

## A Tale of Two Cities

*Some people claim that the future already exists and that the past is preserved forever. In their view we travel in our lives along a meandering 'time-path' through a multi-dimensional space. This space can be intensely warped, giving us, sometimes after many years, the impression that we are taken back into what has been...*



Herengracht corner Beulingstraat, Amsterdam

The past approached me closely and personally, when on a cold afternoon in February this year Martin V. descended very prudently the few steps to my little souterrain bookshop at the *Herengracht* in Amsterdam. He was carrying a stack of old magazines, kept together by a nasty thin piece of string. It snapped easily under my scissors.

"This is nothing for me", I muttered, moving to one side his 'Zeitschrift für Angewandte Mathematik' collection. "Better take these to Eggink in the *Ouwemanhuispoort*."

Martin had apparently been scavenging the attic of his old father, at one time a much feared theoretician of the '*Mathematisch Centrum*' in this city, now a dementia patient, hospitalized in *St.Josef*.



**Ouwemanhuispoort, Amsterdam**

"But this here, this is nice!" To my own surprise I kept in my hands a few **THINK**-magazines, the corporate magazine of the American MBI computer company back in the fifties. They still had their shiny gloss, but the thick paper was a bit moist and stiff, hard to fold open.

Pictures of the founders: the Watsons, solemnly smiling gentlemen in black business suits and white shirts. And of grey office machines: bulky punched-card tabulators, interpreters, sorting apparatus. Also the factory in *White Plains NY* and the One Hundred Percent Club feasting in *Manila, Philippines*.

For my second-hand book trade this had no value, but nevertheless I gave Martin twenty guilders. Much too much, but I knew how thirsty he was from *Café Hoppe*.

My memory had been jolted. My mind was repositioned thirty three years earlier, when I was an employee of the 704 Scientific Data Center in *Toronto, Canada*.

I worked at a branch office that was located on the ground floor of an apartment building in the northern part of the city. The most powerful scientific computer of those days, the MBI 704, stood displayed at the entrance, in full view behind huge double-glass picture windows. <sup>1)</sup>

The installation was housed in a dozen large metal cabinets that were cooled by forced air. We, the programmers, took turns as 'operator' and worked our shifts in full view of the passers-by on the street. The blasting air conditioning made normal speech impossible. As 'time' could be equated to a large amount of 'money', a good deal of skill was required of the operators, especially in handling the Card Reading machine.

To start a new program, first the information contained in thousands of punched cards had to be loaded into the Magnetic 'Core' Memory. This memory had the unsurpassed capacity of 32K *words* and was augmented with a second magnetic memory on the surface of a whirling iron Drum. The Memory units were controlled by the 'Processor', an assembly of thousand or more red-glowing *radio valves*, interconnected by a web of delicate thin wires. The proud creators of the whole system had equipped the man-high metal cabinets with glass doors, presenting the passers-by-in-the-street with a unique view of the innards of this Giant Brain.

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<sup>1)</sup> There is a connection here with **aviation history**.



The powerful MBI 704 computer had first been leased to the A.V.Roe Canada aviation company. when it was developing its unique CF-105 Arrow supersonic fighter. The project had been cancelled in 1959 by incoming Prime Minister John Diefenbaker and the computer was repossessed by MBI. (photo:Wiki)



To us, specially trained MBI employees, befell the task of writing programs for this Miracle-of-the-Century. Our programs were smart and playful and the logic was carelessly informal.

The most impressive program of all however, was created by one of our customers, *Dr. A. Pollock of Canadian Atomic Energy*. It calculated the flux of *neutrons* in an atomic reactor of his design. He personally had written, with pencil, thousands of machine instructions and punched them personally in an equal number of cards. Once these were fed into the computer, the mighty brain began to calculate for six to twelve hours on end, spitting out finally thousands of results on Magnetic Tape.

A weekly run was made with this program. It was notorious however, because once in a while, maybe once every three months, after having run diligently for hours, it would 'hang', suddenly and without warning. In this event the Control Panel of the Processor would light up with hundreds of little lights, like a flipper machine going on tilt. This was the clumsy way in which the Mighty but bewildered Brain displayed the critical contents of its calculating registers, saying: 'sorry, can't go on, something is wrong'.

