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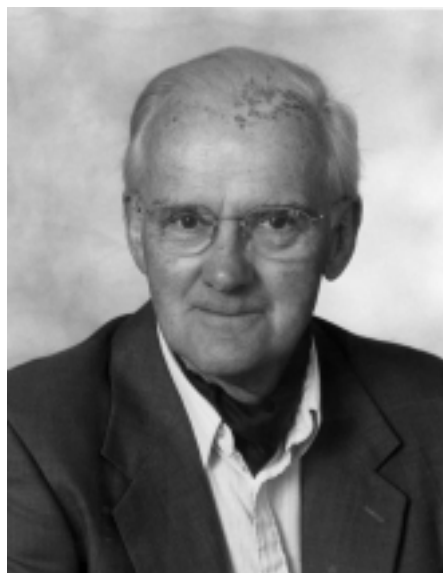
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THE 1999 W. A. JOHNSTON MEDALLIST, JAMES C. RITCHIE



The Johnston Medal honours Canadian geologist William Albert Johnston and is awarded by CANQUA in recognition of career excellence in Quaternary research. I am delighted to nominate James C. Ritchie, who is fittingly the first Canadian paleoecologist to receive this medal.

Born in Scotland and now retired in Somerset, England, Jim spent his entire professional career in Canada. Having already written about the details of his career in the introduction to a festschrift volume in his honour (*Review of Paleobotany and Palynology*, 1993, Vol. 79), allow me this shorter, stream-of-consciousness version: a Ph.D in botany from Sheffield in 1955 for taxonomic work on hybridization of blueberries, postdoctoral studies at the Jardin botanique de Montréal and then the University of Manitoba, followed shortly by his first academic appointment at the University of Manitoba where he became immersed in boreal ecology, quite literally when his canoe broke up in the rapids of the Caribou River in northern Manitoba, emerging 4 weeks later and 28 pounds leaner and hungrier for phytosociological studies of the boreal forest, eventually wondering about the development of boreal forests, took up pollen analysis, first contributing significantly to the newly emerging subject of pollen-vegetation relationships through the analysis of surface samples, then detailed studies of the postglacial vegetation history of western Canada, a move to Dalhousie University soon followed by another to the University of Toronto where he spent

the greatest part of his career, an enormously fruitful and exciting period focused on vegetation and climate of eastern Beringia, his career culminating in North Africa where he studied beautifully multi-coloured laminated lake sediments from hyper-arid regions where today you couldn't squeeze enough moisture out of the soil to quench the thirst of a fly.

No Canadian paleoecologist has achieved as great an international standing in Quaternary research as Jim Ritchie. The fundamental reason for his original contributions lies in the fact that he was educated as a botanist so that he brought a biological perspective to the interpretation of pollen data. He thus emphasized the dynamism of changing plant communities, which was all too often forgotten or ignored by researchers with a purely geological background for whom pollen diagrams were primarily stratigraphic tools for establishing chronologies or blocking in major vegetation changes. The second and perhaps most important reason for his success stems from his break away from pollen analysis as "I came, I saw, I cored" – the stamp-collecting approach – to an insistence in his own and others' work on posing a question at the outset of a project.

Jim has published over 80 scientific papers. Remarkably, he is the sole or senior author on all but 17 of his refereed papers and the sole author on more than a third of them. The quality of his papers is reflected in the fact that they appeared in the best general journals, such as *Science* and *Nature*, the best Quaternary journals, such as *Quaternary Research*, and the best ecology journals, such as *Ecology* and *Journal of Ecology*. Jim is equally proud of his two books, which are outstanding syntheses of an enormous melange of data into masterpieces of coherency. His second book, *Postglacial Vegetation of Canada*, won the prestigious Cooper Prize from the Ecological Society of America for a distinguished contribution to geocology, and remains widely cited.

To mention just a few of the honours that Jim Ritchie has garnered, he was awarded a DSc. from the University of Aberdeen, is a founding member and former president of the Canadian Botanical Association and won its George Lawson Medal for lifetime contributions to Canadian botany in 1985, sat on the editorial boards of the *Canadian Journal of Botany* and *Géographie physique et Quaternaire*, was elected a Fellow of the Arctic Institute of North America in 1972 and its Governor and Vice-Chairman in 1976, served on numerous national grant selection committees and commissions and on a number of INQUA committees, was a Killam Research Scholar, became a Fellow of the Royal Society of Canada in 1989, and is a Professor Emeritus of the University of Toronto.

