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J. ROSS MACKAY, RECIPIENT OF THE 1993 W.A. JOHNSTON MEDAL

The W.A. Johnston Medal is the highest award of the Canadian Quaternary Association and is awarded for professional excellence in Quaternary research. Nominations can be made on behalf of anyone with a demonstrable record of achievement and publication that have contributed to Quaternary research in Canada or abroad. The nominator must be a member of the Canadian Quaternary Association and the nominee may be a researcher residing anywhere in the world. Normally the award is presented biennially at the General Meeting of the Association. Further information on the background of the W.A. Johnston Medal is given by Morgan (1988)¹ in the preamble of the first award announcement.

CITATION FOR THE 1993 AWARD OF THE W.A. JOHNSTON MEDAL

John Ross Mackay was born in Formosa of Canadian parents. In 1939 he graduated with a B.A. from Clark University and two years later obtained an M.A. from Boston University. He returned to Canada and enlisted in the Armed Forces (1941-1946), rising in rank from a private in the Royal Canadian Artillery to a Major in the Canadian Intelligence Corps. In 1946 he joined the Department of Geography at McGill University as an Assistant Professor and was there until 1949. In 1949 he obtained a Ph.D. from the Université de Montréal and accepted a position as Assistant Professor with the Department of Geology and Geography at the University of British Columbia. In 1953 Ross was promoted to Associate Professor and in 1957 to full Professor. Since 1981 he has been an Emeritus Professor at the University of British Columbia.

During his four decades at British Columbia Dr. Mackay gained international scientific recognition through his experimental and field investigations in geography, and especially on the topic of permafrost. His formidable publication record, over one hundred and ninety scientific communications in varied fields of endeavour, attests to his extensive research contributions in the Quaternary sciences. Samples of these publications are given in the selected bibliography listed below.

J. Ross Mackay has held several important offices in scholarly bodies, such as President of the Canadian Association of Geographers, President of the American Association of Geographers, Vice-President of the International Geographical Union, founding Secretary-General of the International Permafrost Association and Chairman of the Board of Governors of the Arctic Institute of North America. He has also served on many important national committees pertaining to environmental, geographical, geological and geotechnical matters.

Dr. Mackay has been honoured with many and diverse scientific awards, such as the Logan Medal of the Geological Association of Canada, the Miller Medal of the Royal Society of Canada and the Massey Medal of the Royal Canadian



Geographical Society. He was the first recipient of the Scholarly Merit Award of the Canadian Association of Geographers and the first recipient of the Roger J.E. Brown Memorial Award of the Canadian Geotechnical Society.

During his career, Ross served on the editorial boards of six international scientific journals. International recognition of his research contributions are demonstrated by his appointments as an Honourary Member to both the Chinese Society of Glaciology and Geocryology, and the Geographical Society of the U.S.S.R. He was also the first recipient of the G.K. Gilbert Award of the Association of American Geographers and was awarded the Kirk Bryan Award of the Geological Society of America. In 1986, Ross received further international recognition by the award of the Vega Gold Medal of the Swedish Society of Anthropology and Geography, presented by the King of Sweden.

A Fellow of the Royal Society of Canada and a Fellow (foreign) of the Russian Academy of Natural Sciences, Dr. J. Ross Mackay has received four honourary doctorate degrees (for contributions in geography, geology and environmental studies) from the universities of Ottawa (1972), Waterloo (1981), Victoria (1986) and British Columbia (1987). He has been honoured by the Government of Canada in the form of a Centennial Medal, a Silver Jubilee Medal, he was awarded the Order

^{1.} Morgan, A.V., 1988. Victor K. Prest, first recipient of the W.A. Johnston medal. Géographie physique et Quaternaire, 42: 3-5.

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of Canada in 1982, and was the first recipient of the Centenary Medal for Northern Science presented by Govenor General Sauvé in 1984.

By completion of his formal teaching service at the University of British Columbia, Ross had supervised six masters and eight doctoral students. His contributions are continued through the professional activities of these students. Since "official" retirement in 1981, Ross has continued to teach (voluntarily) a graduate course, undertake summer and winter field research in the western Arctic and has published twenty five papers in refereed journals.

In recognition of substantial academic and research contributions to the Quaternary sciences, the CANQUA awards committee has selected J. Ross Mackay as the recipient of the 1993 W.A. Johnston Medal.