An emergency protocol would be followed. The operator on duty would record on paper *in octal notation* the contents of all displayed registers and make a printout of all memory cells. Dr. A. Pollock of *Canadian Atomic Energy* had to be notified immediately, albeit in the middle of the night. He would make a personal appearance, ruffled and very displeased. At earlier emergency situations he had scrutinized the text of his program for hours, checking its well structured logic, but had been unable to find a single error. Next morning Dr. Conrad M., the MBI Branch Manager, would be on the phone to *White Plains NY* for very concerted consultations and our desperate technicians would throw open the glass doors of the Brain to once more check its tubes and wiring.

It was much later that I indeed learned that a miniscule minor error had been found by factory inspectors in the wiring of the 72-bits double precision unnormalized floating add instruction of our Floating Point Processor. One single bit had been badly connected. *The hardware fault would only manifest itself by a certain combination of digits in the data* - Dr. Pollock's program itself was without error.

Now, ten years later, after reading the book of Prof. Prigogine, I wonder if this is a good illustration of his Chaos theory. *One impossibly small oversight of an excellent MBI technician in White Plains NY <sup>2)</sup> would, years later, be the cause of a major break in my career, yes indeed in my whole life.*

For me this is additional proof that the course of life on this earth is determined by factors unpredictable and unknown. I will explain the connection between the events.

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My work at the MBI Engineering Data Center had been for a long time free of problems and I found it even very stimulating. We formed a happy team of young and ambitious *immigrants*, with only a few Canadian-born colleagues.

Among the born Canadians was Robert A., the group manager, who (just like us) liked to drink at home a stiff glass of whiskey. This was a bad habit for a man who envisaged a resounding career for himself within the company. Then we had the remarkable Peter McGaw, a sort of junior *homo-universalis* and Ethel, our little Jewish mathematician from *Forest Hill*. Ted V. was a second generation Canadian with *Macedonian* parents, who did not like the *Greeks*, as could be expected, but who got on very well with Alexander, the man who ran the canteen. Of course there was also Carol S., who practised sky-diving as a hobby.

Most of the other programmers were, like me, first generation, 'new-Canadian'.

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<sup>2)</sup> (caused by a brief lapse of his concentration when Thelma, the girl from Time Records, walked by)

Among us: Franz G., modest Master chess player from *Germany*; Edith E., the black-eyed *Hungarian* lady who later turned out to have an affair with Sergei K., the *Russian*. Sergei was married to Olga, a ravishing, overpowering beauty, who made superb hors-d'oeuvres, indispensable when large quantities of vodka were to be consumed. And then we had the blonde boys from the *Baltic*: Helmut, Aarne and Mart – cool lads – who hated the guts of all Russians (but not of Sergei and Olga, because, as they had explained to me, these were from *Kiev, Ukraine*). The hate towards Russians was shared by George S., *Hungarian*, and actually by most of us.

We had all chosen sides in the Cold War and were obviously against Communism. Those who had personally escaped the scourge – the Hungarians having fled their homeland as recently as 1956 – had the deepest emotions about ideology. Some had become followers of *Ayn Rand*, the Russian/American writer who advocated a revolting brand of *Übermensch* Capitalism. With the Balts and the Hungarian one could also notice a glimmer of sympathy for Nazi-Germany. During discussions at lunch time at *Bassel's Restaurant* the opposite side was most vehemently taken by Robin H., our system software man from *Cambridge-UK*, and his allies: Sergei, Edith, Ethel and myself – with gentle Franz as only German remaining uneasily silent in the middle.



Photo credit: [blogTO](#)

Our heated discussions during lunch were full of generalizations, misunderstandings, and prejudices. Without us being aware of it, one thousand years of conflict on the European continent had left its traces in the minds of us, young, modern so-called rational MBI-thinkers. The only hopeful way out of this muddled past was the cheerful camaraderie that we experienced in taming together the roaring Brain in the front window.

There was also the down-to-earth humor of the real Canadians. They usually remained outside our 'political' debates but once made the smart remark that we should not forget: it had been ultimately *their* fathers who had been called upon to settle *our* father's differences.

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Of the Canadians, the most talented and ambitious was Peter McGaw. He had studied math and followed at the present evening classes in law. His intention was to study business administration as well and, in time, engineering. His desire for knowledge was insatiable. His simple goal was to know everything and to become a rich man. In his own time he was completing a computer program for geometric optimization and automatic drawing of housing subdivisions. To devise the logic for the drawing algorithms was very complex; it was truly pioneering in the field of computer steered graphics. This work he did at night, after his law school. Saturday mornings he played golf at the *Rosedale* Country Club. I had an unbound admiration for Pete and gladly took over his duties as a computer operator in the nightly hours when the office was dark and empty. In this way he could work at his project, while I could be together with *Mary Ann*, with whom I was madly in love.

