most prestigious university in the United States, lagged behind the most aggressive universities in attracting and retaining a diverse faculty. Last year, only four of 32 professors offered tenure in the faculty of arts and science were women.

The reports did not come with a price tag, but Mr. Summers said Monday the US\$50-million investment was "in recognition of the importance and far-reaching nature" of the recommendations, some of which he said would be implemented immediately while others would require further study.

He added that the task forces' suggestions were not just "a Band-Aid," but a "systemic approach" that would benefit everyone on campus.

The objective is not just [to put forward] a set of recommendations but to bring about a set of very important cultural changes," he said on a conference call with reporters.

"Universities like Harvard were designed a long time ago by men and for men. To fully succeed on these issues, we're going to have to address issues of culture."

Mr. Summers ended up in hot water in January after he was asked at a closed door conference of the National Bureau of Economic Research to speculate on the reason for the scarcity of women professors in science

faculties at major universities.

He wondered if being a mother sidetracked a woman's career or if research indicated gender differences in the choice of specialties. As the Washington Times wrote, "he wanted these intellectuals to do what they're supposed to do: Think".

But his questions touched off a frenzy of political correctness, leaving Mr. Summers abjectly apologizing for his remarks and putting his job at risk.

Even before his Jan. 14 remarks that differences in the abilities of men and women may explain why fewer women excel in math and science, the Harvard president was under fire on campus because the faculty of arts and sciences had offered a declining percentage of senior jobs to women for each year of his presidency.

This week, female professors at the university reacted positively to the task forces' suggestions, but some were skeptical that the recommendations would be enthusiastically embraced by the Summers administration, which they say has a troubled record on women's equality.

"The real question is what the university is going to do," said Mary Waters, chairwoman of sociology and a prominent critic of Mr. Summers' leadership.

"There's great fanfare announcing that the task forces are recommending these things, but a very guarded statement from the president and provost saying, "We're going to study it."

The Boston Globe, with files from news services, Wednesday, May 18, 2005. □

WHEN IT COMES TO FUNDING RESEARCH, VALUE SHOULD COUNT

Jason Scott Robert and Francoise Baylis

Last week, 40 of Canada's most respected senior scientists published a letter in the prestigious journal *Science*. While they praise the federal government's support for scientific research in recent years, they are highly critical of the ever-increasing requirement for co-funding research.

The principle behind co-funding is that, for expensive research projects to move ahead, federal dollars must, at minimum, be leveraged by equal investments from third parties, including other governments, philanthropies and corporations. But, as the scientists rightly argue, co-funding can have significant detrimental effects on science, scientists and all of us who hope to benefit from scientific advances.

The Canadian scientists cite a number of significant consequences of co-funding. They argue that fundamental research may be ignored in favour of work that is more easily commercialized but scientifically less important. They also claim that the direction of research maybe skewed by the co-funder, and that long-term research programs or platforms will fall victim to the contingencies of the short term mindset of many co-funders. Additionally, they worry that individual scientists and small labs are at a disadvantage when competing for funds with well-connected scientists or large teams, even when their ideas are better and they would be able to effectively execute the research.

The scientists' most significant 'concern, however, is that science takes a back seat to economics, as scientific peer review of research grants is superseded by prospective financial audit of research contracts. Specifically, they criticize Genome Canada's recent funding competition that required up to 10 times more detail about money and matching funds than about science and research hypotheses.

The scientists clearly have a point – one that some ethics and science-policy scholars have made for years: namely, that requiring co-funding of research stacks the deck against all sorts of important, innovative and ingenious research programs in favour of sexy, seductive and saleable research. So what should we do about it?

The Canadian scientists end their letter to Science with the assertion that scientifically excellent research should be funded in full, without requiring matching funds.

If Canada returns to funding research on its scientific merit, they assert, then "the manifold benefits to society will inevitably follow, as was long the case before the advent of co-funding programs." Would that this were true.

We agree with the problem as outlined by Canadian

scientists. We disagree, however, with the proposed solution that rests on too narrow an understanding of scientific merit and of the relationship between sound research and positive social outcomes. Scientific merit includes both scientific validity (excellent science) and scientific value (scientific and social significance). The scientific peer review mechanism only looks at scientific validity, and for this reason we do not advocate a return to the good old days.

We believe we need to direct our limited research dollars to good science, but also to science in the public interest. While scientists can assess questions of scientific validity, neither scientists nor accountants are necessarily good judges of scientific value. This requires different expertise and different review mechanisms than either scientific peer review or prospective financial audit.

