

THE BULLETIN

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Academic Board OKs Expansion Framework

BY MEGAN EASTON

THE UNIVERSITY IS PREPARED TO accommodate at least 8,000 additional students over the next decade but enrolment expansion will only occur where it is fully funded, enriches the student experience and advances the university's mission, states a report endorsed by Academic Board March 9.

A Framework for Enrolment Expansion at the University of Toronto (a supplement to this issue) presents the university's guiding principles in anticipation of demographic and social changes in Ontario that will see up to 40 per cent more people seeking post-secondary education over the next 10 years. The framework is not a blueprint, said President Robert Prichard, but it will be a reference point for more concrete plans in the future.

"We are thinking forward and imagining how we would like the University of Toronto to evolve over the next decade rather than waiting to see what particular forces and pressures arise and responding to them one by one," he said at the board meeting. "This document speaks to both the future size and future shape of the University of Toronto."

In November an initial discussion paper on the enrolment issue was published in *The Bulletin* and was circulated at boards of governance and to all divisions. Input from those consultations was then incorporated into the present framework which will go to Governing Council for final approval April 6.

A prerequisite to any expansion is

comprehensive funding for operating, capital and student support costs. The appropriate human resources — both faculty and staff — must be in place for every program slated for growth, along with adequate student housing and services, academic facilities and research infrastructure.

The most dramatic growth would be on the two suburban campuses, with U of T at Scarborough taking in from 2,100 to 4,200 new students and U of T at Mississauga accepting 2,400 to 4,700. These numbers translate to a 50 to 100 per cent increase in enrolment. The St. George campus would grow by 11 to 14 per cent, or 3,500 to 4,500 students. The maximum growth scenario is a total increase of 14,400 students.

This total is less than the 16,500 students that represent U of T's proportional share, based on recent enrolment numbers, of the expected boom in applications to Ontario's universities. "That creates opportunities for other Ontario universities to more fully realize their ambitions while preventing the University of Toronto from becoming unreasonably large or out of balance," Prichard said. As a result, admissions standards may go up and will at least be maintained.

There will be no enrolment expansion in first-entry programs at the St. George campus beyond the extra students completing a fourth year, but there will be expansion in second-entry programs such as physical therapy, pharmacy and nursing and in doctoral-stream programs.

Expansion at the suburban campuses will enhance the curricular strengths of each, the document stated. All of the growth at Scarborough will be in co-op programs, with the goal of making it a leading co-op university in Ontario. At Mississauga, about 1,000 new places will be added to the proposed joint program in communications, culture and information technology with Sheridan College while the rest of the expansion will be in unique areas such as biotechnology where the university has distinguished itself.

To help accommodate the infusion of new students, the framework proposes a restructuring of many first-entry programs so that they run throughout the year. The three-semester model, it states, would allow students to complete 20-credit degrees more quickly, add greater flexibility for professors and encourage more efficient use of campus facilities.

Professor Fred Wilson of the department of philosophy motioned

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NET WORTH



DAVID STREET

Neteka colleagues Wilson Chow, David Leung, Edmon Chung, Ken Lee, Rebecca Chan and Ketan Patel display what they hope will make them very wealthy young entrepreneurs — a new software program that makes the Internet multilingual.

Grads Make Web Multilingual

BY JANET WONG

IN A DISCOVERY SURE TO TRANSFORM how one works and plays on the Internet, U of T grads have made it possible for people all over the world to surf the Net in their own language.

The six 20-something entrepreneurs have created a server software program that allows users to access e-mails or Web pages by typing in a Web site address in any language — be it Chinese, Arabic, Greek or Russian — a feature that has not been universally available until now.

Edmon Chung is the 24-year-old president and chief creative officer of Neteka and a graduate of the University of Toronto's master of industrial engineering program. He took particular notice of the problem last May.

Chung was searching the Internet for information about a particular company and realized he only knew its Chinese name. "As with most people, I had become used to typing the company name and appending .com for its Internet address, but this wasn't as possible with Chinese script. I realized that the Internet naming system must evolve to take into account a more global audience."

He approached friend David Leung, a fellow U of T industrial engineering graduate, to design the software to solve the problem. They recruited four others to Neteka: U of T computer science grad Wilson Chow to edit the software; U of T master of engineering grad Rebecca Chan as human resources director; U of T industrial engineering grad Ken Lee as director of operations; and

University of Calgary management grad Ketan Patel as director of business development.

Some companies do offer the use of different languages and extended characters for Web site addresses but they either don't offer a direct path to a fully universal naming system or aren't compatible with the majority of the world's existing name servers, said Chung.

In contrast, Neteka has designed a system that takes the entire Internet into account. The Neteka Name! software uses Unicode, a type of programming code that captures the characteristics underlying each letter or word in a language. Unicode can accommodate up to 65,000 letters or characters, more than enough for any major language, and allows for symbols such as the

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INSIDE

Weird and wonderful

A NEW COLUMN BY MICHAH RYNOR explores out of the way places on our campuses. *Curiosities*. Page 3

Birgeneau speaks

BIRGENEAU DISCUSSES WITH *THE Bulletin* his love of science, what he's learned about U of T since his appointment as president and more. Page 5

50 years young

THE FACULTY OF LAW CELEBRATES its 50th as the modern law school. Pages 10 and 11

Feds Fund "Ideas, Innovation"

BY SUSAN BLOCH-NEVITTE

THERE WAS GOOD NEWS FOR U of T in the Feb. 28 federal budget with the expansion of programs that will benefit faculty recruitment and retention as well as priority capital projects.

Among key initiatives is the federal government's commitment to funding 2,000 faculty chairs through its Canada Research Chairs program. Announced in last October's throne speech, the program was originally to support 1,200 chairs with another 800 to be funded at a later date. The government will commit \$900 million

over five years for the full 2,000.

In addition, the Canada Foundation for Innovation infrastructure program has been extended by three years to 2005 and will have an additional \$900 million for research-based infrastructure needs. First proposed in 1997, the program has produced some 56 awards for U of T and its affiliated teaching hospitals, for a total of \$75 million or approximately 15 per cent of CFI awards nationally.

"The budget's central focus on ideas and innovation is extraordinarily welcome," said President Robert Prichard. "The combined force of the Canada Research

Chairs initiative and the increased investment in the Canada Foundation for Innovation will propel Canada forward as an internationally competitive nation in the new economy. It is the best budget in over a decade for our cause."

Prichard said that the federal government's budget is "dominated by research — something we could not have contemplated even five or 10 years ago." As part of its commitment to research, the government will allocate \$160 million to create the Genome Canada project. Five

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IN BRIEF



New home for *Bulletin* online

THE *BULLETIN*'S ONLINE VERSION HAS MOVED TO A NEW WEB SITE and a new format. *The Bulletin* online is now provided in portable document format, or PDF, which replaces the previous collection of html files. It can be found at www.newsandevents.utoronto.ca/bulletin. The new version uses freely available reader software to make *The Bulletin* on screen look exactly like the print version, including classifieds and events listings: only the ads are left out. "Now you can search an entire issue of *The Bulletin* for a specific word you're looking for or download and print out *The Bulletin* just as it appeared on the newsstands from any laser printer in the world," said Bruce Rolston, manager of Web and information services. *Bulletin* readers who prefer the html-type files can still find the paper in that format at News and Events, the university's online information source (www.newsandevents.utoronto.ca), Rolston added.

Disability co-ordinator resigns

HELEN SIMSON, CO-ORDINATOR OF DISABILITY SERVICES, RESIGNED her position effective March 10. She cites inadequate resources and an inappropriate location on the third floor of the Koffler Student Services Centre as reasons for her departure. She was also concerned about lack of access to senior university administrators about disability issues. Susan Addario, director of student affairs, said she was aware of Simson's concerns and has been addressing the issues of resources and location. After a review of the service, a new co-ordinator will be appointed, she said.

U of T surpasses United Way goal

UNIVERSITY OF TORONTO FACULTY AND STAFF HAVE RAISED A RECORD breaking \$663,833 for United Way of Greater Toronto. Students also contributed this year, collectively raising over \$13,000 which marks their highest achievement ever. "This year I asked you to give as you never have before, and because of your generosity we reached and all time high in donations," said Professor Doug Perovic, chair of the U of T campaign. "Thank you for your investment in people, solutions and hope." Anne Golden, president of United Way of greater Toronto, added her thanks to the university community: "The University of Toronto's contribution to the success of this year's campaign cannot be overstated. The faculty and staff at U of T have consistently been in the top 10 of giving organizations in this city. Congratulations. We are thrilled!"

AWARDS & HONOURS



Faculty of Arts & Science

PROFESSOR JEFFREY HAMBURGER OF FINE ART WAS the winner of the Charles Rufus Morey Book Award of the College Art Association for *The Visual and the Visionary: Art and Female Spirituality in Late Medieval Germany*. The award, presented at the association's annual meeting Feb. 23 in New York, is awarded for an especially distinguished book in the history of art and named in honour of one of the founding members of the association and first teachers of art history in the U.S.

PROFESSOR MICHAEL MOLLOY OF COMPUTER SCIENCE has been selected to receive a prestigious Alfred P. Sloan Research Fellowship, awarded by the Alfred P. Sloan Foundation. The two-year \$40,000 fellowships are awarded to outstanding young scientists to support them early in their careers when other research funding may be difficult to obtain; currently 100 grants are given annually in six fields: chemistry, computer science, economics, mathematics, neuroscience and physics.

Development & University Relations

THE *UNIVERSITY OF TORONTO MAGAZINE* HAS WON an IABC/Toronto 2000 Ovation Award of Excellence in the writing category while the *Campaign Quarterly*, published by campaign communications in the Division of Development & University Relations, and Q&A: University of Toronto National Report 1999 won Awards of Merit in the category of publications. Ovation awards recognize outstanding efforts in strategic communications, contributing to organizational objects and performance.

Fisher Rare Book Library

ALBERT MASTERS, A LIBRARY TECHNICIAN AT THE Thomas Fisher Rare Book Library, has been awarded an Internet Guide Award from the editors of *Britannica.com* for his Web site about medieval manuscripts — www.geocities.com/Paris/Rue/9451/medieval.html. The *Britannica* editors cited the site as "one of the best on the Internet when reviewed for quality, accuracy of content,

presentation and usability" as well as being "one of the most valuable and reliable on the Internet."

Faculty of Medicine

PROFESSORS MICHAEL GORDON OF THE DEPARTMENT of medicine and Val Rachlis of family and community medicine have received the 1999 Council Award of the College of Physicians & Surgeons of Ontario. The award recognizes physicians who have demonstrated excellence in eight dissimilar roles: medical expert, communicator, collaborator, resource manager, health advocate, self-directed learner, scientist/scholar and individual, reflecting the needs and expectation of Ontarians; Gordon received his award Feb. 14, Rachlis will receive his award at the June 22 meeting.

PROFESSOR CAMERON MUSTARD OF PUBLIC HEALTH sciences has been appointed chair of the governing council of the Canadian Population Health Initiative for a two-year term effective Feb. 3. Under the stewardship of the council, the initiative's mandate to improve health information over a four-year period will be accomplished by providing support to innovative research programs focused on the non-medical determinants of the health and well-being of Canadians and by supporting innovative approaches to stimulating public debate and discussion about public and private sector policies that influence the health of Canadians.

MARIA NAYER, A LECTURER IN PHYSICAL THERAPY, has received a Canadian Alliance of Physiotherapy Regulator's Recognition Award, acknowledging her ongoing involvement with the alliance. It recognizes in particular her extensive contribution to the development and administration of the physiotherapy national examination.

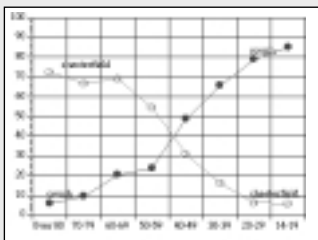
Rotman School of Management

THE ROTMAN SCHOOL EXECUTIVE MBA BROCHURE & Application Package has won an IABC/Toronto Ovation 2000 Award of Excellence in the publications category. The awards program salutes those who translate concerns, ideas and strategies into effective business solutions and recognizes outstanding efforts in strategic communications, contributing to organization objectives and performance.

ON THE INTERNET

FEATURED SITE

You say zee, I say zed ...



PROFESSOR JACK CHAMBERS of linguistics has a fascinating (and colourful) Web site that describes his research on "dialect topography," a set of methods for surveying variations of dialect within a region. Chambers has been

studying the Golden Horseshoe region which covers the western tip of Lake Ontario from Oshawa to Niagara Falls. Over five million people, more than one-sixth of Canada's population, live in this 250 km area. Chambers observes that in southern Ontario, the proximity of the United States on three sides makes the American presence a constant factor and one that Canadians feel compelled to resist in order to keep their autonomy. "Their resistance involves matters both large and small. One of the small matters is the name of the last letter of the alphabet. "Z" is called "zed" everywhere in the world, not only in English but also in French, German and most other languages, except in the United States where it is called "zee."

http://www.chass.utoronto.ca/~chambers/dialect_topography.html

U OF T HOME PAGE www.utoronto.ca

THE CAMPAIGN FOR U OF T www.uoftcampaign.com

RESEARCH UPDATES (NOTICES) <http://www.library.utoronto.ca/rii/hmpage/>

PHD ORALS www.sgs.utoronto.ca/phd_orals.htm

U OF T JOB OPPORTUNITIES www.utoronto.ca/jobopps

If you want your site featured in this space, please contact Audrey Fong, news services officer, at: audrey.fong@utoronto.ca



SITES OF INTEREST

Digitally U of T

THE GOOD FOLKS AT U OF T AT SCARBOROUGH HAVE GENEROUSLY collated a vast and searchable collection of images that are available free to the university community. Images may be downloaded but please note that they are rather small. If you need a high resolution image for publication purposes or have not found the images you need, you may contact the Scarborough personnel.

<http://www.scar.utoronto.ca/~photo/search.html>

The powers that be

EVER WONDERED WHAT MAKES THINGS TICK AROUND campus? Unlike most North American post-secondary education institutions, U of T does not have a faculty Senate and a separate Board of Governors. Instead, Governing Council consists of an executive committee, Academic Board, Business Board, University Affairs Board and various committees. The council's Web site is very comprehensive, providing information on council membership (contacts, bios, meeting schedules, protocol), agendas, reports, policies and procedures. All GC policies are available for downloading in both HTML and PDF format.

<http://www.utoronto.ca/govcncl/index.htm>

Jackman Serves Second Term

BY CHERYL SULLIVAN

HAL JACKMAN HAS BEEN RE-elected to a second term as U of T's chancellor. The College of Electors — made up of approximately 40 alumni who are responsible for choosing the chancellor — met on March 6 and voted overwhelmingly in favour of a second three-year term for Jackman that begins on July 1.

"I am very honoured and I have certainly enjoyed my almost three years as a chancellor.

There is always something going on at the university. Every week there is some sort of event and I see the best of the university community," said Jackman. "I think the University of Toronto has made huge strides in the last five or 10 years, and [I am fortunate] to have been a part of it."

