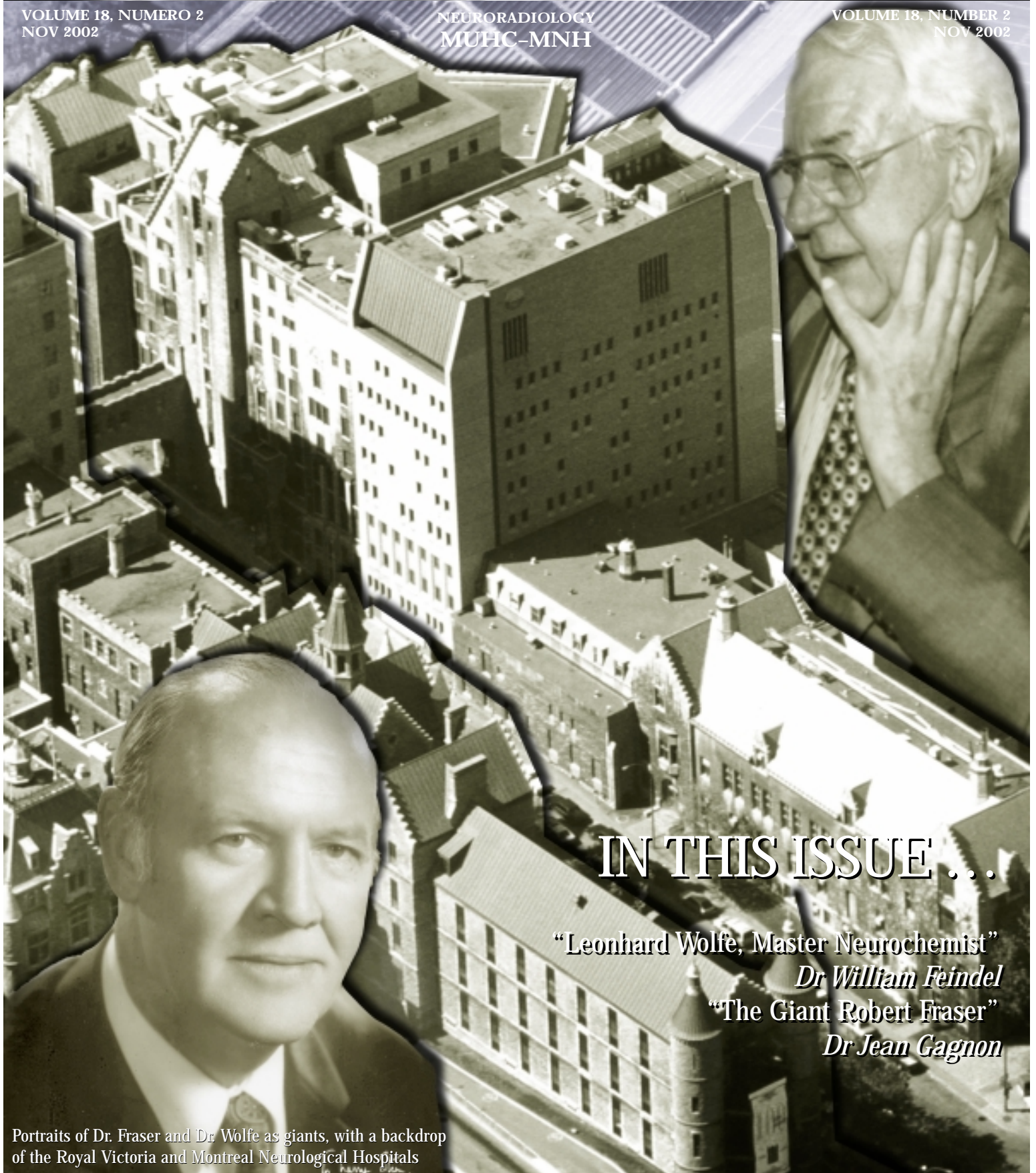


NEUROIMAGE

VOLUME 18, NUMERO 2
NOV 2002

NEURORADIOLOGY
MUHC-MNH

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NOV 2002



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LETTER FROM THE EDITOR

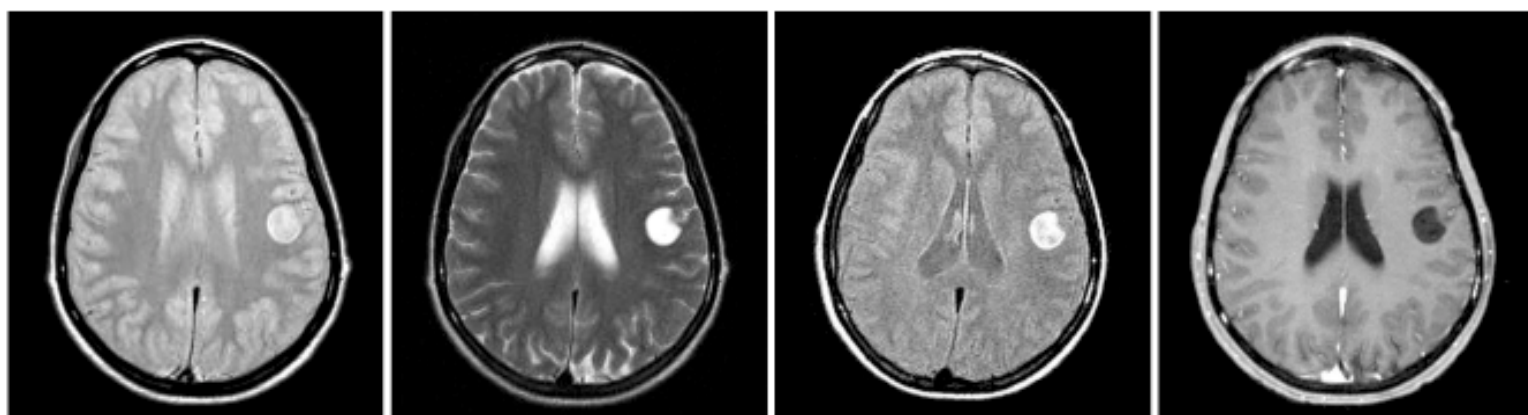
DR. DENIS MELANÇON

In the issue of April 2001, I announced that Neuro Image would be on the Web and could be reached at mni.mcgill.ca/publications. This is still the case.

Today, I wish to tell everyone that I have created a group on MSN.COM named NEURO STUDY CLUB. The access is <http://groups.msn.com/NeuroStudyClub>.

I am showing interesting images and discussing difficult problems with the correspondents. If you are interested in this type of exchange, just return your email address to me at dmelan@hotmail.com or get in touch with me through Messenger.net; and I will try to answer as fast as I can.

For those of you tempted by the challenge, here are a few pictures for a first guess.



PD

T₂

Flair

T₁-GADO

*Drs Melançon, Fontaine and Tampieri
at last Neuro Study Club in the
de Grandpré Communications Centre*



Words to wish you well...

Best regards

Respetos

Amicalement

Saluti affettuosi

Afectuosamente

Saudações

Namaste

Herzliche Gruesse

O Genki De

Cordialmente

LEONHARD SCOTT WOLFE, MSc, MD, PhD, FRCPC, ScD, FRSC (1926-2001)

MASTER NEUROCHEMIST*

BY DR. WILLIAM FEINDEL, OC, GOQ, MDCM, DPHIL, FRSC

DIRECTOR EMERITUS, MONTREAL NEUROLOGICAL INSTITUTE, MCGILL UNIVERSITY

Leon Wolfe's beginnings as a chemist go back to when he was a young lad in New Zealand working in his father's business – "Wolfe's All-Fruit Juices". His job was to carry out some simple chemical tests to make sure that the apple juice did not turn to cider and the carrot and other vegetable juices did not go sour. Eventually, at the peak of his career, Leon became a world authority on brain chemistry; his research centered on how certain chemical reactions in the nervous system go awry to cause neurological disease.

