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Rodrigues and Hamilton: A question about rotations.

In 1840 Rodrigues wrote a paper about the laws of geometry that control the displacement of a solid system in space. This work was a precursor to Hamilton's quaternions. Rodrigues' work went unnoticed until 1846 when Cayley acknowledged Euler's and Rodrigues' priority describing orthogonal transformations in a letter to the Editors of the Philosophical Magazine.

In this talk it will be shown that one can derive Rodrigues rotation formula from Hamilton's biquaternionic formula for rotations. By doing this one can see that Rodrigues and Hamilton came to the same conclusions about rotations using different paths. The similarities and differences between Rodrigues' and Hamilton's approach will also be discussed. (Received August 14, 2019)