Bruce E. BROSTER Chair, Johnston Medal Committee

RESPONSE BY J. ROSS MACKAY

When I received word of the W.A. Johnston Medal from CANQUA I felt honored and was carried back in time to more than fifty years ago. Before I enlisted in the army in 1941, I was interested in the physiography (now the Quaternary history) of the Ottawa-Gatineau area and had purchased copies of Johnston's "Late Pleistocene Oscillations of Sea Level in the Ottawa Valley", Geol. Surv. Canada Mus. Bull. 24, 1916 and "Pleistocene and Recent Deposits in the Vicinity of Ottawa with a Description of the Soils", Geol. Surv. Canada Mem. 101, 1917. In late 1941, after completion of basic training near Toronto, I was sent for further training to the large artillery camp at Petawawa, on the Ottawa River. I took Johnston's two publications there with me. Since I hoped to continue with graduate studies after the war and had spare time for reading in the winter evenings, I wrote for reprints to several individuals who had published on the Ottawa Valley. The response, particularly from Dr. D.F. Putnam (University of Toronto) was most helpful to me. In late 1945, after the end of the war, I was stationed in Ottawa waiting for my discharge. Because cars were not available, I bought an army surplus Harley-Davidson motorcycle, not without misgivings, for weekend field work near Ottawa. After discharge I was fortunate in obtaining a teaching position at McGill, starting in the fall of 1946. Finally, in 1947, I was able to publish my first paper, a short note, on "The North Shore of the Ottawa River, Quyon to Montebello, Quebec" in the Revue Canadienne de Géographie, Volume 1 (Mackay, 1947). In rereading the paper for the writing of this response, I discovered, with pleasure, that the first reference in my paper was to Johnston's 1916 monograph on the Ottawa Valley, cited earlier. Although the Revue has since been renamed Géographie physique et Quaternaire (GpQ), the volume numbers continue from that of Volume 1, 1947.

When I came to UBC in 1949 I was reminded, once again, of Johnston's contributions to Quaternary research, this time through his Fraser River Delta Memoirs referred to by Bill Mathews in his 1991 W.A. Johnston Memoirs response (*GpQ*, 1992, 46: 6-7). After retirement in 1981, I started giving some of my library material to other colleagues. When I gave Johnston's GSC Memoir 125 on "Sedimentation of the Fraser River Delta" to a young colleague, he said in thanks "this is a classic."

In closing, I would like to express my thanks to CANQUA for the W.A. Johnston Medal, a much appreciated honor. In a very real sense, my indebtedness to Johnston has come around full circle.

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SELECTED BIBLIOGRAPHY

- Mackay, J.R., 1947. The north shore of the Ottawa River. Revue canadienne de Géographie, I (2-3): 3-8.
- —— 1949. Physiography of the lower Ottawa Valley. Revue canadienne de Géographie, Ill: 53-96.
- —— 1952. Physiography of the Darnley Bay area, NWT. The Canadian Geographer, 2: 31-34.
- —— 1953. Fissures and mud circles on Cornwallis Island, NWT. The Canadian Geographer, 3: 31-37.
- ----- 1954. Geographic cartography. The Canadian Geographer, 4: 1-14.
- 1955. An Analysis of isopleth and choropleth class intervals. Economic Geography, 31: 71-81.
- —— 1956. Deformation by glacier-ice at Nicholson Peninsula, NWT, Canada. Arctic, 9: 218-228.
- —— 1957. Field observation of patterned ground. Canadian Alpine Journal, 40: 91-96.
- —— 1958. The valley of the Lower Anderson River, NWT. Geographical Bulletin, 11: 37-56.

- —— 1959. Glacier ice-thrust features of the Yukon coast. Geographical Bulletin, N 13: 5-21.
- —— 1960. Crevasse fillings and ablation slide moraines, Stopover Lake area, NWT. Geographical Bulletin, 14: 89-99.
- Mackay, J.R., Mathews, W.H. and MacNeish, R.S., 1961. Geology of the Engigsteiak archaeological site, Yukon Territory. Arctic, 14: 25-52.
- Mackay, J.R., 1962. Pingos of the Pleistocene Mackenzie Delta area. Geographical Bulletin, 18: 20-63.
- —— 1962. Some cartographical problems in the field of special (thematic) maps. Canadian Cartography, 1: 42-47.
- —— 1963. The Mackenzie Delta Area, NWT. Geographical Branch Memoir Department of Mines and Technical Surveys, Ottawa, 8, 202 p.
- Mackay, J.R. and Terasmae, J., 1963. Pollen diagrams in the Mackenzie Delta area, NWT. Arctic, 16: 229-238.
- Mackay, J.R. and Mathews, W.H., 1964. The role of permafrost in ice-thrusting, Journal of Geology, 72: 378-380.
- MacKay, D.K. and Mackay, J.R., 1965. Historical records of freeze-up and break-up on Churchill and Hayes rivers. Geographical Bulletin, 7: 7-16.