Jim never had a large stable of students. His students and postdocs had enormous resources and were limited only by their imaginations. He was an ideal supervisor, leaving students to their own devices and, without ever looking over their shoulders, somehow knowing what they were up to, providing guidance and encouragement at just the right moment. All of us were treated as colleagues, not students, were imbued with a passion for research, and provided the wherewithal to fulfill our ambitions. His unspoken motto is "Work hard and play hard". I can remember when I was a fresh Ph.D student on fieldwork with Jim in the MacKenzie River area. We were staying in the Red-5-12, a small (as the numbers suggest) cabin at the Inuvik Scientific Research Lab. After a night of imbibing, I was awoken by Jim at 6:00 a.m., amid a sea of dented pots and

pans that had served as musical instruments, to go flying. I still remember how guilty I felt at bailing out. My only satisfaction was that my replacement and colleague in merriment, who shall remain nameless, painted a green picture of that flight - for himself, not Jim.

A rich, international genealogy of paleoecologists begins with Jim. We are all proud of our academic descent and to be able to call Jim a friend. We celebrate Jim as the 1999 Johnston Medal recipient.

Les C. Cwynar
University of New Brunswick

ACCEPTANCE TEXT

I am greatly honoured and enormously delighted to accept this prestigious award from CANQUA. My profound sense of pleasure and satisfaction has three elements. First of course, I look on it as a great privilege to be honoured by the Association, and I am most grateful to the selection committee, my nominator, and those who have written in support of the nomination. My career as an active Quaternary scientist is virtually over, and the Association has capped it for me with this notable and cherished award. Secondly, in spirit, I am sharing it with those young researchers who chose to work with me in the palaeoecology laboratory on the Scarborough Campus of the University of Toronto, and if they read this text they will understand my thought. Their energy, excellence and superb collaboration brought us a measure of success, and I certainly learned from them as much they did from me. However, I was able to initiate some of these colleagues into the finer points of the appreciation of malt whisky. Now they are scattered around the world advancing our knowledge of Quaternary science with distinction, so as I look at this medal, in my mind I will append such names as Keith Bennett, Les Cwynar, Konrad Gajewski, Kate Hadden, Sigrid Lichti-Federovich, Glen MacDonald, Lynn Ovenden, Chris Rogers, Ray Spear, and Lynda Taylor. And thirdly, I am delighted to be the first representative of palaeoecology and the life sciences to have received this medal.

It will be obvious to many that when I reflect now on what impact I might have had on Quaternary science, the contributions of those colleagues, also close friends, mentioned above are an integral part. Investigation of Late-Quaternary vegetation and environment was a career switch, begun in the late fifties while at the University of Manitoba. The underlying goal of my turn to palaeoecology flowed from my doctoral investigations in evolutionary ecology, and I wrote in the introduction to my first contribution that this research "might fill a small part of the distinct gap in the structure of evolutionary theory... by establishing more exactly the nature of past environmental changes". Three decades later, I have little to show for these grand ideals, as pollen analysis is impotent to make the linkage to such evolutionary mechanisms as speciation, particularly on the time scales of the Holocene and Late-Pleistocene. However, from my current position on the fringes of our science, I am watching with great interest as new research using DNA techniques applied to modern and fossil plant material is at last making it possible to test such major hypotheses as Hultén's explanation of amphiberian floristic patterns, and Stebbins' secondary contact explanation of arctic polyploidy.

So the main thrust of my research became the attempt to unravel the vegetation dynamics of the Western Interior of Canada, as the glaciers and massive glacial lakes receded to expose a region of varied topographic and edaphic characteristics. Frequent visits to the Limnological Research Center at the University of Minnesota were critical in my getting started in pollen analysis, and the continued interest and sound advice of Herb Wright in my work has been a source of encouragement and inspiration. My earlier work in plant community ecology convinced me that, as Knut Faegri had pointed out earlier, the key to understanding pollen diagrams was a detailed knowledge of the relationships between modern pollen spectra and landform-vegetation units. My colleagues at Manitoba, Doris and Askell Löve, provided a constant source of ideas and support. And in the early sixties I met the late Ed Deevey and that began a friendship and exchange of ideas centred around his "coaxing history to conduct experiments" viewpoint, culminating in the three years we spent together at Dalhousie. His endless patience and massive eclectic intellect were enormously influential and set me a standard of excellence that I could strive for but never reach.