There is no doubt that to burden the federal investment in science with the requirement of matching funds is to privilege economic impact over and above other social values of relevance to Canadians: This privileging is problematic because it discounts the prospect for a range of genuinely beneficial social outcomes; but so, too, would a narrow focus on "scientific excellence" alone.

Jason Scott Robert, assistant professor in the School of Life Sciences at Arizona State University, is affiliated with the Consortium for Science, Policy, and Outcome.

Frangou Baylis is Canada Research Chair in Bioethics and Philosophy at Dalhousie University in Halifax.

The Globe and Mail, Monday, July 4, 2005. □

SUBMISSIONS TO THE SAFS NEWSLETTER

The acting editor welcomes articles, case studies, news items, comments, readings, local chapter news, etc. Please send your submission by e-mail attachment.

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WE UNDERMINE SCIENCE IF WE OVERMANAGE RESEARCH

John Polanyi

Thanks to the commitment of Prime Minister Paul Martin when he was finance minister, Canadian science and technology is beginning to be funded at a level at which it can compete on the global stage.

Science, which is the pursuit of new understanding, is done almost exclusively in our universities and is the engine that propels technology. But to have world beating science we must provide our best scientists with the best scientific environment. At last, we can afford to. How are we doing?

Forty of Canada's most distinguished scientists in the life sciences, writing to the U.S. journal *Science* last week, claimed that we are failing to support our best.

The authors restricted themselves to one issue: the requirement that to receive government support, researchers must have "co-funding" – importantly, from Canadian industry. This requirement for matching funds applies to virtually every new source of research money over the past decade, federal or provincial. But if the intention is to validate Canadian research, in advance of doing it, by identifying a substantial need, the effect is to restrict research to work with a predictable outcome.

This is not a good way to select science.

The 40 letter-writers summarize their case by saying, "By eschewing scientific excellence as the primary consideration, co-funding programs imperil scientific credibility." In short, we can pick the wrong people.

The circumstance that triggered the letter to *Science* was a competition for funds administered by Genome Canada. Out of the 120 proposals, said the *Science* letter, about 50 per cent were rejected on non-scientific grounds: Co-funding requirements had not been met in the view of those administering the program. These administrators would, one may be sure, yield to none in their commitment to excellence. They merely reserve the right to select from among the best those who, in their judgment, are the most relevant. But these may not be the best.

So Canada prepares to scale Olympus's highest peaks,

having selected climbers without giving first place to mountaineering ability – and the letter to *Science* pointed out only one example of the Canadian propensity to overmanage science.

Our scientists are routinely selected on a wide variety of grounds, being given a numerical rating for management skills, networking, collaboration, and degree of interdisciplinary of their work. It is like picking out a Glenn Gould on the basis of appearance at the keyboard.

The scientific community should embrace the stalwart 40's attempt to address the overmanagement of Canadian science. In our zeal to protect the taxpayers' investment, we're in danger of squandering it.

Excellence in science can be judged. Scientific prizes, for example, are not given by lot. Excellence is a rare and precious resource, wasted if redefined as relevance. Fortunately for those who value science for its fruits (that is, all of us), it is virtually impossible to make a major discovery that is useless. The only way to render science impotent is to trivialize it.

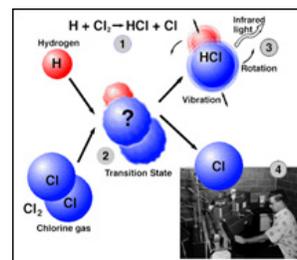
Yet the authors of a recent commentary on this page ("When it comes to funding research, value should count") do so. "Scientific peer review," say these science policy scholars, "only looks at scientific validity." Not so. The most pedantic piece of work that adds a decimal place to a well-known number is "valid." It suffers, however, in the eyes of any peer, from the fatal flaw of being uninteresting. It reveals nothing.

What is excellent, by contrast, is a revelation. It is precisely because it surprises us that it is resistant to being planned. To find 40 scientists willing to challenge authority is also a surprise. Canadian science is coming of age.

John C. Polanyi, a Nobel laureate, is a member of the University of Toronto's chemistry department.

The Globe and Mail, Thursday, July 7, 2005. □

The Nobel prize winning experiment →



A FANCY NAME FOR TRIBALISM

George Jonas

News item: An electrical company is petitioning a Kansas City judge to stop city officials from awarding a contract to another electrical company just because it's owned by a woman. Hard on the heels of this comes a reader's letter asking me to reprint my Six Reasons Why I Dislike Affirmative Action. She thinks I published such a list somewhere. "I cut it out for my husband," she writes, "but then we moved to the country."