Between these two stages of his life, Leon took some pauses and some detours. As when he ran away from Missionary College in his mid-teens to end up a farmhand harvesting mangoes. Or his pursuit of the study of insects, over a decade or so, starting at Canterbury University with his MSc. thesis on the dragonfly. He then spent two years at Cambridge with Sir Vincent Wigglesworth, perhaps the most eminent entomologist at that time in England. For his Doctorate thesis Leon studied an insect species with the exotic name of *Calliphora erythrocephalus*, or "redhead". He published his findings on the pores in the cuticle of this "redhead" as three substantial papers in the Quarterly Journal of Microscopical Science.



*Leon Wolfe and Allan Elliot, at the opening
of the Penfield Pavilion (1978)*

* Based on a tribute presented in the Birks Chapel, McGill University, January 16, 2002

In 1952 Leon's expertise in insect anatomy and physiology got him a job in London, Ontario with the Canada Department of Agriculture. His work involved excursions to Baie Comeau in Quebec to quantitate the habits of the blackfly, by counting the larvae that swarmed onto inverted white metal cones which were moored in midstream of the rivers. He and his colleagues discovered that blackflies are open for business mainly during the hours of dawn and dusk. In another experiment they sat with patches of different colours on the backs of their shirts, exposing themselves to the blackflies, and found that khaki attracted the least and navy blue the most flies – a boost for the Army as compared to the Navy. During the month of June blackflies in wooded areas of Quebec were an economic disaster and a social nuisance, bringing the forestry work to a slowdown, putting cattle at risk and driving vacationers indoors. The data collected by Leon and his colleagues proved most useful for control of these wood pests.

