

THE SENIOR COLLEGE MESSENGER

Issue 18: April, 2023

This is an organ for members of Senior College to submit short articles that share news, letters to the editor, reactions to the program and anything that they feel will be of general interest. Its regular appearance will allow for an exchange of opinion of topics of interest to the members. In particular, it would be interesting to record reactions to the talks, colloquium topics and books discussed.

Please submit contributions to the editor, Ed Barbeau at barbeau@math.utoronto.ca

PRIVATE AND PUBLIC HEALTH CARE COLLOQUIUM

On March 16, a colloquium on private and public health care took place. This topic is of sufficient importance that the organizers would like to continue the discussion online. To help this happen, the Messenger welcomes input from readers to the editor Ed Barbeau, who will incorporate them into a string that will be distributed to all participants in the discussion. It is hoped to publish a summary of the main points discussed.

The Canadian Healthcare system is a combination of public and private medical care. The cost of essential medical services and hospitalization is publicly funded by the provincial government. Most medications, dental care and much physiotherapy and psychotherapy, for example, are privately funded. Canadians are justifiably proud that their healthcare system is one-tier when costs of essential health services are considered. In reality we have a multi-tiered system when it comes to access to care. One's access to care depends on whether you have a primary provider, availability of services where you live, whether you are someone with connections, if you go to another country for your services, have health insurance and other factors. The Canada Health Act forbids Canadian physicians who are opted-in to the provincial health insurance plan to charge more for essential services than the government provides. Up-selling of non-essential upgrades is permitted.

Of great concern at present is the general existence of healthcare staff shortages for non-emergency care, to service hospital beds and units, and to enable certain medical procedures that can affect any of us. All agree there is a major shortage of nurses and personal care workers. This is not new but it has been exacerbated in recent years by Covid. Particularly for nurses in Ontario, it seems that the limits on salary increases have made this worse. These personnel shortages whatever the cause have led to increases in waiting times for many operations and diagnostic procedures. They have, according to professional organizations, led to staff overwork, burnout, early retirement or career change that have made the problem even worse.

One of the proposed solutions has been the expansion of private, surgical and diagnostic clinics. A group of Senior College Fellows met on March 16, 2023 to discuss this and related topics in a colloquium entitled *Can public and private*

healthcare systems work well together? If so, how? If not, why not?. Possible benefits and drawbacks were discussed.

Possible benefits of private systems:

- opens up new facilities for care and surgery;
- can provide current market costs of appropriate wages and benefits for staff;
- can provide an example of appropriate, more efficient and possibly better service;
- can be a source of income for hospitals;
- can take pressure off hospitals;
- allows patient choice of services if they are willing to pay;
- could possibly be controlled by public system so as not to adversely affect it;
- can more easily try novel approaches.

Possible drawbacks of private systems:

- if for profit, some healthcare costs go to shareholders and not to healthcare delivery;
- can establish two-tier medical care for costs;
- staff in public facilities may move to private healthcare and exacerbate shortages;
- may be more expensive for government in the long term;
- governance and regulation can be problematic if there is insufficient oversight;
- not a quick fix for our healthcare needs if main problem today is staffing shortage.

There was some consensus that while expansion of private systems might have benefits, it was not going to be the solution to our current problems in a reasonable time period. Alternatively, increased funding to address current staff shortages could have fairly quick effects. If private clinics are to have an impact on the current health problems, they will likely be small and take some time to implement. If well coordinated with existing hospitals, properly supervised and regulated, private systems could interact with the public system in a mutually beneficial fashion. Whether they are cost-effective solutions to any of the current problems is an unanswered question. Canada's healthcare costs are among the highest of comparable nations, but the outcomes are generally not as favourable. Many agree that our healthcare needs to be reorganized to be more efficient and cost effective. That is another discussion. *William Logan*

A TRIP TO THE SECRET ROM

On March 7, a group from Senior College had the pleasure of entering the Mam-mology Department in the bowels of the ROM. Our leader was Dr. Lim who had given a Senior College talk on whales a few weeks ago.

We learned that there are 125 thousand specimens in a collection that includes birds, moose, bears, deer, fish and bats.

We first entered a room holding 100 species of fur-bearing animal coats kept at a temperature of 4°C to keep the hides fresh.

Then we visited an impressive taxidermy collection that included skulls, huge moose heads equipped with amazing antlers, prize-winning dogs, a majestic lion, and even a mother chimpanzee with her baby. These have been occasionally exhibited elsewhere in the ROM.