Yes, moving to the country is the dickens. There are boxes in my garage I haven't unpacked from three moves, ago, and I've never even moved outside my own postal code.

The clipping my correspondent has in mind is probably in one of those boxes. One could grow mushrooms in my objections to affirmative action by now, for I've been listing them since 1978.

I won't go rummaging through boxes of mouldy clippings. Whatever I wrote must have been venomous, for I've always had a dim view of affirmative action. I don't do venomous anymore -- you need a certain youthful energy for venom -- but I still do contemptuous.

I could do contemptuous this week about Bolting Belinda and her Mentor Martin - God knows, they cry out for contempt - put plenty of Canadians are-rising to the occasion. So, instead of joining the chorus, I'll recreate my reasons for disliking affirmative action, a.k.a. reverse discrimination, for my reader.

One, I dislike reverse discrimination for the same reason I dislike discrimination: It's unfair to individuals.

Two, I dislike affirmative action because it highlights the least important aspect of people's identities, ethnicity and gender. We don't go to the theater to see a Danish male; we go to see Hamlet.

Three, I dislike preferential treatment programs because they perpetuate the myth that is the basis of prejudice, namely that some groups are inferior.

Four, I dislike remedial measures because, far from fostering social harmony between diverse groups, they

have the potential of setting them against each other.

Five, I dislike "goal-oriented schedules of inclusivity" -- to cite the sort of euphemistic boilerplate that stands in for affirmative action -- because they lead to a debasement of standards in crafts, arts and industry. They cause people to spend their energies on seeking advantages for their ethnic or gender groups instead of striving to achieve their personal best in their chosen fields.

Finally, I dislike quotas by whatever name because they seek group parity rather than individual equality. They replace the worthy aim that any woman should have a chance to become a boilermaker with the bizarre idea that 50% of all boilermakers should be women. While the first goal can be realized in a free and fair society, the second can only be realized in a state of Kafkaesque bureaucracy.

Encouraging people to define themselves by their membership in some ethnic or gender group is noxious and nonsensical. It lets group-status decide how people fare at important junctures in their lives, such as being hired or promoted, instead of letting achievement or conduct decide it. Even letting looks or chance decide it would be better.

Race- or gender-derived identity bolsters the dimwitted notion that people must bear a physical resemblance to their role models. It reduces individuals to tribal appendages. It makes them pay more attention to where they're coming from than where they're going -- an especially divisive fallacy in a country as non-homogeneous as Canada.

These are the kind of things I would have said in that moldy clipping. I would have added, though, that there *is* a type of affirmative action I like. It's what it was supposed to be when people first started talking about it. Affirmative action was meant to spread the word that in our society everybody is welcome at the starting gate. It was meant to encourage any person from any group to try out for the team.

Affirmative action was about raising motivations, not expectations. It was about helping all people to meet standards, not about relaxing standards for some. It was about unlocking every door, then inviting every individual from every group to turn the knob for himself or herself. It wasn't about barring the doors for some and carrying others across the threshold. That's only what it turned out to be.

During the Clinton years, there was some kind of a rhyming slogan about curing the ills of affirmative action. It was something like "mend it, don't end it" or maybe it was "don't nix it, fix it." The Clinton-administration was big on rhyming slogans. Anyway, it was fatuous. Affirmative action can't be fixed because it isn't broken. It's simply different from what it was advertised to be. It's an ugly duckling that emerged from what was supposed to be a swan's egg.

By now, it's also a lame duck. It's overdue for a swan-song, then a swift waddle into the sunset. Which brings me to my correspondent's final question: Do I have a recipe for a cure?

I'm afraid not, madam. What I have is a recipe for *confit de canard*. Or toasted duck, if you prefer.

National Post, Friday, May 20, 2005. □

ETHICS BOARDS HARMING SURVEY RESEARCH, SAYS YORK PROFESSOR

Léo Charbonneau

The proof is in, says a York University professor: overzealous research ethics boards and university legal departments are undermining survey-based research. They're doing this by requiring researchers to include with their surveys unfriendly and overly legalistic cover letters or consent forms, says sociologist J. Paul Grayson. These types of letters and forms are unwarranted for simple survey research and scare off respondents, lowering participation rates, he says.

Dr. Grayson has made these claims before, but now he has data to back them up. Frustrated by the situation, Dr. Grayson decided to conduct a study-within-a-study to demonstrate how ethics boards are undermining survey research involving students.