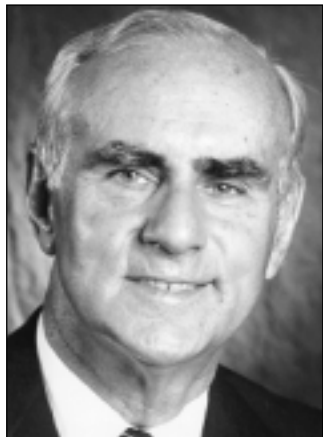
President Robert Prichard was delighted at Jackman's re-election and praised his contributions to the university community: "Hal Jackman has been a magnificent chancellor for the past three years. His willingness to serve again is further evidence of his remarkable

commitment to the university. I know I speak for all members of the university community in congratulating Chancellor Jackman on his re-election and expressing our deep gratitude for his remarkable service."

The chancellor is the ceremonial head of the university and ambassador to the 343,000 U of T alumni living around the world. Other duties include presiding at convocation ceremonies, attending award ceremonies and other events and

serving as the university's senior volunteer. Under the University of Toronto Act a chancellor can serve a maximum of two terms (six years). Jackman's term as the university's 30th chancellor will end June 30, 2003.

"The University of Toronto has been blessed with many wonderful chancellors and the re-election of Hal Jackman is further evidence of how fortunate we are as a university," said Wendy Cecil-Cockwell, chair of Governing Council. "He works tirelessly and with great passion on behalf of the university and that makes us the envy of many."



Chancellor Hal Jackman

Chancellors Support Humanities Funding

BY CHERYL SULLIVAN

IN AN UNPRECEDENTED SHOW of unity the chancellors of 16 Ontario universities have come out in strong support of the importance of a university education and the value of the liberal arts. A Feb. 29 joint statement also called on governments and the private sector to increase funding support for the province's universities.

"To prepare the leaders of tomorrow we need a university system that is characterized by excellence, accessibility, diversity and flexibility" reads the statement signed by such prominent people as U of T chancellor Hal Jackman, McClelland & Stewart president Avie Bennett, former Alberta premier Peter Lougheed and Royal Bank of Canada chair John Cleghorn. The statement was drafted following a November 1999 meeting of Ontario university chancellors at York University.

"The liberal arts and sciences must continue to be a seminal part of Ontario's higher education.... A number of recent studies have clearly underlined that a well-rounded, general education — learning to think, to write and to express one's ideas clearly — is as valuable to future employability as technical or technological training," the statement says.

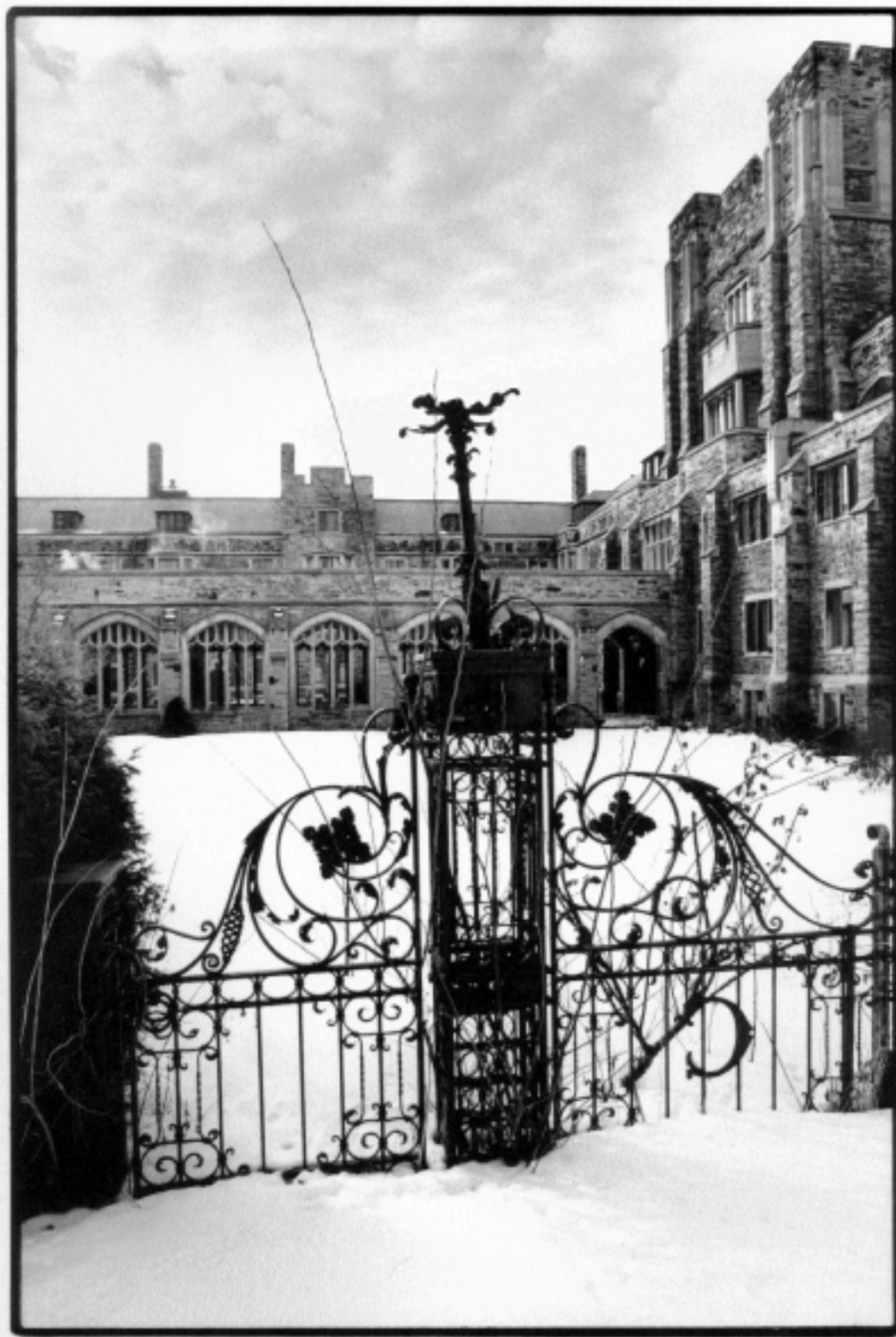
"It was a clear call for support for the humanities, which are an essence

of the university and I certainly support that," said Jackman, who holds a BA from U of T's Victoria University where he studied economics, history, geography and politics. He then went on to earn an LLB from U of T's Faculty of Law. "The chancellors wanted to remind people of the purpose and mission of a university which has to always include the liberal arts."

Proof of Jackman's own commitment to that ideal is his \$5-million gift to the university in support of the humanities. Together with money from the university the Chancellor Henry N. R. Jackman Distinguished Chair Program in the Humanities was established in November 1998, creating five new chairs in the fields of philosophy, history, language and literature, classics and art.

Meanwhile, the Ontario Confederation of University Faculty Associations has called for a more balanced approach to post-secondary education funding. This week the organization released a study criticizing the government's position that post-secondary funding reflects both labour market and student demands. The study cites employment rates for liberal arts students equal to those of their science and engineering counterparts and states that more than 40 per cent of the total student demand for university programs is the arts.

CURIOSITIES



JEWEL RANDOLPH

GATEWAY TO THE PAST

BY MICHAH RYNOR

ALICE IN WONDERLAND FANCIFUL, THIS wrought-iron gate is all that remains of a fence that once surrounded the former principal's residence at Knox College. Although details are sketchy, it might have been a fixture on the property during the years that Canadian prime minister John A. MacDonald (who stayed in the stately manor from 1876 to 1878) and Ontario premier Oliver Mowat

(a resident from 1888 to 1902) lived in the house which is now part of the School of Graduate Studies. Crumbling and paper thin in places — with sections either missing or in storage — it could be only a matter of time before this rare piece of Victoriana is lost forever. Knox administrator Brian Malcolm says the college is currently seeking ways to preserve it from the elements — and for posterity.

Cancer Growth Gene Identified

BY STEVEN DE SOUSA

RESEARCHERS AT MOUNT Sinai Hospital and U of T have identified a key gene that affects cancer growth, opening the door to new approaches for effective cancer treatments.

"Cancer cells express sugar structures that enable the cancer to grow rapidly," said Professor Jim Dennis of molecular and medical genetics and a senior scientist at Mount Sinai Hospital's Samuel Lunenfeld Research Institute. "What we have done is look at how those sugars on the cell surface affect the growth and spread of cancer."

Dennis and his team of researchers found that sugar chains produced by a substance called

Mgat5 are elevated in human malignancies of breast, colon and skin cancers. By knocking out the Mgat5 gene in mice, researchers were able to suppress cancerous tumour growth and the spread of tumour cells to the lung.

The researchers created mice deficient in Mgat5 by a method known as targeted gene mutation. These mice appear normal in every way but react differently from other mice when exposed to powerful cancer-inducing substances known as oncogenes. The Mgat5-deficient mice had an 80 to 95 per cent reduction in breast cancer growth and metastasis, or spreading, to the lungs compared to other mice, indicating that these sugar structures play a role in promoting the growth

and spread of cancer.

"Our study shows that Mgat5 products in cancers promote cell movement, which drives growth-signalling pathways inside the cells," said Dennis. "This is the first time that we have been able to show a direct involvement of carbohydrate chains in cancer growth. This study and ongoing investigations in the signalling pathways affected by Mgat5 will direct us to new drug combinations to control the spread of cancerous tumours."

In addition, the researchers found that mice missing Mgat5 had a stronger immune response. This finding raises the possibility that Mgat5 inhibitors may augment the immune response in cancer patients following chemotherapy.

Academic Board OKs Framework

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that the board delay its decision on the framework until the U of T Faculty Association is canvassed for its views on the three-semester model; he suggested there may be a conflict with the association's memorandum agreement with the administration. The motion was defeated and Prichard reassured the board that no conflict existed.

"I don't want for a moment to suggest that this proposal compels faculty members to teach in three terms. It was not intended in any way to be inconsistent with the provisions in the memorandum of agreement with the faculty association," he said. "This is designed to create more opportunity for students and faculty through full-year programming."

The most controversial proposal in the framework is the phasing out of the 15-credit degree by the Faculty of Arts and Science, which accounts for an enrolment increase of about 2,500 students. In response to concerns about retention and recruitment issues at UTM, there

was an amendment to the initial proposal, allowing extra time to phase out the 15-credit degree there. The St. George campus is scheduled to eliminate the degree by the 2001-2002 academic year. Scarborough has made no decision about the future of the 15-credit degree.

There was extensive debate about this issue when the framework was presented to the planning and budget committee March 7 and some of the same concerns were raised at Academic Board, but it passed at both. Manon Le Paven, president of the Association of Part-time Undergraduate Students, requested that Academic Board delay voting on the proposal until a survey is conducted of the association's membership, while representatives of the Graduate Students' Union and the Women's Centre said they felt the move to only 20-credit degrees compromised accessibility at U of T.

Arts and science dean Carl Amrhein said students were never excluded from the discussions. "It is simply not fair to say that students

have not been consulted," he said "It has not been a process that has been short on academic debate."

On the issue of accessibility and financial aid, Principal Angela Hildyard of Woodsworth College said she had been asked by Amrhein to chair a working group to examine the impact of the elimination of the 15-credit degree on all students. "I think it's our responsibility to find ways to meet those needs so that students can then graduate with 20 credits," she said. The framework commits the university to continuing its financial aid guarantee and says special attention will be paid to the needs of students who are affected by the move to offer only 20-credit degrees.

Prichard said maintaining academic excellence is the rationale behind the move to the 20-credit degree. "There is the possibility now that we can more fully realize our commitment to a liberal education, an education which allows us to better exploit the extraordinary strengths that we have across the Faculty of Arts and Science."

Feds Fund "Ideas, Innovation"

~ Continued From Page 1 ~

research centres will be established across Canada and U of T intends to compete vigorously for Ontario's centre.

"Based on our past performance and expectations, we very much think one of the new genome centres will be here in Toronto," said University Professor Lap-Chee Tsui of medical genetics and microbiology and part of the team that cloned the gene for cystic fibrosis. He is also co-chair of the interim board of directors of the Genome Canada project.

"It's very timely, very good news," said Professor Stephen Scherer of

medical genetics and microbiology and director of the Centre for Applied Genomics at the Hospital for Sick Children. "This will help solidify genomics research and provide the proper infrastructure to use this information and apply it to

important biomedical questions."

The federal budget also increases the tax exemption for student scholarships, bursaries and fellowships from the current \$500 level to \$3,000, which the university lobbied for, Prichard said.

Web Now Multilingual

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exclamation mark, ampersand and dollar sign, which are currently barred from use.

"This software will revolutionize the Internet," said George Adams, president of U of T's Innovations Foundation.

The Innovations Foundation played an integral role in helping Neteka's founders develop their business. Part of U of T, the technology transfer company helps researchers from the university and its associated hospitals patent, market, license and start up businesses.



OF SCIENCE AND SIMCOE HALL

Three months after being appointed to the presidency, The Bulletin spoke to Robert Birgeneau about his life in academia and administration

By JILL RUTHERFORD

ELEGANT. BEAUTIFUL. MAGIC. Magnificent. Robert Birgeneau is lecturing on physics with a staccato-like delivery, peppering his comments with words one associates more with art than science. But to him, these words describe the very essence of good science: elegant simplicity, the sheer beauty of physical structures, the magnificence of experiments done well. It is obvious to all who listen in this overflowing lecture theatre, that science is a source of pure joy to Birgeneau. And his enthusiasm is infectious.

"At a fundamental level, the physical universe is extraordinarily beautiful," he says in an earlier interview. "It matches the feeling of the Sistine Chapel."

"In my experience in research if you have many possible solutions and there is one that is elegant and beautiful, it will always turn out to be the right one. Nature has with it an esthetic that has been difficult to match by humans through paintings or music. So I think great educators also manage to communicate that esthetic of nature."

Birgeneau is well qualified to speak on the subject. The president-designate of the University of Toronto, who takes up his new position July 1, is one of the world's authorities on solid-state physics. His peers have recognized his work by honouring him with the top awards in his field, most notably the Oliver E. Buckley Prize of the American Physical Society and most recently the Julius Edgar Lilienfeld Prize.

The only one left is the Nobel.

Considering that one of every three recipients of the Buckley goes on to win the world's top honour, Birgeneau has in some ways turned his back on that possibility to accept the presidency of this university. For even a man who wants very much to be known as an academic first and an administrator second, also knows that the demands of the new job will prevent him from continuing the kind of world-class research he has spent his entire adult life pursuing. Indeed, the decision to accept the offer of the presidency was a difficult one, he concedes, but it's one he is glad he made.

"First of all, whether or not you win the Nobel Prize is a lottery — that's not something that can be programmed — whereas the University of Toronto presidency was there and it was real.

"The second thing is that people who have been leaders in research and education and who have administrative ability ought to provide leadership in our university because they really understand what a university can and should be.

"I also feel that it is a special time in Canadian history," he continues. "It is possible if all the stars line up properly for the University of Toronto to move in the same stratosphere as the universities of Oxford, Tokyo and Berkley. It will take an incredible amount of work — more than I initially realized — but it is possible.

"And I think if I could help facilitate that, it's a contribution every bit as rewarding as winning another major prize in physics."

His global vision for the university has so far been overshadowed in recent media reports by attention paid to his record on diversity issues. While dean of science at the Massachusetts Institute of Technology he attempted to redress inequities between women and men faculty and made a concerted effort to recruit talented women candidates. But some of that media attention has been critical, calling into question the need for such "social engineering." Birgeneau admits he was surprised by the reaction.

