

## **The plate tectonic revolution and MUN paleomagnetism are fifty years old!**

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Fifty years ago, most geologists and geophysicists interpreted the paleomagnetic record as evidence for true polar wander, not continental drift. This suddenly changed when Vine and Matthews realized that the magnetic anomaly pattern on the sea floor was a paleomagnetic record of sea floor spreading. They published in the fall of 1963 and precipitated the plate tectonic revolution. This was also when paleomagnetism (and geophysics) began at MUN with the appointment of Ernie Deutsch who was already a strong supporter of continental drift. Deutsch soon attempted paleomagnetic tests of Tuzo Wilson's ocean cycle hypothesis and in 1970 G.S. Murthy and I joined him. We found that tests for primary magnetization were crucial for success because the early Paleozoic and older rocks that we studied were often remagnetized.

Paleomagnetism at MUN has come full circle and is now focused on testing for radical true polar wander. Paleomagnetic evidence from Laurentia has been used to hypothesize that the entire mantle and crust "tumbled" through 90 degrees and back again in the mid-Ediacaran. If so, this tumbling should be recorded paleomagnetically on all continents. Data from Avalonia does not support the hypothesis as I shall briefly demonstrate.