The problem stems from research ethics boards applying a "one-size-fits-all" dictum to university research involving humans, says Dr. Grayson. According to the guidelines of the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Human Subjects*, adopted by the three main federal research granting agencies in 1998, all research involving human subjects at Canadian universities

must be reviewed by research ethics boards to ensure that, among other things, no harm will befall the research participants. Dr. Grayson says there is no evidence to suggest that survey research has any negative impact on subjects.

In 2003, researchers at York, the University of British Columbia, McGill University and Dalhousie University received funding from the Social Sciences and Humanities Research Council to investigate the experiences of domestic and international students during their first three years of study. Research ethics boards at the four universities reviewed the project, including the proposed letter of introduction inviting students to participate.

The researchers designed the letter to provide the required information without discouraging participation. "This is the first contact you make with the person, and it's very, very important to establish a proper contact," says Dr. Grayson. An unfriendly or legalistic letter "creates the wrong kind of environment."

The proposed letter was approved by the ethics board at York and with minor changes at Dalhousie. At McGill, it was also approved, but the legal department insisted that a "highly legalistic" consent form be included. At UBC, the letter was rejected in favour of a "highly detailed and legalistic letter," he says.

The letters were sent to randomly selected first-year students at the four universities, with students at each institution receiving the letter approved by its ethics board. Consistent with Dr. Grayson's expectations, the response rates were highest at York (43 percent) and Dalhousie (38 percent), and lowest at UBC (33 percent) and McGill (20 percent). The differences were statistically significant.

To be certain that response rates were not due to differences in student characteristics between the universities, Dr. Grayson decided to send the UBC letter and the McGill letter and form to a randomly selected sub-sample of students at York. Again, as expected, the response rates were lower for the York students who got the UBC letter (24 percent) and the McGill letter and form (29 percent) than the 43-percent response rate for students who received the original York letter.

The implications for survey research are troubling, says Dr. Grayson. Lower response rates may mean

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**“We need to draw the line on unethical behavior.
But let’s draw it with an Etch-a-Sketch and
don’t be afraid to shake it a little.”**

insufficient sample sizes or the need for more follow-up. “This is costing us money and it’s costing us quality research.”

He calls for survey research to be taken out of the hands of research ethics boards. “There is no reason to believe that survey researchers themselves are incapable of designing and implementing ethical research.”

Bruce Clayman, chair of the Interagency Advisory Panel on Research Ethics, countered that while surveys present no physical risk, there is always the risk to participants’ privacy if their responses aren’t properly protected. “So even the work that may seem very innocuous can bear a potential threat to the person’s well-being,” he said, and should therefore be reviewed.

Nevertheless, he is sympathetic to the concerns of social scientists. The advisory panel has a working group that’s looking at ways of modifying the Tri-Council guidelines “to try to minimize the amount of difficulties social science researchers have while maintaining the highest ethical standards in the conduct of that research.”

There is also provision for appealing an ethics board decision, Dr. Clayman noted. But Dr. Grayson said he doesn’t see the point. “You basically are appealing to the same people who rejected you in the first place.”

University Affairs, June/July 2005. □

THIRD OF U.S. SCIENTISTS SURVEYED ADMIT TO MISCONDUCT

*Maura Lerner
Star Tribune*

One in three U.S. scientists admitted in an anonymous survey that they committed scientific misconduct in the previous three years, according to a report by a team of Minnesota researchers.

While falsifying research is uncommon, the survey found that 33 percent of scientists admitted breaking rules, large and small, that are supposed to ensure the honesty of their work, the authors report in the British journal *Nature*.

The types of misbehavior range from claiming credit for someone else’s work, to changing results because of pressure from the sponsor.

“Our findings suggest that U.S. scientists engage in a range of behaviors extending far beyond falsification, fabrication and plagiarism that can damage the integrity of science,” the authors write in a commentary piece in tomorrow’s journal.

The survey, which was led by Brian Martinson of the HealthPartners Research Foundation in Bloomington, questioned more than 3,200 scientists around the country about a long list of questionable actions. They range from outright fraud to improper relationships with research subjects.

Among the findings: 15 percent said they had changed the design, methods or results of a study in response to pressure from a financial sponsor.

Fewer than 1 percent admitted to "falsifying or cooking research data." Slightly more, 1.4 percent, said they had potentially improper relationships with students or subjects.

But significantly more -- 12.5 percent -- said they had overlooked others scientists' use of flawed data or questionable interpretations. And 7 percent admitted ignoring "minor" rules for protecting human subjects. Six percent said that they failed to report data that contradicted their previous work.

