

Letter to the Editor

Another Meech Lake Problem

With the "Meech Lake Accord" constantly in the news these days, it is amusing to recall that Meech Lake was once the centre of a major discussion among Canadian geologists on the age sequence of Precambrian provinces. The precise feature on which this discussion focussed was the Meach Lake conglomerate, discovered in 1925 by J.B. Mawdsley while he was skiing through the Gatineau (Mawdsley, 1930). Three outcrops of the conglomerate were located, all lying to the north of the lake (Figure 1).

The conglomerate was described by Mawdsley as consisting of rather loosely cemented pebbles or boulders of syenite, biotite schist, and quartzite, ranging up to 1.5 feet in diameter. Other rocks in the area comprise typical Grenville gneisses and schists, with exposures of a porphyritic syenite very close to the conglomerate. Mawdsley concluded that the conglomerate lay unconformably upon the syenite. Since the Grenville rocks were obviously older than the Meach Lake conglomerate, the age of the latter, if it could be determined, would be crucial in placing the Grenville Province in its proper time sequence — an unsolved problem of great interest in 1930. Unfortunately, beyond the fact that the conglomerate was cut by pegmatite dykes, and that it was unfoliated, uncrushed and unaltered, no direct evidence on its age was available. Mawdsley was greatly impressed by the fact that the conglomerate had escaped deformation, and, influenced by the then recent work of W.H. Collins (1925) on the relatively undeformed Huronian rocks in the Lake Huron area, he inferred that the conglomerate was Huronian in age. The conclusion then followed that the Grenville Province was pre-Huronian.

The time relationship of the Grenville to other provinces of the Canadian Shield remained controversial until ages based on radioactive decay became available. The author can recall heated discussions, as late as 1950, in which Mawdsley's paper was quoted as evidence for the great age of the Grenville. Modern geochronology dates the Grenville as 1000-1500 Ma *younger* than the Huronian, and the Meach Lake conglomerate is presumably the result of rather local deposition which took place after the major Grenville orogeny.

The purpose of this note is not to criticize a pioneering and interesting observation by Mawdsley, who was to have a long and distinguished career in Canadian geology, but rather to emphasize again the great difficulties of Precambrian correlation in the days before the present methods of geochronology were available. It is also to point out that the politicians have no exclusive claim to Meech Lake.

References

- Collins, W.H., 1925, North Shore of Lake Huron: Geological Survey of Canada, Memoir 143, 160 p.
 Mawdsley, J.B., 1930, The Meach Lake conglomerate. A conglomerate, probably of Huronian age, occurring within the Grenville subprovince: Royal Society of Canada, Transactions, Section IV, p. 99-117.

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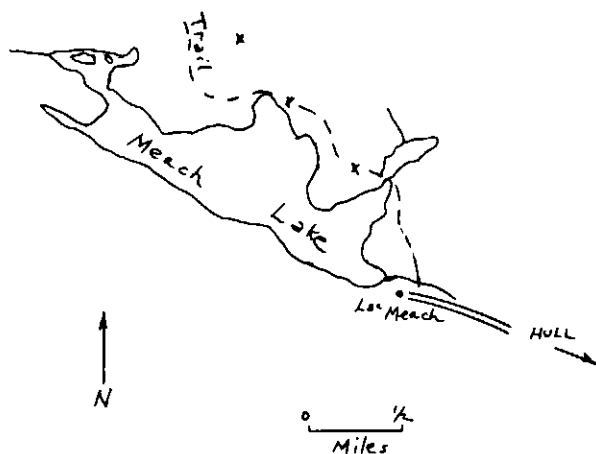


Figure 1 Sketch of Meach Lake, showing three outcrops of conglomerate, marked with 'x' (after Mawdsley, 1930). Although the area is within Gatineau Park, access to these locations may now be restricted.

[Editorial Note: Yet Another Meech Lake Problem: The spelling of Meach Lake was changed officially, in 1982, to Meech Lake, hence the apparent discrepancy in spelling.]