- Mackay, J.R., 1965. Glacier flow and analogue simulation. Geographical Bulletin. 7: 1-6.
- —— 1965. Gas-domed mounds in permafrost, Kendall Island, NWT. Geographical Bulletin, 7: 105-115.
- —— 1966. Segregated epigenetic ice and slumps in permafrost, Mackenzie Delta area, NWT. Geographical Bulletin, 8: 59-80.
- —— 1966. Thick tilted beds of segregated ice, Mackenzie Delta area, NWT. Periglacial Bulletin, 15: 39-43.
- Mackay, J.R. and Stager, J.K., 1966. The structure of some pingos in the Mackenzie Delta area, NWT. Geographical Bulletin, 8: 360-368.
- Brink, V.C., Mackay, J.R., Freyman, S. and Pearce, D.G. 1967. Needle ice and seedling establishment in southwestern BC. Canadian Journal of Plant Science, 47: 135-139.
- Mackay, J.R., 1967. Permafrost depths, Lower Mackenzie Valley, Northwest Territories. Arctic, 20: 21-26.
- —— 1967. Underwater patterned ground in artificially drained lakes, Garry Island, NWT. Geographical Bulletin, 9: 33-44.
- ——— 1968. Discussion of the theory of pingo formation by water expulsion in a region affected by subsidence. Journal of Glaciology, 7: 346-350.
- —— 1969. The perception of conformality of some map projections. Geographical Review, 59: 373-387.
- —— 1970. Lateral mixing of the Liard and Mackenzie rivers downstream from their confluence. Canadian Journal of Earth Sciences, 7: 111-124.
- —— 1970. Disturbances to the tundra and forest tundra environment of the Western Arctic, Canadian Geotechnical Journal, 7: 420-432.
- ——— 1971. The origin of massive icy beds in permafrost, Western Arctic coast, Canada. Canadian Journal of Earth Sciences, 8: 397-422.
- Krouse, H.R. and Mackay, J.R., 1971. Application of H₂¹⁸O/H₂¹⁶O abundances to the problem of lateral mixing in the Liard-Mackenzie River system. Canadian Journal of Earth Sciences, 8: 1107-1109.
- Mackay, J.R., 1972. The world of underground ice. Annals of the Association of American Geographers, 62: 1-22.
- Mackay, J.R., Rampton, V.N. and Fyles, J.G., 1972. Relic Pleistocene permafrost, Western Arctic, Canada. Science, 176: 1321-1323.
- Mackay, J.R., 1972. Application of water temperatures to the problem of lateral mixing in the Great Bear — Mackenzie River system. Canadian Journal of Earth Sciences, 9: 913-917.
- —— 1972. Offshore permafrost and ground ice, Southern Beaufort Sea, Canada. Canadian Journal of Earth Sciences, 9: 1550-1561.
- Mackay, J.R. and Mathews, W.H., 1973. Geomorphology and Quaternary history of the Mackenzie River Valley, near Fort Good Hope, NWT, Canada. Canadian Journal of Earth Sciences, 10: 26-41.
- Mackay, J.R., 1973. The growth of pingos, Western Arctic Coast, Canada. Canadian Journal of Earth Sciences, 10: 979-1004.
- —— 1973. A frost tube for the determination of freezing in the active layer above permafrost, Canadian Geotechnical Journal, 10: 392-396.
- —— 1974. Reticulate ice veins in permafrost, Northern Canada. Canadian Geotechnical Journal, 11: 230-237.
- Mackay, J.R. and Mathews, W.H., 1974. Needle ice striped ground, Arctic and Alpine Research, 6: 79-84.
- —— 1974. Movement of sorted stripes, The Cinder Cone, Garibaldi Park, BC, Canada. Arctic and Alpine Research, 6: 347-359.
- Mackay, J.R., 1974. Ice-wedge cracks, Garry Island, NWT. Canadian Journal of Earth Sciences, 11: 1366-1383.
- Mathews, W.H. and Mackay, J.R., 1975. Snow creep: Its engineering problems and some techniques and results of its investigation. Canadian Geotechnical Journal, 12: 187-198.
- Mackay, J.R., 1975. The closing of ice-wedge cracks in permafrost, Garry Island, NWT. Canadian Journal of Earth Sciences, 12: 1668-1674.