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Besides being the home of the Electric Brain, the apartment building at Eglinton Avenue housed also a score of human families, who had their domicile over the MBI office. To them belonged *Mary Ann*, a most seductive young woman, who, in the middle of the night, would descend by elevator in silken pyama's and slippers-with-conspicuous-pompons to come and share with me a bottle of Remy Martin. The first time she knocked on the double glass I had been very surprised, but repeated encounters had generated a mutual passion that had finally reached a point of mad culmination.

If she knocked now, I would abandon the Brain at once and without second thought join her to satisfy our shared lusts on the couch of the ladies' powder room.

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One night, however, when we were cajoling once more on the roller coaster of love, we were surprised by *Dr. Pollock*, who, while passing by on Eglinton Avenue in his Chrysler Imperial, had suddenly been alerted by all the lights of the Computer Console that his favorite program had stopped again prematurely. He confronted us without warning and our naked entanglement in the powder room seemed suddenly ridiculous and most humiliating.

Next morning Robert A. fired me at once. The use of French cognac during working hours was severely frowned upon, as was fornication in the powder room. This last misdemeanor was not mentioned in the Corporate Guide to Proper Behavior of MBI Personnel, but that was only because it was completely unTHINKable at the time the Guide was compiled. I had been found guilty of something inconceivably sinful and was outrightly and immediately banned from Paradise.

*And so it had come about that my life was drastically and irrevocably changed that night by one miserable small wiring error of the Brain, made by a most capable engineer who, years earlier, had been distracted by, etc., etc.*

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**Etablissement Hoppe, Spui Amsterdam**

It is not surprising that these memories came back to me most vividly when I looked through the **THINK** magazines. That afternoon had been lost for any further active work. It had been my intention to visit a book auction at Beijers in *Utrecht* but I did little else than think of *Toronto* and stare through the dusty windows at the legs of those who passed by my little bookstore in the souterrain at the *Herengracht*.



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Summer has come and there are strong indications that the timelines are warping more than ever towards the past.

Somehow *Canada* is in the news all the time. Recently the World Championships Athletics have been held in *Toronto*.

One of our major department stores organizes a *Canadian* week.

My wife Heleen is displaying Eskimo art in her galerie. Even more remarkable: I spotted Pete McGaw's name in an old 'Globe and Mail' newspaper that served as wrapping for the soap-stone artifacts imported by Heleen.

It seems Peter is now Minister of Education of Ontario.

I have a strong feeling that it will now be only a matter of days before one of my old *Toronto*-friends will be descending the few steps to my souterrain. To catch the eye I have placed one issue of **THINK** in the window, between the books about *Amsterdam*. I have also made a little name-plate with the text: '704 SCIENTIFIC DATA CENTER' and glued it outside to the door.



Heleen and I have agreed upon the details of a friendly reception: First of all we shall go to *Hoppe* to commence festivities in a sparkling way. Then we shall probably borrow Martin's motor boat for a scenic ride along the *Amstel* and a terrific meal at the *Oude Paardenburg* in *Ouderkerk*.

Who shall it be, I wonder? Pete himself? Or Sergei with Olga? Or Sergei with Edith? Or one of the Balts on his way to a liberated fatherland? Not Mary Ann, surely? Or, worse, an ancient Dr. Pollock?  
I sit in my little bookshop and wait. I feel very excited. Occasionally some tourists enter. Nonchalantly I sell them a book or print of *Amsterdam*. Because of my friendly, carefree composure business is better than ever. I smile and nod to my customers, their foreign language being no problem to me.  
But over their shoulder I gaze at the door and wonder who it will be next and when...

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Social animal as she is, Heleen is looking forward to meet with her new Toronto friends. She is determined to organize an absolutely dashing reunion feast. Now she is urging me to trace the Canadians' whereabouts and to start sending invitations to come over and visit Amsterdam at once.

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*One more sudden change of heart however.* This morning she woke up and said: what are we messing about?! Let's wake up and forget about the damned past! Let's not fritter away our time, man! Let's do something useful here and now!  
I think she is right, as usual. It is time to drop this *time-warp* nonsense and do something useful with our present lives.  
I have promised her to think about it. She may be right, but minds crawl in unforeseen spaces.

Rit Staalman  
Amsterdam, July 14 1994 zz