The work in the Mackenzie Delta/Tuktoyaktuk region began with a suggestion from John Fyles that I might take over his summer allocation of flying hours there, as he was preoccupied with matters in Ottawa, so I spent that summer in the late sixties being flown around in a Cessna by Tommy Gordon, first ever Inuit pilot, absorbing the fascinating landscape and vegetation of that treeline region, collecting a suite of modern lake sediment samples, and selecting lake sites for future winter coring expeditions. So our investigations of modern pollen spectra, particularly in limnic muds, produced a set of data that has formed the core of the modern data bank for western Canada. The investigations in northwest Canada, particularly our demonstration of the Holocene history of treeline, would not have been possible without the generous helicopter and logistic support of the Polar Continental Shelf Project, then directed so wisely by George Hobson, the Inuvik Research Laboratory and its manager John Ostrick, and the generous annual allocation of radiocarbon dating by the Geological Survey through Wes Blake. A period of collaboration with Ken Hare led me to a keener appreciation of the importance and complexities of palaeoclimatic change in these high latitude regions.

New projects often began with lucky contacts. The late Bill Irving phoned one day and invited our lab to be part of the University of Toronto Northern Yukon Research Programme, and that led to several years of productive investigations and wonderful summer and winter fieldwork experiences, based at Old Crow, Inuvik and Tuktoyaktuk. Our work was particularly supported in both practical and intellectual ways by the interest and friendship of Jacques Cinq-Mars. Our contributions to an understanding of the full-glacial environment of eastern Beringia provoked much interest and not a little vigorous criticism, but recent contributions from other laboratories, using other proxies and refined climate reconstructions from general circulation models, have increasingly confirmed the validity of these findings. Then one evening at a social gathering in John Westgate's home, David Lubell invited me to join his archaeological project in Algeria, and that began what turned out to be a fruitful period of research into the Holocene environments of eastern North Africa. Tony Mills, director of the University of Toronto project at the Dakhleh Oasis in Saharan Egypt invited me to join, and several field seasons there served as a fine introduction to the fascinating problems of hyperarid environments. A formal link between our lab and the CNRS Pollen Laboratory at Montpellier, France, was very influential in the development of the North African work, and I owe a permanent debt for sound advice, friendship and support to Madeleine Van Campo, Jean Maley and other colleagues there. Perhaps the most important contribution flowed from an invitation from Vance Haynes to join his project, and our collaboration in the investigation of buried lake sediments in northern Sudan produced a landmark, detailed analysis of the Holocene environment of the eastern Sahara, confirming the hypothesis based on Milankovitch forcing of an enhanced early-Holocene African monsoon. My association with Vance Haynes, a scholar of unsurpassed insight and excellence, has been one of the highlights of my career.

An invitation during this period to join the COHMAP project opened new and exciting horizons for our lab, then the only Canadian participant in this international endeavour. Our annual workshops at Madison were among the most enjoyable and stimulating of my entire career. The intense and lively exchanges between those of us generating data on past environments around the globe, and the climate modellers, led superbly by John Kutzbach, were the basis of the development of fruitful new ideas for research and the establishment of lasting friendships. I am privileged to be involved still in one of the successor projects of COHMAP, the Biome 6000 consortium, under the leadership of the brilliant and dynamic pair, now at Jena, Colin Prentice and Sandy Harrison.

Throughout the seventies and eighties, the scientific (and social) life of our lab was enriched by visits of varying periods from distinguished colleagues from elsewhere, notably Patricia Anderson, Hilary and John Birks, Linda Brubaker, Geneviève Cambon, Hannu Hyvarinen, Anne-Marie Lézine, Bill Watts, and others. And my contacts and periods of work and teaching in the Québec laboratories of Serge Payette at Laval and Pierre Richard at the Université de Montréal, were both fruitful and satisfying, and helped us at Scarborough to maintain our bilingual character.

The strongest and richest memories from my scientific career are threefold. First is my affection for the wonderful landscapes of two quite different regions of the world — northern Canada, a love affair that began one day in the late summer of 1954, flying back to Churchill from the Polar Shelf base on Cornwallis Island, as I looked out over the vast and varied tapestry of tundra and lakes, stretching westward over Keewatin; and of course the magical landscapes of the eastern Sahara. Fieldwork in these regions was a source of deep satisfaction, and a rare privilege. Secondly, I look back with pleasure at the exciting days in the lab when the adrenalin flowed as we bandied about variably bizarre ideas to explain the new data as they emerged from the microscope and the computer. And thirdly, I rejoice in the large network of my true friends-of-the-Quaternary that has grown over the years, and who have contributed in differing ways to the occasion that has prompted these reminiscences. I thank them, and CANQUA, for this signal honour.

Jim Ritchie