- ——— 1976. On the origin of pingos a comment. Journal of Hydrology, 30: 295-298.
- Mackay, J.R. and MacKay, D.K., 1976. Cryostatic pressures in nonsorted circles (mud hummocks), Inuvik, Northwest Territories. Canadian Journal of Earth Sciences, 13: 889-897.
- —— 1977. The stability of ice-push features, Mackenzie River, Canada. Canadian Journal of Earth Sciences, 14: 2213-2225.
- Mackay, J.R., 1977. Pulsating pingos, Tuktoyaktuk Peninsula, NWT. Canadian Journal of Earth Sciences, 14: 209-222.
- —— 1978. Sub-pingo water lenses, Tuktoyaktuk Peninsula, Northwest Territories. Canadian Journal of Earth Sciences, 15: 1219-1227.
- ——— 1978. Contemporary pingos. Periglacial Bulletin, 27: 133-154.
- Mackay, J.R. and Burrous, C., 1979. Uplift of objects by an upfreezing ice surface. Canadian Geotechnical Journal, 16: 609-613.
- Mackay, J.R., 1979. Pingos of the Tuktoyaktuk Peninsula area, Northwest Territories. Géographie physique et Quaternaire, 23: 3-61.
- —— 1980. The origin of hummocks, Western Arctic Coast, Canada, Canadian Journal of Earth Sciences, 17: 996-1006.
- —— 1981. Active layer slope movement in a continuous permafrost environment, Garry Island, Northwest Territories, Canada. Canadian Journal of Earth Sciences, 18: 1666-1680.
- —— 1981. Aklisuktuk (Growing Fast), Pingo, Tuktoyaktuk Peninsula, Northwest Territories. Canada. Arctic. 34: 270-273.
- —— 1983. Downward water movement into frozen ground, Western Arctic Coast, Canada. Canadian Journal of Earth Sciences, 20: 120-134.
- Mackay, J.R. and Matthews Jr., J.V., 1983. Pleistocene ice and sand wedges, Hooper Island, Northwest Territories. Canadian Journal of Earth Sciences, 20: 1087-1097.
- Mackay, J.R., 1984. The direction of ice-wedge cracking in permafrost: Downward or upward? Canadian Journal of Earth Sciences, 21: 516-524.
- —— 1984. The frost heave of stones in the active layer above permafrost with downward and upward freezing. Arctic and Alpine Research, 16: 439-446.
- 1985. Pingo ice of the Western Arctic Coast. Canadian Journal of Earth Sciences, 22: 1452-1464.
- 1986. Growth of Ibyuk Pingo, Western Arctic Coast, Canada, and some implications for environmental reconstruction. Quaternary Research, 26: 68-80.
- —— 1986. Frost Mounds. The Canadian Geographer, 30: 363-364.
- —— 1987. The first 7 years (1978-85) of ice wedge growth, Illisarvik experimental drained lake site, Western Arctic Coast. Canadian Journal of Earth Sciences, 23: 1782-1795.
- —— 1987. Some mechanical aspects of pingo growth and failure, Western Arctic Coast, Canada. Canadian Journal of Earth Sciences, 24: 1108-1119.
- —— 1988. The birth and growth of Porsild Pingo, Tuktoyaktuk Peninsula, District of Mackenzie. Arctic, 14: 267-274.
- —— 1989. Ice-wedge cracks, Western Arctic Coast. The Canadian Geographer, 33: 365-368.
- Mathews, W.H., Mackay, J.R. and Rouse, E.G., 1989. Pleistocene geology and geomorphology of the Smoking Hills Upland and lower Horton River, Arctic Coast of mainland Canada. Canadian Journal of Earth Sciences, 26: 1677-1687.
- Mackay, J.R. and Slaymaker, O., 1989. The Horton River breakthrough and resulting geomorphic changes in a permafrost environment, Western Arctic Coast, Canada. Geografiska Annaler, Series A, Physical Geography, 71A: 171-184.
- Mackay, J.R., 1990. Some observations on the growth and deformation of epigenetic, syngenetic and antisyngenetic ice wedges. Permafrost and Periglacial Processes, 1: 15-29.
- ——— 1990. Seasonal growth bands in pingo ice. Canadian Journal of Earth Sciences, 27: 1115-1125.

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- —— 1992. The frequency of ice-wedge cracking (1967-1987) at Garry Island, Western Arctic Coast, Canada. Canadian Journal of Earth Sciences, 29: 236-248.
- Mackay, J.R. and Dallimore, S.R., 1992. Massive ice of the Tuktoyaktuk area, Western Arctic Coast, Canada. Canadian Journal of Earth Sciences, 29: 1235-1249.
- Mackay, J.R., 1993. The sound and speed of ice-wedge cracking, Arctic Canada. Canadian Journal of Earth Sciences, 30: 509-518.
- —— 1993. Air temperature, snow cover, creep of frozen ground, and the time of ice-wedge cracking, Western Arctic Coast. Canadian Journal of Earth Sciences, 30: 1720-1729.