Our tour ended with a display of little brown bats collected years ago in Algonquin Park and saved in a drawer. Having this archival collection was fortunate in studying the white nose fungus from Europe and Asia that has taken a toll on North American bats; it induces them to go out in the winter hungry and freeze to death rather than hibernate.

The ROM has the largest mammal collection in the world; it is often used for films and displays as well as to help identify animals caught in the wild. Its size requires some of it to be stored off site.

Our tour ended with a promise by Dr. Lim to take us out to Queens Park in the warm weather to look for bats. *Diana Baxter*

IN MEMORIAM

Caesar R. Blake (October 5, 1925 - February 23, 2023)
Department of English

CALENDAR OF COMING EVENTS

Events marked with **F** are for fellows and external fellows. Registration a few days ahead is necessary for each event. This can be done in response to a weekly email from Senior College to its members that describes the events or by going on line at www.seniorcollege.utoronto.ca .

THE 18TH ANNUAL SENIOR COLLEGE SYMPOSIUM

*Surveillance, Privacy, Artificial Intelligence:
The Promises and Challenges of our Digital Age*

Date: Wednesday, April 19, 2023

Location: Faculty Club, 41 Willcocks Avenue/Zoom

The 2023 Symposium will include food services, including a morning refreshment break, a buffet lunch, and a wine-and-cheese reception afterwards. The registration fee is \$60 until April 10 and \$75 afterwards, and includes food service. Register here or on the Senior College website.

If you prefer to attend by Zoom, there fee is \$20 and you can register here.

Talks: Wednesdays 2-4 pm

May 17: Merrill Swain & Movie Scenes, *Talking Matters* (a play) (Live)

May 24: Lance Wiliford, *Classical vocal music and Visual media distribution* (Zoom)

May 31: Geoff Rayner-Canham, *Chemistry and Inuit life and culture* (Zoom)

June 7: Katherine Corcoran, *A murder and a cover-up: the cost of silencing the press* (Zoom)

June 14: Ella Striem-Amit, *Brain plasticity and function from people born without hands* (Zoom)

June 21: Daniel Lang, *The Carnegie Foundation and U of T faculty pensions* (Zoom)

Book Club: Mondays 2-4 pm (Zoom only) (F)

April 3: Thomas Savage, *The power of the dog* (1967) (Leaders: Mary Jane Ashley, Linda Hutcheon)

May 1: Kyle Harper, *From shame to sin: the Christian transformation of sexual morality in late Antiquity* (Leader: David Milne & David Rayside)

June 5: Steven Johnson, *The ghost map: the story of London's most terrifying epidemic – and how it changed science, cities and the modern world* (Leader: William Logan)

July 3: Niccolo Machiavelli, *The Prince* (1532) (Leader: David Milne)

Aftermath

The number 142857 has the interesting property that its first six multiples, 142857, 285714, 428571, 571428, 714285 and 857142 all involve the same six digits in cyclic order. This may seem quite singular, but, as often happens in mathematics, it is part of a larger pattern. To gain some insight into what is going on, note that the seventh multiple, 7×142857 , is equal to 999999.

It is significant that 7 is prime and that 999999 has six digits, one fewer than the value of the prime. If we take any prime p , other than 2 and 5 which divide the base 10 of numeration, then p divides evenly into $10^{p-1} - 1$, which has $p - 1$ digits equal to 9. For example, $10^{16} - 1 = 9999999999999999$ is equal to $17 \times 0588235294117647$. (We write the second factor with an initial 0 to make it a 16-digit number.) The first 16 multiples of 0588235294117647 involve the same 16 digits in cyclic order.

However, there is a slight wrinkle. This works for 17 since no number with a shorter string of nines is divisible by 17. In the case of 13, we find that 999999 is a multiple of 13, 13×076923 . This time, we have only six digits, while there are

12 multiples of 13 less than 999999. Six of these multiples have the same digits as 076923, while the other six use the digits of 153846.

In the case of the prime 37 which divides $999 = 027 \times 37$, the first 36 multiples of 27 fall into twelve groups, such as (027, 270, 702) and (135, 351, 513). Some of you will be familiar with the case of 11, which divides 99, where the reverse of each of the first ten multiples of 09 is also a multiple. The case of the prime 3, is even more basic, since here all the multiples (3 & 6) in question have but one digit.