Leon then decided to go into tropical medicine as a field of study with larger access to bugs and parasites. Since he was next door to the medical school of the University of Western Ontario, he started there in 1954, graduating in 1958 as M.D. with Honours. Aged 32 by this time, he had just met Jeanne, his future wife, who was then a graduate student in geography at Western.

Leon next showed up as an intern at Montreal's Royal Victoria Hospital, which he had picked because of the high reputation of its medical scientists. During this year he became aware of the MNI across the bridge and of Wilder Penfield, Allan Elliott and Ted Rasmussen. A few years earlier Elliott had established the new Donner Laboratory for Neurochemistry and claimed to be the first to use the title "neurochemist". Leon acquired a Fellowship from the National Research Council of Canada (which antedated the Medical Research Council) for a year and a half of study at the Maudsley Hospital in London, England with Professor Henry McIlwain. Ted Rasmussen had just started as Director of the MNI, succeeding Wilder Penfield, and he assured Leon of an appointment as Assistant Professor on his return from England. With McIlwain, Leon characterized the loss of histones from brain tissue kept cold in vitro. And he first became acquainted with the gangliosides in the brain, compounds that would take up his interest over many years.

As you know, our brains are stuffed with hundreds of chemicals. Some are simple – like water – which makes up an embarrassing 80% by weight of our brain, or glucose and oxygen, which supply most of the energy for our thinking. Cut these off for a few minutes and our brains go blank. But Leon's work with his research team dealt with the most complex of brain compounds - esoteric substances such as gangliosides, prostaglandins, leukotrienes, thromboxanes, lipofuscins,



Leon queries a question (1994)

Leon and Daniel Guitton compare neuropilophilic solutions (1994)



dolichols, and eicosanoids. Working with his colleagues in neurology, genetics and pathology, he became a master detective in unraveling the relationships of these arcane chemical factors in a number of eponymic neurological disorders such as Kuf's syndrome, Batten's disease, and the syndromes of Tay-Sachs, Hermansky-Padlack, Fabry and Krabbe.

The action in the Donner laboratory was driven by Leon's passionate curiosity and sustained by his enduring enthusiasm. He was elected by the Medical Research Council of Canada as a Canada Career Investigator and later became Killam Professor in the Department of Neurology and Neurosurgery at the Montreal

Neurological Institute as well as Professor of Biochemistry at McGill University. A member of McGill's Centre for Aging and the Nutrition and Food Science Centre, he also lectured to students in the Faculties of Medicine and Science. He published over 200 papers and contributed generously of his editorial talents to a half-dozen specialty journals, being as well Chair of the Publications Committee of the International Society for Neurochemistry.

Leon's advent from New Zealand, by way of Cambridge and the University of Western Ontario to McGill represents a shining example of the Neuro's "brain gain" over the past seventy years. In the early days of the Institute, Penfield, Cone, Jasper, Erickson and Rasmussen had all come from the USA. They were followed by Elliott from South Africa by way of Cambridge, Pappius from Poland, Milner from Cambridge by way of the Université de Montréal, Gloor from Switzerland and many others from many different parts. And two more New Zealanders, Terry Peters and Christopher Thompson, joined us in the 1970s to become pioneers in the research and development of our brain imaging program by CAT, PET and MRI.

Leon would have been aware of another New Zealander by the name of Ernest Rutherford, who also studied at Canterbury College and Cambridge University. He was then offered and accepted a position here on the McGill faculty. That was 100 years ago. His pioneer research on radioactivity of atoms during the five years or so he spent at McGill, gained him a Nobel prize in chemistry in 1908, not long after he returned to England.

Leon and Donald Tower, former MNI Fellow and Neurochemist, who became Director of the National Institute for Neurological Diseases and Blindness, Bethesda; MD, MSA (1978)



Leon's work also epitomized the Neuro's strong connections with McGill. When Allan Elliott took on the McGill Chair of Biochemistry in 1965, Leon became Director of the Donner Laboratory at the Neuro as well as Professor of Biochemistry at McGill. Another example of his interaction with McGill was the acquisition from the MRC by a half-dozen McGill departments of a mass spectrometer instrument, which has been invaluable for identifying small quantities of organic products. In 1995 Leon gave the distinguished Hughlings Jackson Lecture of the MNI summarizing his research on brain lipids.

In a tribute, his colleague Hanna Pappius writes, "Leon's enthusiasm for science in general and his global view of it, his deep knowledge and understanding of the brain and its workings, his ready willingness to share his ideas, made him an exciting colleague. He read widely, loved music and art, played the piano, was a potter, collected stamps, was a bridge player, all with boundless energy. Life in his orbit was never dull and was a privilege".