"The thing I have difficulty understanding is that these media have simply ignored the fact that I've led what is literally the best school of science in the world — and there's probably no institution more merit-driven than MIT — and that



has automatically produced a diverse population. In fact, in my experience it's less meritorious places that are more homogeneous."

The equity debate is clearly very important to Birgeneau, who is intent on fostering an academic environment in which all people feel at home — regardless of their skin colour, religion or sex. But, he says, "that's only part of what I am hoping to accomplish while at the University of Toronto."

Since he was appointed to the presidency, Birgeneau has been shuttling back and forth between Boston, where he still has an office at MIT, and Toronto where he has been alternately staying at the home of his 91-year-old mother-in-law and at Massey College.

THE PHYSICAL UNIVERSE IS EXTRAORDINARILY BEAUTIFUL; IT MATCHES THE FEELING OF THE SISTINE CHAPEL

So far, he has spent much of his time on campus meeting principals and deans, hearing their concerns and priorities for their divisions. A number have also made the trek to Boston to confer with him including Deputy Provost Carolyn Tuohy, arts and science dean Carl Amrhein, engineering dean Michael Charles, New College principal David Clandfield and Professor Bruce Kidd, dean of physical education and health. Even Premier Mike Harris paid a call when he was in the Massachusetts capital. But important for Birgeneau, he's also taken time to be with students. And he hopes to continue that kind of open dialogue after he takes office.

It is obvious in speaking about his own research that Birgeneau has tremendous respect for the students who work with him. One is struck by the care with which this award-winning physicist ensures that the contributions of his graduate students are recognized and praised. Excellence in research is for Birgeneau a collegial enterprise.

It also leads to excellence in teaching, he says.

"I think excellence in teaching and excellence in research are closely connected. That way you have people who are passionate

about their subject and work at the frontiers of science and can communicate that. For me, at least, it was important to begin to interact with people who understood the subject deeply."

Birgeneau's own transformative experience came just before entering graduate school when he worked in a group led by Canada's Nobel-Prize physicist Bertram Brockhouse at the Chalk River nuclear research centre.

"Here I had the tremendous benefit of being able to be as a summer student in a group where really Nobel Prize-level research was being done in Canada," he recalls. "That had a huge impact on me psychologically because I discovered for the first time what it was like to work at the true frontiers of science."

In many ways, that initial excitement of discovery and pursuit of excellence in research has never left Birgeneau. He brought his enthusiasm to MIT where he successfully helped lead his faculty to a truly world-leading status. And he did that by building on existing strengths and then boldly forging new partnerships.

For example, MIT just announced an unprecedented \$350-million donation to the school from husband and wife benefactors Patrick and Lore Harp McGovern, creating a new brain research centre. That

donation is in large part due to the lead role Birgeneau had already taken in making MIT a centre for brain research.

After he became dean of science in 1991, Birgeneau proceeded to integrate the department of brain and cognitive science with the school of science and created an undergraduate program in neuroscience. He then persuaded Nobel Prize-winning biologist Susumu Tonegawa to lead a new international research consortium in partnership with the Japanese RIKEN brain research institute and hired a large number of "talented young scientists" to work in this area. It was these initiatives and the ground-breaking research being conducted that convinced the McGovern family to make their own donation.

"This shows the impact that generous individuals can have on the progress of science and on the welfare of humanity," Birgeneau says.

Birgeneau may need to rely on that generosity more than he realizes. While his trips back to Toronto have only confirmed his impressions of the "incredibly rich intellectual environment" at U of T, and its special strengths in the humanities, he realizes now that the university is far more "resource limited" than he'd originally hoped. And that, he says, increases the challenge of attracting and retaining the most talented faculty and graduate students from around the world.

However, he is confident that just as he did at MIT, he will be able to forge dynamic partnerships between university researchers and community leaders when he takes his place at U of T. The fact that U of T had already identified its key academic priorities prior to launching its fundraising campaign, plus new government initiatives such as the 21st-Century Chairs program, will give him the opportunity "to strengthen an already excellent faculty and also identify other growth areas as we did with neuroscience at MIT."

As for his own research, Birgeneau has every intention of setting up a lab in the physics department. He's already hired a post-doc from Oxford who will report on Sept. 1, and another scientist from Japan will be joining him in the late autumn. And as he settles into the routines of Simcoe Hall, one can be sure Birgeneau's thoughts will never be too far from contemplating the beauty and elegance of the physical universe.

IN THE NEWS



University of Toronto people are in the news every day. The following is a sampling from February and March:

Professor gives RRSP advice

AS THE RRSP DEADLINE WAS FAST APPROACHING at the end of February, the press relied on finance professor Eric Kirzner for commentary on various investment and financial issues. He was featured in several stories in *The Toronto Star's* Smart Money section as well as in a Canadian Press story distributed across Canada during the week of Feb. 21.

Time heralds Canadian divas

ISABEL BAYRAKDARIAN IS THE "BRIGHTEST NEW Canadian star in a growing pantheon," a recent article in the Canadian edition of *Time* magazine says. Written by Carl Morey, a former U of T dean of the Faculty of Music, the article sings the praises of the 25-year-old songbird. In the Canadian Opera's Company's current production of *Don Giovanni*, Bayrakharian plays the role of the exquisite Zerlina. Her voice is described by *Time* as "capable of navigating the treacherous coloraturas of Rossini and Donizetti" and is compared to such opera luminaries as Emma Albani and Teresa Stratas. The article also praised U of T Faculty of Music grads Measha Brüggergosman, Brett Polegato, James Westman, Michael Colvin, Gerald Finley, Adrienne Pielzonka and Russell Braun.

Wearable computers - wave of the future?

PROFESSOR STEVE MANN MAY THINK SO. INVENTOR of the "wearable computer," a head-held apparatus that

performs computer functions, he recently appeared on Citytv's Media Television to describe this innovative device. Videographer Sheila Cameron explored the world of "wearable visual computing" with Mann as he demonstrated the unique features and its potential benefits of the wearable computer in this quirky segment. Mann currently teaches a course on personal cybernetics at U of T.

Pond scum or fuel for cars?

IMAGINE PUMPING HYDROGEN, A BYPRODUCT OF green algae, into your car instead of fossil fuel. Thanks to the work of Professor Bob Morris of chemistry, this possibility may become a reality in the near future. His discovery was featured on a short segment entitled Fuel for the Future on the Space Channel in February. Morris, in his interview with videographer Natasha Roi, unveils the process of converting water extracted from microscopic green algae to hydrogen, an environmentally friendly fuel with water as a byproduct.

Martin's making news - as usual

ROGER MARTIN, DEAN OF THE ROTMAN SCHOOL OF Management, continues to garner plenty of media attention. He appeared on Citytv's Breakfast Television in February to discuss the future of work in Toronto. In addition Martin was featured in a cover story of a recent *Macleans* magazine on mutual funds. Ross Laver, *Macleans*'s business editor, moderated a roundtable discussion in which Martin took part. The press has also sought Martin's comments on topical issues ranging from taxes to the federal budget.

COMPILED BY SUE TOYE

Watson Papers Donated to U of T

BY JAMIE HARRISON

NEARLY 50 YEARS AFTER graduation, influential broadcaster, writer and media personality Patrick Watson returned his books to the University of Toronto Library.

Over his career Watson has used all kinds of media, from pen and paper to film and videotape, to communicate with his fellow Canadians and now he has donated 117 boxes of personal and professional records to the Thomas Fisher Rare Book Library. The gift includes scripts, photographs, production notes, awards, speeches and copies of his acclaimed television productions, with more to come.

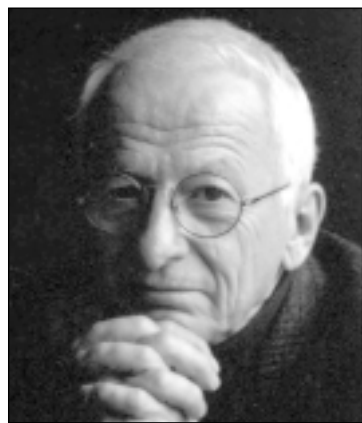
"I've been very fortunate to have had a very interesting career," Watson said. "Throughout my life and my career, I've always remembered the University of Toronto, my time there and what it gave to me, though I probably didn't realize the impact of it at the time. I think that education and that period of my life were integral to shaping the decisions I would make for years to come. I don't think I could have had a better preparation for life."

Watson earned a BA in

1951 and an MA in 1953, both from U of T. He went on to have a stellar career working in front of and behind the camera at most major television networks in Canada and the United States — including a term as chair of the Canadian Broadcasting Corporation.

Gayle Garlock, director of development and public affairs at the U of T Library, said he was thrilled at the prospect of receiving a wealth of information from a media living legend.

"Anyone who wants to study the history of the Canadian media will have to look at the achievements of Patrick Watson," Garlock said. "The collection he has entrusted to us is a unique and essential record of his life that will be useful to both present and future scholars."



Patrick Watson

Watson's career achievements have him ranked among the elite of his contemporaries. He was the host of the hard-hitting current affairs show *This Hour Has Seven Days* and later produced the nationally acclaimed 10-part TV series *The Struggle for Democracy*. In 1964 he

became the first North American producer ever to

film in the People's Republic of China. That film, *The 700 Million*, is considered a documentary classic.

In addition to his work in the media, he serves as chair of the Abilities Foundation, honorary chair of the Canadian Amputee Sports Association and was founding director of the Centre for Arms Control as well as a member of the board of trustees of the National Film Board of Canada.

Glaxo Wellcome Funds New Chair

CREATING A GENERATION OF "smart drugs" is the research goal of a new chair in pharmaceuticals and drug delivery established at the Faculty of Pharmacy by a \$1-million commitment from industry giant Glaxo Wellcome Inc.

When matched by the university, the company's gift will create a \$2-million endowment fund that will ensure the continued existence of the chair.

"Glaxo Wellcome is excited about supporting this kind of pioneering research at a leading institution like U of T as part of our efforts to fight disease and save lives," said Paul Lucas, Glaxo Wellcome's president and chief executive officer.

The donation is part of the company's \$10-million Pathfinders Fund, creating research positions in all 16 Canadian medical schools and other universities.

Pharmaceuticals focuses on how to transform new drugs into effective

medicines. It also develops smart drugs that are delivered at an optimal dosage precisely where and when they are needed. The Glaxo Wellcome chair will develop better time-release drugs, ways to improve the absorption of existing drugs as well as efficient delivery systems for protein drugs needed to fight AIDS and cancer.

Glaxo Wellcome Inc. has also committed \$1.3 million to other U of T initiatives including the doctor of pharmacy program and scholarships for undergraduate pharmacy students. In addition, the company is investing \$700,000 to help build a laboratory in the new biotechnology research centre at the Mississauga campus.

Based in Mississauga and part of UK-based Glaxo Wellcome plc, Glaxo Wellcome Inc. manufactures medicines to treat numerous diseases including cancer, cardiovascular disorders, depression, epilepsy, herpes and HIV/AIDS.



GOING FOR GOLD

What would a Toronto Olympics mean for U of T?

BY JOAN GRIFFIN

WITH ALL LEVELS OF GOVERNMENT FIRMLY behind the 2008 Olympic Games bid, many Torontonians dream of hosting the world. That decision, however, rests in the hands of the International Olympic Committee (IOC), which will narrow the list of potential hosts this August and announce the winner in July 2001.

In the meantime U of T could be in a good position — should the games be awarded to the city — to benefit directly and indirectly, some university researchers say. But others warn that the Olympic dream might turn into a nightmare for students looking for affordable housing.

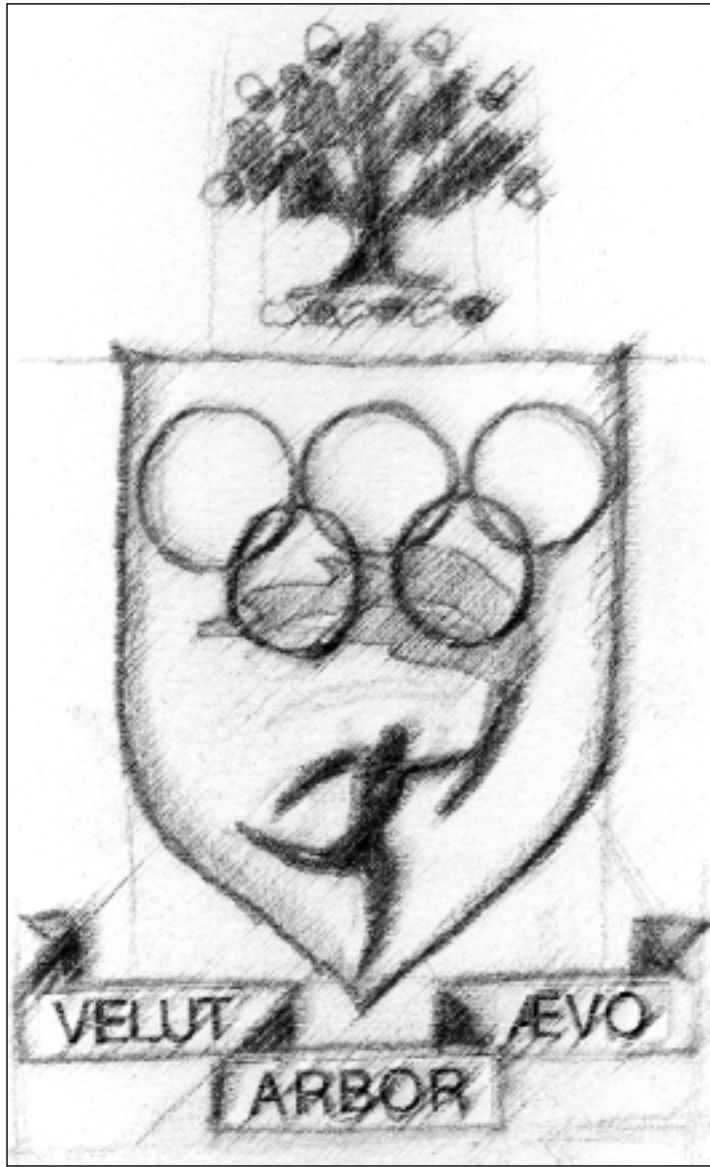
Professor Bruce Kidd, dean of the Faculty of Physical Education and Health, says opportunities for the university are “tremendous” as a possible host location for athletes and satellite training facilities as well as student placement opportunities and research of all kinds. Kidd feels that there is something for students, faculty, staff and alumni should the Games come to Toronto and he points to Sydney as a positive example of integrating the university community with the Olympic process.

The 2000 Olympics organizers favoured Sydney universities in the contract research of technology, communications and environmental cleanup required for the games, explains Kidd. “They also worked with Sydney universities to create a number of special co-op positions for the games so that students could learn from the special challenges that such a large, global event would create.”

However, others in the university community are more circumspect as to whether the games will bring tangible rewards to U of T.

“I don’t know if it’s a good or bad thing, but it will be interesting, especially from a students’ point of view, for potential housing issues,” says Professor David Hulchanski of the Faculty of Social Work, a noted critic of the Olympic bid. Hulchanski wonders what challenges students will encounter in obtaining housing in September 2008 should Toronto hosts the games in mid-late August.