Martinson, a sociologist, said the fact that a third of those surveyed admitted to one of the top ten violations suggests the problem doesn't lie with a few "bad apples."

Scientists, he said, are "one of the hardest-working groups of people that I know." But he said there may be something about their working environment -- the mountains of rules, the pressure to compete for grants and produce results -- that ends up compromising their ethics.

"There's been this kind of idea that scientists... are super-humans or something, that they're immune from these kinds of pressure," he said. "But scientists are human."

He said this is the first survey of its kind, so it is not known whether the misbehavior is more common now than in the past.

June 9, 2005 BADSCIENCE0609

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Clive Seligman, President.

SCIENTIFIC CONFERENCE FALLS FOR GIBBERISH PRANK

Greg Frost

CAMBRIDGE, Mass. (Reuters) - A bunch of computer-generated gibberish masquerading as an academic paper has been accepted at a scientific conference in a victory for pranksters at the Massachusetts Institute of Technology.

Jeremy Stribling said on Thursday that he and two fellow MIT graduate students questioned the standards of some academic conferences, so they wrote a computer program to generate research papers complete with nonsensical text, charts and diagrams.

The trio submitted two of the randomly assembled papers to the World Multiconference on Systemics, Cybernetics and Informatics (WMSCI), scheduled to be held July 10-13 in Orlando, Florida.

To their surprise, one of the papers -- "Rooter: A Methodology for the Typical Unification of Access Points and Redundancy" -- was accepted for presentation.

The prank recalled a 1996 hoax in which New York University physicist Alan Sokal succeeded in getting an entire paper with a mix of truths, falsehoods, non sequiturs and otherwise meaningless mumbo-jumbo published in the journal *Social Text*.

Stribling said he and his colleagues only learned about the *Social Text* affair after submitting their paper. "Rooter" features such mind-bending gems as: "the model for our heuristic consists of four independent components: simulated annealing, active networks, flexible modalities, and the study of reinforcement learning" and "We implemented our scatter/gather I/O server in Simula-67, augmented with opportunistically pipelined extensions."

Stribling said the trio targeted WMSCI because it is notorious within the field of computer science for sending copious e-mails that solicit admissions to the conference.

"We were tired of the spam," Stribling told Reuters in a telephone interview, adding that his team wanted to challenge the standards of the conference's peer review process.

Nagib Callaos, a conference organizer, said the paper was one of a small number accepted on a "non-reviewed" basis -- meaning that reviewers had not yet given their feedback by the acceptance deadline.

"We thought that it might be unfair to refuse a paper that was not refused by any of its three selected reviewers," Callaos wrote in an e-mail. "The author of a non-reviewed paper has complete responsibility of the content of their paper."

However, Callaos said conference organizers were reviewing their acceptance procedures in light of the hoax. Asked whether he would disinvite the MIT students, he replied: "Bogus papers should not be included in the conference program."

Stribling said conference organizers had not yet formally rescinded their invitation to present the paper. The students were soliciting cash donations so they could attend the conference and give what Stribling billed as a "randomly generated talk." So far, they have raised more than \$2,000 over the Internet.

April 15, 2005. □

NOW BRAINSTORMS ARE OFF THE AGENDA

*Henry McDonald
Ireland editor*

David Brent would never approve. 'Brainstorming', the buzzword used by executives to generate ideas among their staff, has been deemed politically incorrect by civil servants because it is thought to be offensive to people with brain disorders. Instead staff at the Department of Enterprise, Trade and Investment (DETI) in Belfast will use the term 'thought-showers' when they get together to think creatively. A spokeswoman said: 'The DETI does not use the term brainstorming on its training courses on the grounds that it may be deemed pejorative.'

Sources inside the department said there was concern that the term would cause offence to people with epilepsy as well those with brain tumours or brain injuries. But the Campaign for Plain English complained that the decision had 'reached the point of real ridicule'.

'You do sometimes wonder if some people haven't got anything better to do with their time,' said spokesman

John Wild. 'Do they just sit down and search out enough words until eventually they can say: "I can make that out to be politically incorrect"? 'Of course there are certain terms that should be deemed out of bounds, but then sometimes things go too far. I am certain that those who dreamt this up are not suffering from any brain disease or injury. They just want to find offence anywhere they can stumble across it'.

The move follows that of the Welsh Development Agency, set up to promote business in Wales, which ran a series of courses last year to teach staff to be more politically correct. 'Brainstorming' was on its list of banned words, as well as 'nit-picking' and 'manila', because of their origins in the slave trade.

The Observer, Sunday June 26, 2005. □

DUES 2005

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