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Commentaire

COMMENT ON “TOPOGRAPHICALLY-CONTROLLED DEGLACIAL HISTORY OF THE HUMBER RIVER BASIN, WESTERN NEWFOUNDLAND”, BY M. J. BATTERSON AND N. R. CATTO

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I first encountered what became Lake Howley in 1991 when I reviewed a manuscript proposing the brief existence of an 1 850 km² glacial lake, shortly before 12.3 ka BP, during deglaciation of the basins of Grand Lake and Deer Lake, west central Newfoundland. Another colleague and I concurred with revision of the manuscript then rejection of its successor, based on long lists of objections to the interpretation of evidence, and the non-consideration of alternative scenarios. I suggested the name for the lake, in case its existence could be adequately demonstrated, honoring J.P. Howley, second Director of the Newfoundland Geological Survey, after whom a railway town was named, the site of which was covered by the proposed lake. The rejected paper later appeared in a UK journal (Batterson et al., 1993) with acknowledgement to reviewers for “useful discussion”, thus ensuring that we would not be chosen as reviewers again.

I wrote a Discussion of this paper (Brookes, 1995), concisely outlining objections, which were answered by the authors (Batterson et al., 1995). In the same year, on a CANQUA field excursion in western Newfoundland led by two of the authors, the route passed a new exposure which added definitive evidence against the proposed existence, extent, and age of glacial Lake Howley, and which was recognised as such (albeit quietly) by both parties to the dispute (Batterson, 1997; Brookes, 1997).

Batterson (1997) and later in a provincial government report (Batterson and Catto, 2001), and then in the present paper (Batterson and Catto, 2001, published in 2003, the second author appearing as supervisor of the dissertation), gave glacial Lake Howley a “revised configuration”, reducing its size to 650 km², and restricting its extent to the trough occupied by Grand Lake, the deepest glacial trough in insular Newfoundland (Batterson and Catto, 2001: 222-223). Overflow northeastwards was obstructed by glacial ice extending to Halls Bay, whereas an outlet was identified at its west extremity, draining into Harrys River lowland.

Brookes (1995) objected to this outlet on the grounds that deposits around the supposed western outlet, identified as outwash by Batterson et al. (1993), were previously mapped (and later confirmed) as subglacial (Brookes, 1974; Grant, 1991). These deposits continue southwest along the flank of Harrys River lowland, where an esker system crosses the Indian Head Range through meltwater channels and a glacial trough into the hummocky Robinsons Head moraine inland of Stephenville. Abutting this moraine, a marine kame delta at 29 m is dated at 12.6 ka BP, and could not therefore have been the route followed by Lake Howley overflow. The interpretation of Brookes (1995), based on previous work (Brookes, 1970, 1974, 1977) has been disputed in an obviously self-servving interpretation of radiocarbon dates from further west of Stephenville (Batterson et al., 1995; Bell et al., 2001, 2002), which leaves sufficient time for Harrys River lowland to become an ice-free overflow route of Lake Howley.

Apart from differences of interpretation at the Lake Howley outlet and beyond, Batterson and colleagues have omitted consideration of a more parsimonious interpretation of shoreline features above Grand Lake, an objection originally raised by Brookes (1995). Features such as deltas and weakly developed levels interpreted as strandlines (Batterson and Catto, 2001: 221; Batterson, 2003: 32) occur on the steep slopes of Grand Lake trough, not only Newfoundland’s deepest glacial trough, but also adjacent to a major centre of glacial outflow on the Topsails Plateau, which, the present paper shows, shed ice westwards towards Gulf of St. Lawrence, across this trough. It is therefore least likely that the trough was deglaciated earlier than surrounding plateaus and lowlands. These shoreline features are more easily interpreted as formed in water bodies accumulated between plateaus deglaciated by surface downwasting and glacial ice lingering in Grand Lake trough, that is as glacier marginal lakes. Such an origin is noted by these authors as proposed earlier for ice-marginal deltas around nearby Birchy Lake (Liverman and St. Croix, 1989), but it is not considered for the Grand Lake features in the present paper or other publications cited here. Nor is any evidence or glaciological...
**REPLY TO COMMENT ON “TOPOGRAPHICALLY-CONTROLLED DEGLACIAL HISTORY OF THE HUMBER RIVER BASIN, WESTERN NEWFOUNDLAND”**

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We are pleased to note that Dr. Brookes continues his interest in the Quaternary geology of Newfoundland. Although we respect the work of Dr. Brookes and acknowledge his many contributions to research in Newfoundland, we must disagree with his comments on glacial Lake Howley. We, among with other colleagues, regretfully have a long standing difference of opinion with Dr. Brookes regarding the re-interpretation of the late-glacial history of western Newfoundland. The publication of the Batterson et al. (1993) paper in the *Journal of Quaternary Science*, in which glacial Lake Howley was introduced as a feature of deglaciation in western Newfoundland, generated a useful and informative discussion and reply (Batterson et al., 1995; Brookes, 1995). New exposures of Quaternary sediment at the mouth of Deer Lake allowed for a continued discussion of late-glacial events in the Humber River valley (Batterson, 1997; Brookes, 1997). Subsequently, a reappraisal of exposures of Quaternary sediment by Bell et al. (2001) was also the subject of a discussion and reply (Bell et al., 2002; Brookes, 2002).

Dr. Brookes’ discussion of our current paper appears to have two main thrusts. Firstly, that glacial Lake Howley could not have drained through the Harrys River valley into northern St. George’s Bay because this area was ice-covered at 12.6 ka.