His interest in the Olympic bid stems from years of research on hallmark events such as Olympic Games or world’s fairs and the impacts they have on the host community once the festivities have concluded. TO-Bid, the group



working to bring the Olympics to Toronto, have promised that half of the 4,000 housing units planned for athletes will be used for affordable housing following the games.

But from a research perspective, Kidd’s colleagues at physical education and health are already excited about the possibilities should Toronto win the bid.

“It’s an amazing development from a sport policy research point of view,” says Professor Peter Donnelly, director of the Centre for Sport Policy Studies. “One clear area of study is the social impact of the Games and with our central location we will be well positioned to examine the community impact, participation, voluntarism and public-private partnerships that are expected from these Games. We will also be in a position to examine the legacy of the Games.” Essentially, it is the cost of the Games and the legacy that many of the Games’ opponents cite as major reasons not to host them.

U of T researchers are already looking at the impact of previous Olympic Games on host cities. Graduate student Cora McCloy is undertaking an ambitious review of every Olympic Games from Los Angeles in 1984 to the present. She hopes to compare the bid books — a prospectus of the games site, community impact study and budget — with what was left behind once the Games finished. Her particular interest is on the so-called sport-for-all legacy: a philosophy that embraces physical activity and access — especially recreational — for all people. She is asking whether the facilities, largely paid for by taxpayers, are really available to them.

It’s an issue echoed by Professor Margaret MacNeill. “In Calgary, for example, the Saddle Dome was made available to the Calgary Flames [of the NHL] and the Canadian National Men’s Hockey team before it was made available to the people of Calgary.” She sees the Olympics in Toronto as an opportunity to examine the full circuit of cultural production in her own backyard, but with an international scope.

MacNeill, who researched the relationship of the media and national identity at the Calgary Games, will travel to Sydney this summer to look at issues regarding athletes and media, especially freedom of expression. Many athletes, she explains, are not media savvy when it comes to knowing which comments are considered “on” or “off-the-record.” Another issue is privacy; the media have access to personal details about an athlete’s life which that person may not wish broadcast. MacNeill hopes that by the 2008 games, the university will have a media lab established to conduct audience research on the Olympics as a cultural event, entertainment and a commodity.

MIKE ANDRECHUK



A LEGACY OF LEADERSHIP

The modern law school celebrates 50 years of visionary legal education

By CHERYL SULLIVAN



THE EVOLUTION OF A SCHOOL: (clockwise from upper left) Flavelle House, circa 1910; Cecil "Caesar" Wright chatting with a student; the three founders of the modern law school — John Willis, Bora Laskin and Wright; student of the 1980s; seminar with then-faculty member Frank Iacobucci (now a Supreme Court justice) on far right; students protesting outside of Osgoode Hall in 1953; and construction of the law library.

FINANCE MINISTER PAUL MARTIN, FORMER ONTARIO PREMIER Bob Rae, justices Rosalie Abella and Ian Binnie and senators Trevor Eyton and Jerry Grafstein. For a relatively young law school of 50 years and a modest alumni body of just over 5,000 U of T's Faculty of Law has had an impact that far exceeds size and longevity.

Born of a dramatic split with Osgoode Hall and a battle with the Law Society of Upper Canada, the modern law school was built on a tradition of innovation and a bold willingness to take risks. Osgoode dean and visionary Cecil (Caesar) Wright believed passionately in the importance of full-time legal education, and when the law society advocated full-time work for law students with only two hours of lectures a day, Wright resigned.

Wright was joined in his rebellion by colleagues Bora Laskin and John Willis and together they came to U of T and pioneered the modern law school. Law had been studied at U of T since 1843 but it wasn't until 1949

that the law school was reborn. But despite its leading program the law society would not recognize U of T's law school as a degree-granting institution. In 1953 students marched on Osgoode Hall in protest, but it took until 1958 before the program was finally fully recognized by the law society.

"They had a very clear vision of the role of university legal education and they were willing to risk everything for that vision," says law dean Ron Daniels who is himself a 1986 graduate. "I think that commitment to excellence, to scholarship and to rigorous education stands today as much as it did 50 years ago."

The law school continues in its legacy of leadership and strives to be responsive to the needs and interests of Canadian society and the world beyond. Recognizing globalization as a profound influence shaping both the profession and Canadian society, the school has incorporated international curriculum and opportunities into its programs. The faculty recently

marked the 10th anniversary of its international human rights program that has placed over 125 students in summer internships in governmental and non-governmental human rights organizations throughout the world. There are both work-in-Japan and work-in-China programs where students spend a year working abroad in a law firm or law-related position in those countries, giving students the opportunity to complement their formal training with first-hand exposure to law and legal institutions in another country.

Closer to home, the law school also has a long history of public and community service. Students now run and work at four legal-aid clinics. In addition 200 students are currently working with Pro-Bono Students Canada, a national initiative housed at U of T.

The law school and its students continue to build for the future. In response to the tremendous impact of emerging technologies, the school is home to the newly established Centre for Innovation, Law and Policy. Still

in the early stages, the centre will be a research, teaching and policy advisory centre for issues related to innovation, intellectual property and technology.

This past summer students helped establish the Street Kids Legal Aid Clinic in Bangkok, Thailand, the first legal clinic for street kids in Southeast Asia. And this year through the distinguished international visitors program, 15 leading scholars from around the world will each spend two weeks teaching at the law school.

Over the last four years the school has appointed 18 new faculty members at various levels and in diverse disciplines both from within Canada and around the world. Daniels says the faculty-student ratio at U of T's law school is the best in Canada and next year is expected to be the best in North America.

Fifty years after its founding, the law school continues to build on its tradition of leadership to produce tomorrow's lawyers, judges, policy-makers and decision-makers. Caesar Wright would be proud.



SPOTLIGHT ON RESEARCH

MYTHICAL MERMEN, GIANT GROUND SLOTHS, WHAT NEXT?



Animated figures that “think”

Using a mythical merman and hungry sharks, a U of T computer science professor and two former graduate students have pushed the notion of artificial intelligence and virtual life to a new level.

In his creation of a virtual underwater world, Professor Demetri Terzopoulos has fashioned more than just a cool screen saver — he has given his animated characters the ability to think. A hungry shark circles ominously, looking for a nice meal, while a nervous merman searches for a place to hide. When the shark swims away, the merman dashes from behind large rocks to open water with the shark in hot pursuit. Will his cleverly devised plan allow him to reach safety or not?

“This is more than artificial intelligence,” said Terzopoulos. “It’s artificial life. Computer graphics, animation and virtual reality have advanced dramatically over the past decade. We are now able to create characters that are self-animating with functional bodies and brains that have behaviour, perception, learning and cognition centres.”

Terzopoulos and his former students have developed the cognitive modelling language that enables animated characters to reason. For example, it enabled the virtual merman to formulate a plan of action by reasoning about his situation, given certain knowledge such as the fact that he cannot outrun sharks but can use underwater rocks to hide. “With cognitively empowered graphical characters, the animator need only specify a behaviour outline and, through reasoning, the character will automatically work out a detailed sequence of actions”

The potential for future applications are immense, Terzopoulos said. Cognitive modelling and the cognitive modelling language can become powerful tools for scientists, animators and game developers. His paper, co-written with John Funge and Xiaoyuan Tu, was published at the 1999 ACM SIGGRAPH conference, the premier forum for research in computer graphics.

JANET WONG

New diagnostic methods needed for antibiotic use

Up to two-thirds of antibiotics prescribed for sore throats are unnecessary but doctors or demanding patients aren’t necessarily at fault — researchers blame less-than-ideal diagnostic methods, says a study published in the current edition of the journal *Medical Decision Making*.

In the study researchers took throat swabs from 517 patients with sore throats who had visited their family doctors. After each visit physicians were asked to record whether or not they had prescribed an antibiotic and the likelihood of group A streptococcal infection, or strep throat, in the patient.

Two-thirds of all antibiotic prescriptions were given to patients whose throat cultures came back later with negative results. In these cases physicians overestimated the probability of strep throat by 33 per cent compared with an overestimation of only seven per cent when correct prescribing decisions were made (ie. the culture was positive and antibiotics were prescribed). “Family doctors can’t always make a precise diagnosis with only the patient’s story and clinical findings to rely on,” said Professor Warren McIsaac of family and community medicine and a family physician at Mount Sinai Hospital. “However, we currently don’t have acceptable diagnostic tools that give you an immediate answer.”

McIsaac said the rapid testing method widely used in the United States is quick but results are unreliable and often warrant a throat swab anyway. The two- to three-day waiting period for results is also unacceptable for patients who want immediate relief and for doctors who feel pressured to make a decision about antibiotics. “Family doctors have made the best of a difficult situation,” he said, adding that only 10 to 20 per cent of sore throats test positive for strep. “Forty per cent of the population gets antibiotics at least once per year, making a seemingly trivial sore throat a great cost to society when it’s played out thousands of times across the country every day.”

STEVEN DE SOUSA

Fossil discovery and patterns of evolution

The U of T discovery of fossilized remains of a new species of giant ground sloth is challenging the theory of evolutionary change of fauna between North and South America.

Gerardo De Iuliis, a graduate and teacher in zoology, and a Brazilian colleague discovered in Citrus County, Fla., fossilized skeletons of giant sloths that likely existed over two million years ago. “These giant sloths were among the earliest mammals and the largest to migrate from South America to North America after the formation of the Panamanian land bridge (present-day

Central America),” he said. This species was later replaced by one called the Panamerican giant ground sloth which became extinct 10,000 years ago.

Current evolutionary theory suggests that mammals from South America were inherently inferior to and could not survive as well as their North American counterparts. “The discovery of this new species of giant sloth has significant ecological implications for this traditional theory,” De Iuliis said. “These groups of sloths migrated to North America, diversified and thrived for nearly two million years which would hardly be expected for a group of inferior animals. A similar pattern can be noted for other South American mammals.”

The giant ground sloth, on average the size of a small elephant, weighed about four tons and is believed to have been a herbivore. They had huge claws — much larger than those of their modern-day tree sloth cousins — and were probably capable of walking on their hind legs.

SUE TOYE

Focus on fitness skills, attitudes that endure

Daily physical education programs for children in primary school do not guarantee more physically fit adults, says a new study in the latest issue of the *American Journal of Human Biology*.

The study, co-authored by Professor Emeritus Roy Shephard of the Faculty of Physical Education and Health, found that children who had a specially designed daily activity program in grades 1 to 6 showed no advantages in aerobic fitness 20 years later over adults of the same age who were not in the program. This finding, Shephard said, emphasizes the need for programs to continue throughout the adolescent years and for physical educators to focus on developing lasting skills and attitudes. “A well-designed, regular program in primary school with long-term goals in mind can increase lifelong involvement in physical activity, which is critical for health.”

The study compares men and women who were in the daily program as children with those in a one-day-per-week program. Researchers measured fitness indicators such as strength, cardiovascular function, cholesterol levels and percentage of body fat as well as current activity levels and lifestyle. The study follows up one in the early 1980s that examined the immediate impact of daily physical activity on children.

One of the advantages demonstrated by adults from the daily program was on a balance test, showing that early training has residual effects on some motor functions. Researchers also found that females from the daily program had greater physical activity habits as adults.

MEGAN EASTON

MIKE ANDRECHUK

COMMENTARY

A BITTER PILL

An aging Ontario population faces a critical shortage of pharmacists at exactly the time it needs them most

By WAYNE HINDMARSH

THE PROFESSION OF PHARMACY IS CURRENTLY experiencing a shortage of pharmacists, a shortage apparent in all areas of practice. In some hospital pharmacies it is as high as 25 per cent and community pharmacy is affected in all regions of the country. Despite an increase in the actual number of licences to practise pharmacy issued annually in Ontario the demand continues to exceed supply. Employers are forced to recruit pharmacists for Ontario from other jurisdictions: other provinces and other countries.

Although issues related to staffing demands in pharmacy are complex, it is nonetheless reasonable to assume that factors include demographics, the increase in demand for patient-focused practitioners, consumer demand for service leading to an expansion in pharmacy hours, increase in career opportunities in the pharmaceutical, biotechnology and insurance industries, which has drawn pharmacists out of traditional positions in hospital and community pharmacies, and a failure to invest in university programs, meaning that the number of students graduating has failed to keep up with the demand. Further, the immense shortage south of the border has seen Canadian pharmacists, particularly those early in their careers, being recruited with attractive job offers.

The Faculty of Pharmacy at the University of Toronto implemented a revised curriculum in 1994. The focus of the revision — a change in admission requirements — and a decrease in enrolment enabled the faculty to offer an outstanding BScPhm curriculum that focuses on preparing students to acquire and develop the requisite knowledge, skills and attitudes to provide pharmaceutical care in practice.

Developing and assessing students' ability to use knowledge effectively to care for patients in identifying, preventing and resolving drug-related problems, meant that the curriculum placed



a far greater emphasis on problem-based teaching and learning as well as structured experiences in pharmacy practice. The resource-intensive requirements of this new curriculum meant student intake had to be limited.

As Canada's population ages and as the baby boom generation begins to need and utilize the health care system to an ever increasing extent, patients' needs for pharmacists' services will grow. New technologies and sophistication in drug design coupled with lifestyle modifications mean that Canadians are living longer. Effective use of drug therapies may have a positive effect on this life extension and therefore the need for pharmacists' expertise in individualizing patient care will increase. Health

maintenance and long-term disease monitoring and management, changing consumer expectations, complex drug regimens, interfaces between drugs, lifestyles and nutrition, community-based care and seamless care are but a few of the factors that will create a continued demand for patient-focused pharmacists.