For many reasons, Leon would have enjoyed the recently released film, *The Lord of the Rings*, based on Tolkien's stories. First of all its Director, Peter Jackson, born in New Zealand, saw to it that the film was shot either near Wellington or in the country just south of Auckland, where the Hobbit "Shire" was created. The film features footage of the wild, snow-capped mountains, the land-sweep of green valleys and the deep-canyoned rivers of the country where Leon grew up as a young man. Perhaps we can imagine the metaphor of Leon, later in his life, the inspired neuroscientist, as Tolkien's Gandalf the wizard, leading his team of loyal Hobbits - Pappius, Lowden, Spence, Coceani, Wherrett, Heller, and many others – through exciting neurochemical territories.



Finally, we may all reflect with admiring satisfaction on the accomplishments of Leon's life. His work and spirit will live on here at the Neuro, to which he gave so much. To paraphrase the wise advice of Gandalf to Frodo Baggins, "Do what you have to do in the time that you have to do it".



Leon as director of the Donner Laboratory for Neurochemistry, 1994

A GIANT HAS LEFT

BY JEAN H. GAGNON, M.D., FRCP(C), FACR

Dr. Robert G. Fraser, Radiologist-in-Chief at the Royal Victoria Hospital and Chairman of Radiology at McGill during the 60's and 70's died last April in his home in Birmingham, Alabama.

Robert Gordon Fraser was born in Winnipeg in 1921. Undergraduate studies in Toronto were followed by an M.D. from the University of Manitoba in 1945. After a year of general practice in Ontario and a short period in the Royal Canadian Navy, he completed a year of Pathology at the Washington University School of Medicine in St-Louis and a Radiology residency at the Royal Victoria Hospital. He obtained his fellowship in medicine from the Royal College by examination and became certified by the American Board of Radiology and the Quebec College of Physicians. He then joined the Faculty of Radiology at McGill and rose to the rank of Professor in 1968 and Chairman of the Department in 1971, a position he held until 1976. Thereafter, he was appointed Professor of Radiology at the University of Alabama at Birmingham achieving Emeritus status in 1988.



The giant Dr. Robert Fraser with his staff at the Royal Victoria Hospital ,circa 1972



Bob Fraser was active in many organizations in Canada and in the United States. He held several key positions in the Canadian Association of Radiologists and served as its President in 1970-1971. He was first Vice-President of the American Roentgen Ray Society (1972-1973) and a member of the Council of the Royal College of Physicians and Surgeons of Canada (1975-1976). He was Consultant in Radiology at the Canadian Forces Medical Council from 1969-1976 and advisor in Radiology, Department of Veterans Affairs, Canada from 1970-1976. He had been a member of the Advisory Committee of the Leo G. Rigler Center for Radiology Sciences at the University of California from its inception in 1971. He was a founder of the exclusive international and inter-disciplinary Fleischner Society and was its first President in 1970.

Dr. Fraser was a member of many scientific organizations and served on the editorial boards of the CAR Journal, Investigative Radiology and Applied Radiology.

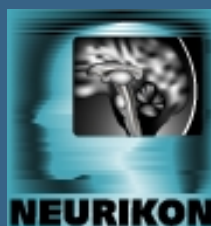
During his career, Dr. Fraser was honoured with Fellowships by the American College of Radiology, the American College of Chest Physicians and the Royal College of Radiology of the United Kingdom. He received gold medals from the Chicago Medical and Radiological Societies, the American Roentgen Ray Society and the Radiological Society of North America. He was named a Living Legend by the American College of Radiology. He was also awarded a Doctor of Science Degree (Honoris Causa) at McGill in 1994.

Bob Fraser was a superb teacher who always stressed the importance of team work with colleagues of other specialties with whom his background in pathology, physiology and clinical medicine would result in constructive and beneficial discussions conducted in a casual atmosphere, never losing sight of the seriousness of the matter. He was a leader as an educator and his informal teaching at the view box and at rounds was always most entertaining and stimulating. His formal lectures and presentations were meticulously prepared, clearly and beautifully delivered. He was an enormously popular lecturer and was invited to present no less than 27 national and international lectureships and annual orations.

A tireless and productive scientific researcher, Dr. Fraser authored or co-authored more than 80 scientific articles and exhibits and participated in seven books, but he will be remembered specifically for his outstanding standard reference of pulmonary radiology multi volume text Diagnosis of Diseases of the Chest initially written with Dr. J.A.P. Paré and in later editions co-authored by both of the original authors' sons and the late Dr. George Genereux. The textbook is now translated in five languages and is a reference of most medical libraries throughout the world.

..... and he will be warmly remembered for his "joie de vivre"

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