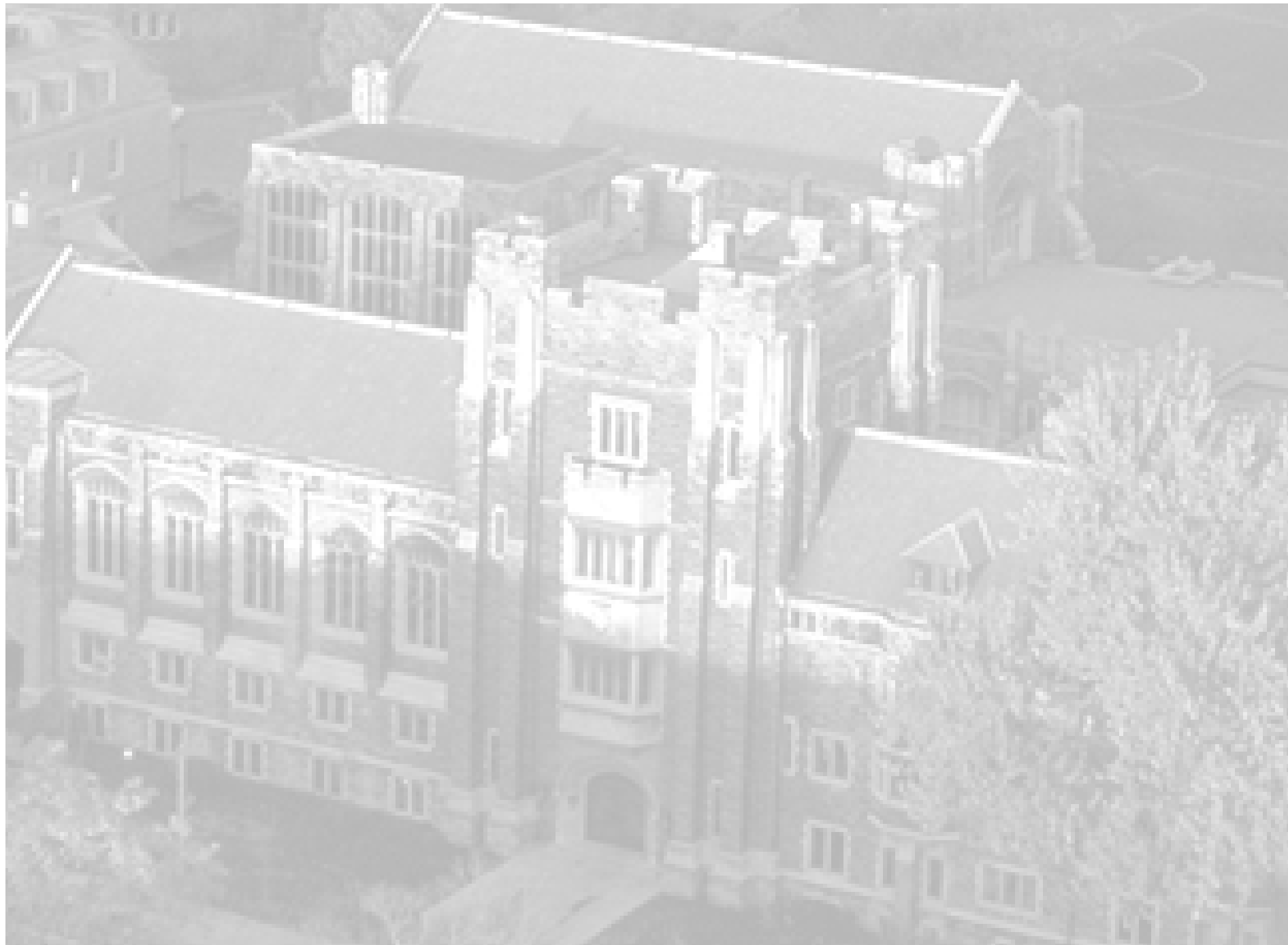
The emergence of a shortage of pharmacists in Ontario over the past few years — and the resulting reliance on pharmacists educated in other provinces or countries to join the Ontario workforce — is causing some strain between the university and those who employ pharmacists. While the faculty is prepared to increase enrolment to satisfy some of this need, pharmacist supply and demand patterns are extremely complicated and even the increase planned by the faculty may only provide a temporary respite to the problem.

The demographics of health care needs of the citizens of Ontario point to a greatly increasing number of prescriptions to be dispensed as the baby boom generation ages. The response to this demand will likely require significant structural changes in the profession by the regulatory body for the profession, the Ontario College of Pharmacists, such as more duties assigned to trained technicians, and by pharmacy owners — for example, the use of automation and other forms of technology, restricting job duties of pharmacists to tasks that need the pharmacist's knowledge and competency.

The Faculty of Pharmacy cannot be expected to bear the burden of workforce pressures solely by increasing the graduating stock of pharmacists without a co-ordinated response on behalf of the college of pharmacists and employers to deal with some more underlying structural aspects of the practice of pharmacy as well.

Professor Wayne Hindmarsh is dean of the Faculty of Pharmacy.

JENNIFER HERBERT



PROFILE

THEATRES OF WAR

A doctor and humanitarian tells the stories of children and women in war-torn nations around the world

By MEGAN EASTON

AS A TEENAGER DR. SAMANTHA Nutt aspired to a career on the stage, telling tales of characters dreamed up by writers. Today she lives much of her life in theatres of war around the world where real people live horrors undreamt of in most people's imaginations.

Yet as a doctor, humanitarian worker and director of U of T's international health fellowship program, Nutt still considers the heart of her job to be storytelling. In her missions to Burundi, Liberia and other places where civilians have been torn apart by war, she explores, writes about and essentially tells the story of human devastation in order to rally the support needed for the healing to begin.

"It's important for people to feel like they're being listened to and that the outside world actually cares," says the 30-year-old who looks and sounds much younger than her years. "So I think that when you go into these situations you're showing that they are not forgotten and that their experiences matter and deserve to be understood and recognized."

Nutt didn't always know she wanted to be a doctor, let alone a doctor who treks around the world investigating the impact of war on women and children. The Toronto native was a true arts student as a teen — passionate about drama and terrible at chemistry. A year at a cutthroat British drama school after graduation turned her off acting and her fascination with other people's life experiences led her to international studies at McMaster University, including international health, and finally to medical school. After some initial disillusionment with the grind of clinics, research and other med school responsibilities, she discovered public health and found her niche. "I started to see health as a way to get at the broader issues, the human rights issues," she says.

Her first foray on the international scene was to the Middle East to research immunization services for children. Then she went to the London School of Hygiene and Tropical Medicine to do a master's in public health in developing



countries; her thesis work involved joining a UNICEF team in Somalia examining maternal and child health after the war.

"It was surreal," she says of her first time in a war zone. Having never seen a real gun or flown in anything smaller than a 747, Nutt was suddenly flying in dilapidated six-seater planes and driving with men carrying assault rifles and missiles in their jeeps. But she soon forgot her anxiety as she became engrossed in her work with Somali women.

This trip led to other volunteer projects focused on the health of women and children in post-war regions which she combined with her specialization at U of T in public health and preventive medicine and a sub-specialty in women's health at Women's College Hospital. Three years ago she founded the international fellowship program at U of T to give other students a chance to go overseas and apply their skills with a non-governmental organization.

In her own international work Nutt says she chooses to leave the clinical medicine to those more skilled in the art and instead acts as an independent observer and advocate. "When I take the information and turn it into something tangible — the reports that are submitted for funding — and that results

in more money going to the area for different initiatives, that's when I start to feel like I'm doing the real work."

The reports have many common threads because the same patterns emerge over and over again in regions of conflict, Nutt says, including violence against women, infectious diseases, malnutrition and poor maternal health. Sometimes the problems seem insurmountable but she finds hope in building grassroots networks for the future. "You have to remember that as outsiders going in, the degree to which you can make a difference is minimal. But what you can do is empower local people. We're not the heroes — the heroes are the local people who get up every day and go into these clinics and care for people because they need help."

The other heroes in war, Nutt says, are children. "I've seen kids who have been through so much who can still sit

with you, put their arm around you and smile." She believes youth are the key to conflict resolution, a conviction that led to her founding and directing the Canadian chapter of War Child — an international non-profit organization that supports rehabilitation programs for children of war — last year.

Here in Canada, War Child is attracting the attention of thousands of young people. Much Music helped launch its youth awareness and action campaign, Generation Peace, with Toronto's New Year's Eve concert. "I think we underestimate the capacity of the next generation," she says. "I am completely amazed by their compassion, enthusiasm and activism."

Nutt is quick to point out that she is just one individual in a network of dedicated people working for the same things. Her own drive, she says, comes from a belief in the transformative power of getting the word out about war's impact. "It's the opportunity to tell the stories of people who haven't yet had the chance to be heard ... the opportunity to give the issues a voice — whether it's me, the young people we work with or the music artists saying it. Eventually someone is going to listen, and that's what keeps me coming to work."



LETTERS



UNIVERSITY'S CENTRAL MISSION UNDERMINED

Albert Pietersma has done a fine job of highlighting the real damage being done to the university's best traditions by the failure to sustain fundamental disciplines in the humanities (Paring Our Intellectual Core, Forum, Feb. 14). As members of a social science department, we are writing both to express solidarity with sister disciplines in the humanities that are suffering these destructive cuts and to let colleagues across the university know that it's not just those in humanities departments who feel dismay and alarm when these disciplines are forced to contract. As Professor Pietersma conveys very well, a contraction of the humanities-based core of our enterprise undermines the central mission of the university.

What is our mission? A central part of it, surely, is to provide intellectual guardianship for what the past can teach us and to nourish the resources provided by a humanistic culture for the most reflective engagement with the present. It's not very surprising that this task of cultural guardianship means little to short-sighted politicians who prefer a much more directly instrumentalist conception of higher education; but it *is* surprising, and extremely depressing, when this intellectual responsibility also goes unappreciated by university administrators who,

after all, guide our ultimate direction as an institution.

While the situation in our own department is not nearly as dire as Professor Pietersma's description of Near and Middle Eastern civilizations, we do have real concerns about how this tendency to starve the humanities is affecting our own discipline. Political science is somewhat unusual insofar as it is a social science department that also houses an important humanities sub-discipline (namely political theory). In fact, our department's commitment to this branch of the humanities has to a large extent shaped the distinctiveness of our department and contributed in no small measure to its international profile. This, one might assume, would be sufficient reason to keep it strong and well staffed. But again, the jinx suffered by the humanities applies to us: positions are lost and a rich tradition within the university is diminished.

Professor Pietersma is right: those who help shape the university's priorities aren't fully honouring our "national responsibility as Canada's premier, publicly funded university" and it's time the university community as a whole began a debate on what many of us regard as this abdication of our mission.

RONALD BEINER
PETER RUSSELL
RICHARD SANDBROOK
AND 13 OTHER COLLEAGUES IN
POLITICAL SCIENCE

LAYMAN'S VERSION OF "BUTTERFLY EFFECT" MISLEADING

In the Jan. 24 issue of *The Bulletin*, buried in the good news story about our colleague Norman Murray's award from *Science*, was a statement about chaos theory (Chaos "Rules"). It was the oft-repeated layman's version of what has come to be known as the "butterfly effect," that is, "the flapping a butterfly's wings in South American could lead to a typhoon in Malaysia."

This statement is a journalist's dream — it flies in the face of common sense; it is associated with the intriguing word and notion "chaos"; it is a simple declarative statement; and it comes from impeccable scientific authority. Defying common sense is not a good enough reason to disbelieve, however, as witness the theory of relativity. So no doubt many are likely to read it as a true statement of cause-and-effect, even though "could lead to" is not a strong causal statement. It does not serve the cause of science to have nonsense believed as scientific truth, so the truth of this aphorism should be questioned.

The "butterfly effect" as understood by applied mathematicians is of course quite real. In effect it states that the solutions to certain mathematical equations, including those that model the weather, can exhibit behaviour aptly described as chaotic. Moreover the chaotic

states predicted by mathematics have counterparts in nature such as turbulence in fluids, and yes, the weather, and now we learn from Professor Murray in the motions of celestial bodies. The equations have the property that a tiny change in how the system starts can produce a very large, disproportionate, response. To emphasize this truly dramatic fact, the layman's version of the butterfly effect was coined.

The state of the atmosphere (real or a model) at any given time is not only a consequence of a set of initial conditions at some earlier time but is also the response to all the inputs it has experienced in the interval in between. One of these inputs might come from our chosen butterfly but there is an *infinity* of others: from butterflies, birds and bats, from cows and cars; from airplanes and chimney stacks. Each and every one of these events, minuscule as each one may be in relation to the scale of the atmosphere, can in principle influence the later weather. But even the sum of all these pale by comparison with the principal external drivers of the weather, solar radiation and rotation of the Earth. Finally, the laws of fluid mechanics assure us that any disturbance so small as could be caused by a butterfly would decay to the level of random molecular motion within a few metres.

Clearly in this case common

sense is right. It does not make sense to speak of one butterfly "causing" anything to do with the weather. The weather at any time is a result of an infinite number of "causes," each playing its own part. I just wish that journalists, and scientists too, would stop using this — admittedly tempting — but misleading aphorism.

BERNARD ETKIN
AEROSPACE STUDIES

NAMING OF GRADUATE HOUSE CURIOUS

I find it commendable, though curious, that the university has named the new residence at Harbord and Spadina Graduate House and not prostrated itself before yet another corporate or private donor by awarding naming rights (Graduate/second entry residence named, Feb. 14.) I wonder if this decision is owed to protests about the selling out of academic freedom or the lukewarm reception of the building's design, which has perhaps driven off all those wealthy enough to "deserve" the honour.

PATRICK FOTHERGILL
UNDERGRADUATE STUDENT,
ARTS AND SCIENCE

HUTCHEON FOURTH CANADIAN PRESIDENT

I write in reference to the article Hutcheon Elected MLA President (Feb. 14) and would remind you that Professor

~Continued on Page 16~



LETTERS



~Continued From Page 15~

Hutcheon is not the third but rather the fourth Canadian president of the Modern Language Association of America. The first Canadian to head the MLA was the late Milton A. Buchanan of the department of Italian and Spanish at the University of Toronto. He served as president in 1932 and was succeeded by Northrop Frye in 1976 and Mario Valdés in 1991.

KURT LEVY
SPANISH AND PORTUGUESE

THUNDER FROM AFAR

Although not yet president, Robert Birgeneau has all by himself proclaimed that henceforth the University of Toronto will be committed to “diversity,” a code word for affirmative action, itself a euphemism for a system of quotas and reverse discrimination. He also has a clear warning for those who don’t share his view — shape up or ship out: “... in meetings with the U of T administration,” Birgeneau said, “I emphasized to them diversity is one of the high priorities that I expected everybody in a leadership position in the university to be committed to. If they weren’t, they should find something else to do” (*The Toronto Star*, Feb. 8).

Thunder from afar as the conqueror approaches. Rome must be nervous.

LEO ZAKUTA
SOCIOLOGY

CONSIDER THE EVIDENCE IN CHUN CASE

I’d like to respond to Tanya Bailey’s letter (U of T culturally and racially diverse, Feb. 14). I’m glad her university experience so far has convinced her of the fairness of campus hiring practices; in general I don’t doubt her faith is justified. But some very curious things have happened to individuals in the recent past and the story of Dr. Kin-Yip Chun, which she cites, is one of them. Let me assure her that, far from having an “irascible personality,” he is a cheerful, friendly fellow with a healthy sense of humour — perhaps surprisingly, considering the attempts made over the last 10 or so years to get rid of him or keep him quiet and the resulting hardships for him and his family.

Before I became involved with this case, I assumed, like her, that we had no equity problems on this campus — that we were in all ways wisely and benevolently governed — that individuals standing out against the institution were mostly cantankerous trouble-makers. Speaking entirely for myself, I think now that “insensitive” would be a euphemism for this attitude: I was plain stupid. Happily my education didn’t end there, though much of what I continue to learn, about myself and the world around me, isn’t pleasant.

As, for example, that, well short of active racism but similarly damaging, a strong sense of “us and them” comes naturally to many of us, keeping us conservative and lazy-minded until something wakes us up to its workings. And again, that institutions are not human beings writ large: they are very different life forms, alien to motives like decency or shame. A wise old administrator once told me, “You learn to keep things stalled; time will take care of most of your problems.” At the time I didn’t take it in; after four years plus with Dr. Chun’s campaign, I can say I grasp it now.

Ms. Bailey is right not to believe everything she hears; but has she considered the evidence before making up her mind? The Ontario Human Rights Commission report is a very instructive document, citing some recent legal decisions and definitions: she can find it on the Chun Web site, www.utoronto.ca/acc/chun/.

JAY MACPHERSON
VICTORIA COLLEGE

LETTERS DEADLINES

MARCH 17 FOR MARCH 27
MARCH 31 FOR APRIL 10

Letters may be edited for brevity or clarity. When submitting letters, please include a telephone number and, if possible, an e-mail address.

BOOKS



The following are books by U of T staff. Where there is multiple authorship or editorship, staff are indicated with an asterisk.

The Future of Social Democracy: View of Leaders From Around the World, edited by Peter Russell (U of T Press; 176 pages; \$50 cloth, \$19.95 paper). In this book 10 former leaders of social democratic parties and governments express their views on the agenda of social democracy for the next century. With realistic optimism they accept the existing market economy and inescapable globalization but challenge neo-liberalism’s absolute faith in market solutions and present a strong case for humane public intervention to ensure increases in wealth are directed to fulfilling the highest potential for all humankind.

Of the Making of Nationalities There Is No End, by Paul Robert Magocsi (East European Monographs, Columbia University Press; two volumes, 520 pages and 560 pages; \$56 US each volume). Since the fall of Communism in 1989 many new nation-states have come into existence and several previously repressed nationalities have been able to function as legally recognized entities. One of those revived nationalities is the Carpatho-Rusyns. Using this group as an example the collection of 42 essays reveals not only

the theoretical-historical basis for a current national movement in strategically located territory within the former Soviet empire, it also provides texts that reveal in practical and concrete ways how the movement has been carried out.

Diary of a European Tour, 1900, edited by Jean O’Grady (McGill-Queen’s University Press; 197 pages; \$39.95). This is the first edition of Margaret Addison’s unpublished diary, written during her foreign tour, an important preliminary to her career as the first dean of women at Victoria College from 1903 to 1931. It not only gives a vivid picture of tourism at the turn of the century it also shows how a young woman from the colonies reacted to the cultural life of the old world and adapted its lessons to the higher education of women in Canada.

The Uncoded World: A Poetic Semiosis of the Wandered, by Vivan Darroch-Lozowski (Peter Lang Publications; 264 pages; \$51.95 US). The focus of the book is on how the understanding and making of signs and symbols can be enriched when the felt knowledge of the human body is integrated with thought. Applying postmodern and semiotic concepts as well as metaphors and allegory, the study takes up the task of bringing the uncoded world into human studies and philosophy without violating the uncoded world’s integrity and wholeness.



CLASSIFIED

A classified ad costs \$15 for up to 35 words and \$.50 for each additional word (maximum 70). Your phone number counts as one word, but the components of your address will each be counted as a word, e-mail addresses count as two words. A cheque or money order payable to **University of Toronto** must accompany your ad. Ads must be submitted in writing, 10 days before *The Bulletin* publication date, to **Nancy Bush, Department of Public Affairs, 21 King's College Circle, Toronto, Ontario M5S 3J3**. Ads will not be accepted over the phone. To receive a tearsheet and/or receipt please include a stamped self-addressed envelope. For more information please call (416) 978-2106 or e-mail nancy.bush@utoronto.ca.

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Traditionally furnished, carpeted, two-bedroom apartment in Toronto with balcony in secure building, on High Park subway. \$1,200 monthly including hydro, cable and telephone. Suit mature couple. Mid-May to mid-October. (416) 763-3125.

Annex — Bathurst-Bloor. Spacious 3-bedroom apartment on 2nd & 3rd floor of house. Hardwood floors. Living/dining, kitchenette. Very clean. No pets/no smokers. (905) 850-0266.

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Annex. Sunny, large, 1-bedroom basement apartment, private entrance, huge bathroom/closets, lovely pine walls, laundry: steps to university, subway, shops, cafés, organic market. Parking available. May 1. \$875 including utilities and cable. (416) 535-1584.

Pied à terre. Spacious ground floor, charmingly furnished, 1 BR, renovated Cabbagetown Victorian. \$67 per night including utilities/cable/2-car parking. Private entrance. Garden. Non-smoking single person. Minimum 2 weeks. (416) 359-0380, kimgalv@pathcom.com

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House, Sackville-Queen, April 25 — August 31, 2000. 3 storeys, partially furnished, 3 bedrooms, 2 bathrooms, all appliances, 2 decks, central A/C, security, parking. Non-smokers only. \$2,000/month inclusive. (416) 504-2338, mclaren@eegc.toronto.edu

High Park — spacious 1-bedroom, walk-out deck with yard, eat-in kitchen, 2 bathrooms, hardwood floors, bay window, 5 minutes from Keele subway, washer/dryer. Available April 1. Inclusive \$1,175. Call (416) 763-0246.

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Summer rental, Bloor & St. George. Large, immaculate, well-furnished, renovated 1+ bedroom. Steps to subway and Robarts Library. Available to non-smokers May 1 to September 1. \$1,000/month. (905) 881-7093, rbazeau@chass.utoronto.ca or raymond.brzeau@utoronto.ca

Sabbatical house. 3-bedroom, renovated, south Riverdale. Quiet tree-lined street. Steps to College streetcar. 5 appliances, deck, off-street parking. \$1,400/month. Available

mid-May 2000 — August 2001 (negotiable). (416) 461-3414, mmorris@chass.utoronto.ca

June-July rental (4-6 weeks), Church-Bloor, 15-minute walk to university. Sunny, spacious, fully furnished, 2-bedroom condo, small luxury building. 2 bathrooms, solarium, laundry, cable, pool, roof garden, 24-hour concierge-security. \$2,000/4 weeks, utilities included. (416) 972-9827, hsonne@chass.utoronto.ca

Fully furnished 3-bedroom home at Yonge & Eglinton. TTC, garden, parking, laundry. April — October 2000. Suit couple, non-smokers. \$2,000 inclusive. (416) 483-4479.

Annex-Madison. Lovely bachelor and one-bedroom apartments in grand older home. Immaculate, quiet, smoke-/pet-free. Walk to U of T and ROM. \$975 to \$1,800 a month inclusive. Short-/long-term. (416) 967-6474 or fax (416) 967-9382.

Bachelor sublet, College and Yonge. Unfurnished apartment at The Maples available May 1 to August 31. Building amenities include air conditioning, laundry, pool, exercise room and sauna. Underground parking available. One minute from subway. (416) 217-0680.

ACCOMMODATION RENTALS REQUIRED

3/4 bedroom family house, partially/fully furnished, appliances, garden, required from mid-May 2000. Short- or long-term rental. E-mail f.bloomfield@auckland.ac.nz, tel. home: (64 9) 630-1139, business: (64 9) 373-7599 x2587, fax: (64 9) 373-7497.

Sabbatical housing needed: one-bedroom or studio, within 2.5 km of Bloor-St. George intersection, entrance accessible to handicap scooter, quiet, air-conditioned, ideally available June 1, 2000 to August 31, 2001 but would accept move-in date up to August 20, 2000. Contact David Fott at dfott@nevada.edu or call collect (702) 893-6018.

Physician's family requires house to lease (starting July 1, 2000) in the Bayview/York Mills area. Must be within the Owen Public School district. Call (416) 383-9636 or e-mail jgoh@iprimus.ca

Accommodation/house swap sought by Australian law professor and family for fall semester 2000. Minimum 3 bedrooms, accessible to U of T. Can offer exchange large house in Adelaide, South Australia (swimming pool, views, koala). Contact: andrew.goldsmith@flinders.edu.au

Academic/professional couple seek furnished home. Short-/long-term from August 2000 (flexible). Call Paul or Jodie (416) 782-5468 (h) or dalton@chem-eng.toronto.edu

Canadian-German couple, both teachers, seek a central Toronto home to house sit for a year beginning August 2000. Fax: 011-49-40-39-21-28. E-mail: Gbergfeld@aol.com

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Individual psychotherapy for adults. Evening hours available. Extended benefits coverage for U of T staff. Dr. Paula Gardner, Registered Psychologist, 114 Maitland Street (Wellesley and Jarvis). 469-6317.

PSYCHOANALYTIC PSYCHOTHERAPY with a Registered Psychologist. Dr. June Higgins, The Medical Arts Building, 170 St. George Street (Bloor and St. George). 928-3460.

Dr. Gina Fisher, Registered Psychologist. Psychotherapy for depression, anxiety, relationship problems, stress, gay/lesbian issues, women's issues. U of T extended health benefits apply. Evening appointments available. The Medical Arts Building (St. George and Bloor). (416) 961-8962.

Dr. Dvora Trachtenberg, Registered Psychologist. Individual, couple, marital psychotherapy for depression; anxiety; work, family, relationship problems; sexual orientation, women's issues. U of T health benefits apply. Day or evening appointments. Medical

Arts Building (St. George and Bloor). (416) 961-8962.

Individual psychotherapy for personal and relationship problems, mental health needs, personal growth; issues related to disability. Day or evening appointments available. Dr. Carol Musselman, Registered Psychologist, 252 Bloor Street West (923-6641, ext. 2448). May be covered by UT health insurance.

Psychologist providing individual and couple therapy. Work stress, anxiety, depression, personal and relationship concerns. U of T health plan covers cost. Dr. Sarah Maddocks, registered psychologist, 114 Maitland Street (Wellesley & Jarvis). 972-1935 ext. 3321.

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Full range of psychological services offered by Dr. K.P. Simmons. Call (416) 920-5303 if troubled by trauma, anxiety, depression, phobia or relationship issues. Location: 170 St. George Street, Suite 409 - Medical Arts Building.

Dr. Shalom Camenietzki, Clinical Psychologist. Fellow of the Canadian and American Group Psychotherapy Associations. Over 30 years of experience. Individual and group psychotherapy. Marriage counselling. Anxiety. Depression. Relationships. Family-of-origin work. Dysfunctional families. Stress at home and at work. Social phobias. Personality assessments. Emotional intelligence. Fees covered fully or partially by U of T extended health benefits. 60 St. Clair Avenue East, Suite 603. Phone: (416) 929-7480.

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EVENTS



LECTURES

Green Energy and Deregulation of the Energy Market in Ontario: A Public Perspective.

WEDNESDAY, MARCH 15
Prof. Daniel Scott, University of Waterloo. 2093 Earth Sciences Centre. 4 p.m. *Environmental Studies*

One Universe: At Home in the Cosmos.

WEDNESDAY, MARCH 15
Neil deGrasse Tyson, American Museum of Natural History; Wiegand Foundation lecture series. Auditorium, Medical Sciences Building. 7 p.m. *Arts & Science*

Royal Cities of Mesopotamia.

WEDNESDAY, MARCH 15
Prof. Marc Van De Mierop, Columbia University. Auditorium, Koffler Institute for Pharmacy Management. 8 p.m. *Canadian Society for Mesopotamian Studies*

Stalingrad, Hiroshima, Auschwitz: German Reactions to Historic Ruptures.

SATURDAY, MARCH 18
Professor Frank Trommler, University of Pennsylvania; in conjunction with conference on German Studies: The Future of the Disciplines. Alumni Hall, Victoria College. 91 Charles St. W. 6:30 p.m.

A Study of Glenn Gould: His "Tactile" Attachment to Marshall McLuhan and Natsume Soseki.

TUESDAY, MARCH 21
Prof. Junichi Miyazawa, Tokyo; visiting professor Canadian studies program. 244 University College. 4 p.m. *Canadian Studies Program*

"Forms of Resistance:" Spartacus, Burn! Beloved.

TUESDAY, MARCH 21
Prof. Natalie Zemon Davis, Princeton University; first of two Barbara Frum lectures on Slaves on Screen: Film and Historical Vision. Convocation Hall. 6 p.m.

"Truth and Plausibility:" The Last Supper, Amistad.

WEDNESDAY, MARCH 22
Prof. Natalie Zemon Davis, Princeton University; second Barbara Frum lecture on Slaves on Screen: Film and Historical Vision. Hart House Theatre. 2 p.m.

Canada and a North American Monetary Union.

WEDNESDAY, MARCH 22
Profs. Richard Harris, Simon Fraser University, and David Laidler, University of Western Ontario; a debate moderated by Terence Corcoran, *Financial Post*; Malim Harding lecture. Auditorium, Koffler Institute for Pharmacy Management. 5:30 to 7 p.m. *Economics and Political Science*

Biopolitics of Food.

WEDNESDAY, MARCH 22
Vandana Shiva, physicist, philosopher, feminist and environmental leader and thinker; 2000 Snider lecture. Auditorium, Kaneff Centre, U of T at Mississauga. 8 p.m. *UTM*

Paradigms and Attitudes to Environment and Health: Some Philosophical Reflections.

THURSDAY, MARCH 23
Prof. Ingrid Stefanovic, philosophy. Conference Room, Gage Occupational & Environmental Health Unit, 223

College St. 4 p.m. *Environmental Studies and Gage Occupational & Environmental Health Unit*

The Problem of Urban Crime: London, 1660-1750.

THURSDAY, MARCH 23
University Prof. Em. John Beattie, history and criminology; John L.J. Edwards memorial lecture. 205 Claude T. Bissell Building, 140 St. George St. 4:30 p.m. *Criminology, Law and Woodsworth College*

Making a Modern Biographical Dictionary.

THURSDAY, MARCH 23
Prof. Ramsay Cook, *Dictionary of Canadian Biography*. 179 University College. 4:15 p.m. *Centre for the Book and UC*

Tara: A Protracted History From Totem Poles to New Biles.

THURSDAY, MARCH 23
Prof. Conor Newman, University College Galway; visiting scholar Celtic studies program. Charbonnel Lounge, St. Michael's College, 81 St. Mary St. 6 p.m. *Celtic Studies*

Pope Nicholas V and the Legacy of Humanism: Libraries and Printing in the 15th Century.

FRIDAY, MARCH 24
William Sheehan, CSB, Vatican Library. Auditorium, Brennan Hall, St. Michael's College. 4 p.m. *Friends of the Library, Pontifical Institute of Mediaeval Studies*

Synge and Drama of Language.

MONDAY, MARCH 27
Prof. Colbert Kearney, University College Cork. Charbonnel Lounge, St. Michael's College, 81 St. Mary St. 6 p.m. *Celtic Studies*

The Accuracy of the Bible Text According to the Dead Sea Scrolls and Other Pre-Rabbinic Sources.

MONDAY, MARCH 27
Prof. Barry Levy, Shoshana Shier distinguished visiting professor in Jewish studies; final in Fixing God's Torah: The Textual Accuracy of the Hebrew Bible in Theory and in Reality series. 108 Koffler Institute for Pharmacy Management. 8 p.m. *Jewish Studies*

The Accelerating Universe: Albert Einstein Called His "Cosmological Constant" His Greatest Blunder. But Kirsner Argues That Einstein's Cosmological Constant Was Right -Almost!

TUESDAY, MARCH 28
Prof. Robert Kirsner, Harvard University; Wiegand Foundation lecture series. Auditorium, Medical Sciences Building. 7 p.m. *Arts & Science*

COLLOQUIA

Control of Drug Effects by Interoceptive Cues: The Inside Story of Addiction.

WEDNESDAY, MARCH 15
Prof. Shepard Siegel, McMaster University. 2110 Sidney Smith Hall. 4 p.m. *Psychology*

Virgil and the Shepherd of Hermas: A New Examination.

FRIDAY, MARCH 17
Alexander Damm, study of religion. Centre for the Study of Religion, 123 St. George St. 2:10 p.m. *Study of Religion*

Variability Among Hunter-Gatherer Societies: Some Clues to Causes.

FRIDAY, MARCH 17
Lewis Binford, archeologist. 2117 Sidney Smith Hall. 3 to 5 p.m. *Anthropology*

Lanthanide Ions as Redox Probes of Long-Range Electron Transfer in Proteins.

FRIDAY, MARCH 17
Prof. William Horrocks, Pennsylvania State University. 158 Lash Miller Chemical Laboratories. 3:30 p.m. *Chemistry*

Is There a Need for a Layperson on an REB?

WEDNESDAY, MARCH 22
R. Williams, Joint Centre for Bioethics. Dean's Conference Room, Medical Sciences Building. Noon. *Research Services and Research Office, Faculty of Medicine*

Vision as a Supporting Actor: Sharing the Bill With Memory and Action.

WEDNESDAY, MARCH 22
Prof. Robert Sekuler, Brandeis University. 2110 Sidney Smith Hall. 4 p.m. *Psychology*

Sign and Prediction in Antiquity.

WEDNESDAY, MARCH 22
Daryn Lehoux, Institute for the History & Philosophy of Science & Technology. 323 Old Victoria College. 4 p.m. *IHPST*

What Next? A Few Remaining Problems in Information Technology.

THURSDAY, MARCH 23
Jim Gray, Microsoft Research. 102 Mechanical Engineering Building. 11 a.m. *Computer Science*

After Auschwitz: Adorno's New Categorical Imperative.

THURSDAY, MARCH 23
Prof. Jay Bernstein, Vanderbilt University. 140 University College. 4 p.m. *Philosophy*

The Physics of Dance.

THURSDAY, MARCH 23
Prof. Kenneth Laws, Dickinson College. 102 McLennan Physical Laboratories. 4:10 p.m. *Physics*

Self-Assembly of Mesostructures and Discrete Objects From Synthetic Polymers.

FRIDAY, MARCH 24
Prof. Samson Jenekhe, University of Rochester. 158 Lash Miller Chemical Laboratories. 3:30 p.m. *Chemistry*



SEMINARS

T.G. Masaryk: A Forgotten Giant.

MONDAY, MARCH 13
Prof. Em. Gordon Skilling, Centre for Russian & East European Studies. 14352 Robarts Library. 5 p.m. *Russian & East European Studies and Slavic Languages & Literatures*

Plasticity and Phantoms.

THURSDAY, MARCH 16
Prof. Jonathan Dostrovsky, physiology. 3231 Medical Sciences Building. 4 p.m. *Physiology*

Colonial Contact as Creation: Relations Between Russian Settlers and the Peoples of Transcaucasia, 1830-1900.

THURSDAY, MARCH 16
Prof. Nicholas Breyfogle, Ohio State University. 14352 Robarts Library. 7 to 9 p.m. *Russian & East European Studies*

Growth Factors and the Regulation of Embryonic Development.

FRIDAY, MARCH 17
Prof. Gary Paterno, Memorial University of Newfoundland. 3127 South Building, U of T at Mississauga. Noon. *Erindale Biology*

America's Great Game in Tibet.

FRIDAY, MARCH 17
Ken Knaus, Harvard University. 108 Koffler Institute for Pharmacy Management. 1 to 3 p.m. *Joint Centre for Asia Pacific Studies*

The Long Road From Fort Simpson to Liidli Koe.

FRIDAY, MARCH 17
Prof. Peter Kulchyski, Trent University. 2125 Sidney Smith Hall. 4 p.m. *Geography*

Timing, Sequences, Path Dependence: Studying Politics as a Temporal Process.

FRIDAY, MARCH 17
Prof. Paul Pierson, Harvard University. 3050 Sidney Smith Hall. 4 to 6 p.m. *Political Science*

The Biological Function of the Small GTPase Rap1.

MONDAY, MARCH 20
Dr. Johannes Bos, University of Utrecht, the Netherlands. 968 Mt. Sinai Hospital. Noon. *Samuel Lunenfeld Research Institute*

Cleaning Up Our Mining Act: A North-South Dialogue.

MONDAY, MARCH 20
Beatrice Labonne, United Nations, NY; seminar and panel discussion. Panel: Catherine Coumans, Mining Watch Canada; Sheila Daniels, Micon International Limited; Nancy Hutchison, United Steelworkers of American; Maxine Wiber, Rio Algom Limited; and Alan Young, Environmental Mining Council, B.C. Wetmore Hall, New College. 4 p.m. *Environmental Studies and Women's Studies & Gender Studies*

Secure Gardens: Design Aspects of Outdoor Space That Promote Better Health and Security in Older Persons With Cognitive Difficulties.

TUESDAY, MARCH 21
Mary Jane Lovering, Vertechs Design, Inc.; Prof. Em. Lillian Wells, Faculty of Social Work; Cheryl Cott, rehabilitation science; Donna Wells, Faculty of nursing; and Susan Underhill, Institute for Human Development, Life Course & Aging. Suite 106, 222 College St. Noon to 1:30 p.m. *Human Development, Life Course & Aging*

The Role of Mental Health Workers in the Situation of Mass Trauma.

WEDNESDAY, MARCH 22
Elena Cherepanova, psychologist. 7-162 OISE/UT, 252 Bloor St. W. Noon to 1:30 p.m. *Adult Education, Community Development & Counselling Psychology, OISE/UT*

Pompous Pendants, Medical Monsters and Humane Healers: Learning From the Representations of Physicians in Opera and Literature.

THURSDAY, MARCH 23
Dr. Michael Hutcheon, respirology; and Prof. Linda Hutcheon, Centre for Comparative Literature. 163 University College. 11 a.m. to 1 p.m. *Qualitative Inquiry Group and Public Health Sciences*

Women's Studies Emeritae.

THURSDAY, MARCH 23
Natalie Zemon Davis, Ursula Franklin, Phyllis Grosskurth and Jeanelle Savona.

2053 Wilson Hall, New College. Noon to 1:50 p.m. Tickets \$10, students \$5.

"Template Dogs" and the Interpretive Moment in Ivan Pavlov's Studies of Digestive Physiology.

THURSDAY, MARCH 23
Prof. Daniel Todes, Johns Hopkins University; Hannah seminar for the history of medicine. Great Hall, 88 College St. 4 to 6 p.m. *History of Medicine*

Sons of the Soil, Immigrants and Ethnic Rebellion.

THURSDAY, MARCH 23
Prof. David Laitin, Stanford University. 3050 Sidney Smith Hall. 4 to 6 p.m. *Political Science*

Heat Shock Proteins in Striated Muscle.

FRIDAY, MARCH 24
Prof. Marius Locke, zoology. 3127 South Building, U of T at Mississauga. Noon. *Erindale Biology*

Language Conflict and Violence: A Methodological Coda.

FRIDAY, MARCH 24
Prof. David Laitin, Stanford University. 3050 Sidney Smith Hall. 2 to 4 p.m. *Political Science and International Studies*

Moral Judgement in Seneca.

FRIDAY, MARCH 24
Prof. Brad Inwood, classics. 244 University College 3 p.m. *Classics*

Strangers in the Midst: Migrant Workers in Korea.

FRIDAY, MARCH 24
Prof. Kathy Moon, Wellesley College. 108 Koffler Institute for Pharmacy Management. 3 to 5 p.m. *Joint Centre for Asia Pacific Studies*



MEETINGS & CONFERENCES

Teaching, Learning and Using Latin in the Middle Ages.

FRIDAY, MARCH 17 AND SATURDAY, MARCH 18
Annual conference, Centre for Medieval Studies; in honour of A.G. Rigg. Sessions in 003 Northrop Frye Hall, Victoria University.

FRIDAY, MARCH 17

Bilingual Contexts: Latin and Its Neighbours. Medieval Latin and Legal Culture in the Kingdom of Hungary, J.M. Bak, Central European University, Budapest; Translation in Teaching Latin: A 14th-Century Italo-Latin Grammar, Cara DeSantis, U of T; Latin in the Fields: Farmers and Court Rolls, Sherri Olson, University of Connecticut. 2:15 to 3:45 p.m.

Nota Bene: Why the Classics Were Neumed in the Middle Ages, Jan Ziolkowski, Harvard University; O'Donnell memorial lecture in medical Latin studies. 5:15 p.m.

SATURDAY, MARCH 18

Glosses and Glsators. Women Teaching and Learning Latin: Herrad of Hoenbourg and the "Hortus deliciarum," Fiona Griffiths, University of Lethbridge; Last Words: Latin and the End of Gower's "Confessio Amantiss," Sian Echard, University of British Columbia; Addo et Subtraho: Mathematical Glosses to *Thesaurus Linguae Latinae* and *Glossarium mediae et*

EVENTS

infimae latinitatis, Wesley Stevens, University of Winnipeg. 10 to 11:30 a.m.

Anglo-Latin and Its Legacies.

Old Sources and New Resources: Finding the Right Formula in the Bonifatian Correspondence, Andy Orchard, University of Cambridge; The Lord's Latin and the King's English: On the Uses of Usage, Carin Ruff, John Carroll University; The Hermeneutic Style of Thiofrid of Echternach, Gernot Wieland, University of British Columbia. 1:30 to 3 p.m.

Latin by Osmosis!

Savoir le latin sans l'avoir étudié: Formes et sens d'un thème hagiographique, Pierre Boglioni, Université de Montréal; Constructing the Book of Visions: Liberal Arts and Apocryphal Knowledge, Clair Fanger, University of Western Ontario; Learning Latin by Magic: John and Gurgeta's Angelic Tutors, Nicholas Watson, University of Western Ontario. 3:30 to 5 p.m.

Planning & Budget Committee.

TUESDAY, MARCH 21

Council Chamber, Simcoe Hall. 5 p.m.

Committee on Academic Policy & Programs.

WEDNESDAY, MARCH 22

Council Chamber, Simcoe Hall. 4:10 p.m.

Culture and Integration in Central Asia.

FRIDAY, MARCH 24 AND

SATURDAY, MARCH 25

Annual conference, Central & Inner Asian Seminar and Joint Centre for Asia Pacific Studies. Croft Chapter House, 9 a.m. to 6 p.m. Expected speakers and topics:

Boris Chukhovich, *Central Asia and Caucasus*, Les Européens de l'Asie Centrale: essai de l'analyse culturelle.

Dina Doubrovskaja, East Asian studies, The Views on the Western Lands in the Political Thinking of Ch'ing Empire. Ghada Jayyusi Lehn, Near and Middle Eastern civilizations, Turkic Nomads: The Elites of 9th-Century Muslim Armies.

David Jongeward, Kushan scholar, Toronto, Coin Art and Sculpture of the Kushan Empire, First to Fourth Century AD.

An-King Lim, contact language scholar, Salt Lake City, Utah, Linguistic Lessons From "The Secret History of the Mongols" and the Xian-bei National Language.

Talant Mawkanuli, University of Wisconsin, Nomadic Cultural Perspective in the Kazak Language.

Gulnara Mendikulova, National Academy of Sciences, Kazakhstan, The Influence of Nomadism on the Adaptational Abilities of the Kazaks.

György Neszemlyi, University Szent István, Hungary, The Main Characteristics of Mongolian and Korean Economic Development, Focusing on Agriculture.

Edita Neszemlyi-Slivková, private scholar, Hungary, Iranian Social and Economic Development With the Focus on Animal Husbandry.

Sarangerel, Buryat shamaness and author, Wife, Mother, Shamaness, Warrior Woman: The Role of Women in Mongolian and Siberian Eip Tales.

David Schimmelpenninck, Brock University, Russia's Great Game in Tibet? St. Petersburg and the Younghusband Expedition to Lhasa of 1904.

Tamara Sivertseva, U.S. Institute of Peace, The Quest for National Identity in Daghestan.

Manu Sobti, Georgia Institute of Technology, Evidence for a New Early Medieval Urban Type in the Central Asian Region: An Analysis of Archeological Findings, Literature and Scholarly Writings. Registration fee: \$30, students \$10. Information and pre-registration, Gillian Long, 978-4882; gillian.long@utoronto.ca.

Structure and Constituency of the Languages of the Americas.

FRIDAY, MARCH 24 TO

SUNDAY, MARCH 26

Annual workshop, department of linguistics. All sessions at University College.

FRIDAY, MARCH 24

The Halkomelem Double Antipassive: Towards a Word-Based View of Argument Structure, Donna Gerdt and Tom Hukari; Collapsing Three Morphemes Into One: Saanich Plural Reduplication, Carrie Gillan; Word, Clitic and Sentence in Lillooet, Jan Van Eijk; Conventionality and Lexical Classes, David Beck; Paths of Semantic Change in a Modal Morpheme: The Dubitative in Montagnais, Deborah James, Sandra Clarke and Marguerite MacKenzie. 9:30 to 12:20 p.m.

How Much Syntax Can You Fit Into a Word? The Grammar of Verbal Agreement in Innu-aimun, Phil Branigan and Marguerite MacKenzie; Configurationality and Object Shift in Algonquian, Benjamin Bruening and Andrea Rackowski; Some Notes on Conjunct and Independent Orders in Wampanoag, Norvin Richards; The Role of the Participant Hierarchy in Determining Word Order in East Cree, Marie-Odile Junker; Verb Elision and Constituent Structure in Inuit, Matthew Beach. 2 to 5:20 p.m.

SATURDAY, MARCH 25

On the Phonological Conditioning of Clitic Placement in Zapotec, George Aaron Broadwell; Plains Cree in Head-Initial: Morphophonological Evidence, Tomio Hirose; Defining the Word in Cayuga (Iroquoian), Carrie Dyck; Word Internal Constituency in Squamish Salish, Laura Bar-el and Linda Tamburri Watt; Words Within Words: Matching and Mismatching Domains in Cree, Kevin Russell. 9 a.m. to 12:20 p.m.

The Lexical Status of Utterance-Final Forms in Oneida, Karin Michelson; Is a Word in French a Word in Michif? Nicole Rosen; What is a Word: Evidence From a Computational Approach to Navajo Verbal Morphology, Sony Bird; Silent Heads and Audible Dependents: Phonotactic Relations in Mohawk and Upper Chehalis, Grazyna Rowicka; Lexical Suffixes Are Bound Roots: Phonological Evidence From Lillooet and Sliammon. 2 to 5:30 p.m.

SUNDAY, MARCH 26

Round table; invited talk by John O'Meara on Incorporating Linguistic Knowledge Into the Teaching of Indigenous Languages. 9 a.m. to 1 p.m.

Business Board.

MONDAY, MARCH 27

Council Chamber, Simcoe Hall. 5 p.m.



MUSIC

FACULTY OF MUSIC EDWARD JOHNSON BUILDING

Small Jazz Ensembles.

WEDNESDAY, MARCH 15

Favourite standards and student arrangements and compositions. Walter Hall. 8 p.m.

Thursday Noon Series.

THURSDAY, MARCH 16

Music & Poetry: Vilma Intra Vitols, mezzo-soprano; Faculty of Music ensemble; John Hawkins, piano and conductor; Prof. Eric Domville, commentator. Walter Hall. 12:10 p.m.

Historical Performance Ensembles.

FRIDAY, MARCH 17

Timothy McGee, director. Walter Hall. 8 p.m.

Wind Symphony & Concert Band.

SATURDAY, MARCH 25

Jeffrey Renolds and Cameron Walter, conductors. MacMillan Theatre. 8 p.m. Tickets \$10, students and seniors \$5.

Elmer Iseler Singers.

MONDAY, MARCH 27

In concert with graduating conducting students. Walter Hall. 8 p.m.

World Music Ensemble.

TUESDAY, MARCH 28

Japanese drumming, African drumming and dancing and Balinese gamelan. Walter Hall. 8 p.m.



PLAYS & READINGS

The Clairvoyant; Seaside Dive.

TUESDAYS TO SUNDAYS,

MARCH 14 TO MARCH 26

The Clairvoyant, by Larry Fineberg; *Seaside Dive*, by J.B. Murphy. Presented by the North American New Drama Alliance. Glen Morris Studio Theatre, 4 Glen Morris St. Performances at 8 p.m., matinees Saturdays and Sundays 2 p.m. Tickets and information, 978-7986.

Laidlaw Library Reading Series.

TUESDAY, MARCH 21

Prof. Sam Solecki talks about his new book *The Last Canadian Poet: An Essay on Al Purdy*. 240 University College. 4:30 p.m.

MONDAY, MARCH 27

Prof. Sylvia Bashevkin talks about her book *Women on the Defensive: Living Through Conservative Times*. 240 University College. 4:30 p.m.



FILMS

Festival of South Asian Documentary Films.

MONDAY, MARCH 13 TO

SUNDAY, MARCH 19

Showcases over 25 outstanding South Asian documentary films that provide in-depth treatment of pressing South Asian issues including history, culture, art, environment, gender and activism. Majority of screenings take place Friday, Saturday and Sunday at the Auditorium, Earth Sciences Centre. Tickets \$5, double screening \$17; festival pass \$25. Free screenings Monday to Thursday. Information: (416) 657-2671; www.dristi.org.



EXHIBITIONS

NEWMAN CENTRE Abstract and Non-Objective Paintings. TO MARCH 31

Paintings by Walter Chiasson and Diane Krompart. Ground floor. Hours: Monday to Friday, 9 a.m. to 5 p.m.

THOMAS FISHER RARE BOOK LIBRARY As the Centuries Turn: Manuscripts and Books From 1000 to 2000.

TO JUNE 2

A selection of manuscripts and printed books from the collections of the Thomas Fisher Rare Book Library. Hours: Monday to Friday, 9 a.m. to 5 p.m.



MISCELLANY

Family Cooking on a Budget.

WEDNESDAY, MARCH 15

Presentation of practical tips and a cooking demonstration of simple nutritious meals with a sharing of easy on the wallet recipes for students on a tight food budget; led by Marilli Martyn. New College. Noon to 1:30 p.m. Registration: 978-0951; family.care@utoronto.ca.

Alien Merchant Communities in Southampton, ca. 1300-1600.

FRIDAY, MARCH 17

Laura Hunt, Centre for Reformation & Renaissance fellow. 323 E.J. Pratt Library, Victoria University. 3 to 5 p.m.

Screen/Writer.

FRIDAY, MARCH 24

An evening exploring the good, the bad and the ugly parts of transforming fiction into film, with Margaret Atwood, David Cronenberg, Barbara Gowdy and Elmore Leonard; hosted by Albert Schultz. Convocation Hall. 7:30 p.m. Tickets \$15 and \$20; all proceeds to PEN Canada. *U of T Bookstore*

Helping Students Through Crisis: A Resource Guide for Front-Line Staff.

TUESDAY, MARCH 28

Workshop to familiarize staff with the many services that can help students, particularly those with family responsibilities. 120 Woodsworth College. 1 to 3 p.m. Registration: 978-0951; family.care@utoronto.ca.



DEADLINES

Please note that information for Events listings must be received in writing at The Bulletin offices, 21 King's College Circle, by the following times:

Issue of March 27, for events taking place March 27 to April 10: **MONDAY, MARCH 13.**

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RESISTING THE SLIPPERY SLOPE

Invoking the Nazis in bioethical debates may only trivialize that regime's crimes against humanity

By MICHAEL MARRUS

THE SUBJECT OF MY LECTURE IS THE FREQUENT invocation in matters of bioethics of analogies to the Third Reich and the Holocaust — what one critic has termed the *argumentum ad Hitlerum*. These analogies are invoked all the time in debates about the withdrawal of treatment of the incurably ill; in discussions of human experimentation; in questions having to do with abortion, the use of fetal tissue for medical research or therapy, population control, in-vitro fertilization, genetic engineering, sterilization, the rights of psychiatric patients, animal rights, organ transplantation — and the list goes on. The argument is that this and or that practice is something *like* what the Nazis did, or could lead to something that the Nazis did, or shows a similar *impulse* as that which the Nazis had and should therefore be condemned in the strongest possible terms.

The contention that there was a link between Nazi biomedical crimes and some other widely accepted ideas about medical practice was first made at the so-called “doctors’ trial” at Nuremberg. The argument there was that going wrong in small ways could eventually lead to a huge genocidal catastrophe because of a general acceptance of an attitude exemplified by the phrase taken up by the Nazis: “life unworthy to be lived.” In its early stages this attitude concerned mainly the severely and chronically sick. But, it was contended, “the sphere of those to whom this perspective was applied expanded to encompass the socially unproductive, the ideologically unwanted, the racially unwanted and finally all non-Germans.” This slippery slope argument is the first cousin to the *argumentum ad Hitlerum*. As a way of opposing certain points of view, this strategy is a drastic one. No one wants to be seen in Nazi company promoting the same objectives as Hitler. No one wants one’s own wrong ideas — if they are wrong — to be seen to be so wrong as to promote Nazism. And no one wants to have to deal with the emotional baggage accompanying an association with the Third Reich.

I want to reflect on this analogy from the standpoint of a historian of the Holocaust. I also want to bring some perspective into these debates by focusing on what we have learned about the historical contexts of the events alluded to in argumentation, and on the links between the biomedical professions in Germany and the crimes of the Nazi regime.

When it comes to the latter there is frequently a distortion of perspective because of the attention paid to human experimentation. These experiments were the great focus of the famous trial of 23 defendants beginning in December 1946 at Nuremberg. But note that the victims of these horrific so-called experiments involved a few thousand people at most; that these victims were mainly Allied prisoners of war; and that the so-called experiments were undertaken mainly for military purposes. While no doubt a dreadful atrocity, the attention that we have given to these experiments and to the so-called “doctors’ trial” is, I believe, accompanied by a corresponding neglect of victims of *other* medical crimes: notably, forcible sterilization and the so-called euthanasia campaign, the victims of which number in the hundreds of thousands and who were mainly German civilians.

Let me be more specific. Consider sterilization. The year 1933 saw in Nazi Germany a law for the prevention of genetically diseased offspring, permitting the forced sterilization of anyone suffering from what were thought to be genetically determined illnesses including feeble-mindedness, schizophrenia, manic depression, epilepsy, genetic blindness, deafness and severe alcoholism. From 1934, German doctors were enlisted in a massive campaign for compulsory sterilization in the interest of improving the quality of the German racial community. In the end this campaign involved some 320,000 people, that is, 0.5 per cent of the entire German population.

Unlike the so-called experiments that were usually conducted behind closed doors, this campaign required a huge public and institutionally refined apparatus. Sterilization research and engineering rapidly became one of the largest medical industries in Nazi Germany. And note, to help put this into international

perspective, for while such activity was not peculiar to Nazi Germany the scale of the human catastrophe undoubtedly was; in the United States, with comparable laws, doctors in 30 states sterilized 11,000 people between 1907 and 1930. The German victims in the 12-year period of the Reich, as I have noted, numbered 320,000.

And now the so-called euthanasia campaign. I say “so-called,” because its real object was murder. During the war years an inconspicuous office at number 4 Tiergarten Strasse in Berlin organized the murder of more than 200,000 allegedly incurably diseased — psychiatric patients, camp inmates who

plant-breeding specialist who when he wants to breed a pure new strain from a well tried species that has been exhausted by too much cross-breeding goes over first to the field to cull the unwanted plants.” This vision of racial utopia flowed into the biomedical view. The doctors involved in the killings saw themselves as reformers and sometimes utopians.

A contemplation of these terrible events suggests that establishments can be susceptible to perverted argumentation if their powerful interests or ambitions are served. Under Nazism, doctors were encouraged to think of themselves as custodians of the health of the German Volk, with health defined in racial terms.

Doctors at the medical grassroots offered themselves with alacrity to the regime. By 1942, as historian Robert Proctor notes, more than 38,000 doctors were Nazi party members — about half the doctors in the country. Of these, Michael Kater discovered, “26 per cent were storm-troopers and over seven per cent were in the SS — much higher rates than for any other academic profession.” High-ranking Nazi doctors, those who dealt directly or indirectly with forcible sterilization or the murderous euthanasia campaign did not come from the margins of German medicine but often from the very pinnacle of the profession. Their names are part of a *Who’s Who* of the medical profession of the day. And so, “contrary to the notion that Nazism somehow corrupted and distorted the temples of learning,” observe Michael Burleigh and Wolfgang Wipperman, “it was a distorted science that lent Nazism a specifically scientific character.”

Let me conclude by offering three points of reflection.

First, there was something distinct in the scale, motivation, ambition, ideology and ruthlessness of Nazi crimes. To be sure, Nazi Germany was not the only place where there were social Darwinist ideas, anti-

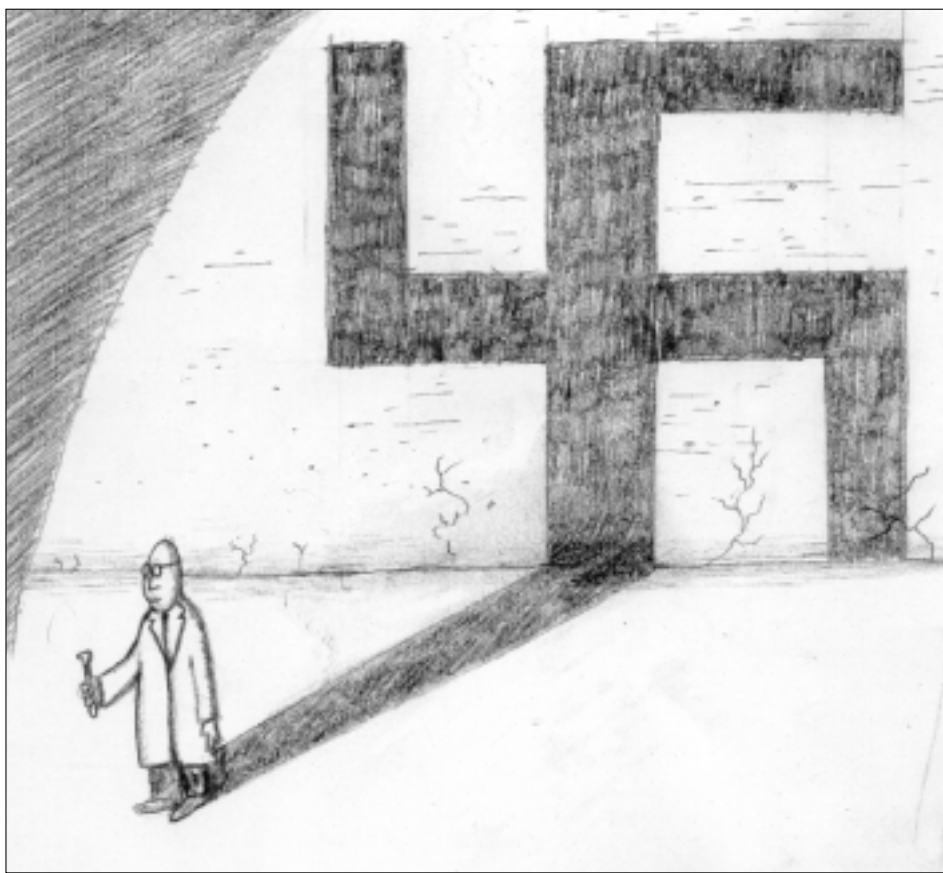
Semitism, racism or eugenic thought; but Nazi Germany alone launched a genocidal and murderous campaign that in the end cost the lives of some 50 million people. What was crucial was the advent of the Third Reich. It was not until Hitler’s triumph in 1933 that eugenic principles of the pre-Nazi period gained the support of governing officials willing to move aggressively in this area. The implication is that these crimes involved more than just perverted objectives. These extraordinary crimes were the product of a regime — to me, an essential element in any reference to these Nazi, or Nazi-like, crimes.

Second, one of the lessons of Nazism is that it didn’t just depend on Nazis. Whether it is eugenic thought or forcible sterilization or biomedical utopian thought, the Nazis were not alone. They were part of a much wider ethos. In short, the Nazis depended upon armies of collaborators. And so a lesson might be that there is such a thing as a slippery slope, and that given an insidious ideological and political environment, given the powerful sanction of government, many quite ordinary people can be drawn into extraordinary criminality.

But third, while it would be wrong to ignore elements of kinship between Nazism and our own society, it would be a trivialization of what happened in that era and of the victimization of countless thousands of people uncritically to label that anything with which we fundamentally disagree in the biomedical sphere shares as potentially Nazi or as sharing core Nazi values. No good cause is served by faulty history, by sloppy comparisons or by rhetorical allusions to the suffering of the victims of Nazism.

I conclude that not every slope is slippery and that not every biomedical crime is a Nazi-like crime. There may be very good reasons to oppose practices that are reminiscent of what happened during the Third Reich. But let us take care to muster arguments against associated attitudes on their merits, rather than employ weak analogies that often sound like wounding smears that trivialize the crimes of the Third Reich.

Professor Michael Marrus, dean of the School of Graduate Studies, delivered the Jus lecture March 1. This is a small excerpt from that address.



had fallen ill, people suffering from depression and non-conformists. And note an important difference from forcible sterilization: the impulse for this killing was outside the medical loop. It was run out of Hitler’s own office. The murders began with little children with congenital malformations or mental retardation and gradually extended to adults with any number of diseases. Using starvation, lethal injection, mobile and then stationary gas chambers, operating in six designated killing centers, this killing was done by doctors and by nurses who, in some cases, had been caregivers to their victims. And furthermore, there was a direct and clear link with the final solution of the Jewish question in terms of both personnel and technique. Christian Wirth, for example, an SS major and head of the Aktion Reinhard killing operations in 1942 in Belzec, Sobibor and Treblinka, cut his teeth on the killing business at a psychiatric clinic and pioneered the development of gas chambers for the purposes of mass murder.

What makes these crimes so distinctively Nazi? This question is crucial because not everything that the Nazis did with science and medicine was driven by criminal objectives and not every Nazi medical initiative derived from the core values of the regime. These values were not vague and adaptable affinities; they were powerful, clear, sharply etched ideological commitments. I note that those charged with medical crimes at Nuremberg did not plead for mercy and recant their errors; they stoutly attempted to explain their actions within the framework of their world view that the Reich was threatened by inferior races. This paradigm of the state facing a physical threat to its overall being, which could be alleviated only by medical interventions, is reflected in the medical literature and the training of health care professionals before and during the war. This paradigm rested upon doctrines of racial hygiene evolved from the end of the 19th century within the framework of social Darwinism and the international eugenics movement. The point of departure was a widespread fear that the natural selection might not be working, that the poor, the weak and the misfits of the world were being protected by society and were multiplying faster than the talented and the fit. Heinrich Himmler spoke of the Nazi leaderships’ task as being “like the