

1163-01-867

Johannes C Familton* (jfamilton@bmcc.cuny.edu), 199 Chambers Street, New York, NY 10007. *Olinde Rodrigues' most famous work.*

In 1840 Rodrigues wrote a paper about the laws of geometry that control the displacement of a solid system in space. This work preceded 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.

This paper was originally written in French. It may be considered Rodrigues' most famous piece of scientific work, yet in the 178 years since its publication, except perhaps for excerpts, it has yet to be translated into English as a full transcript, as far as we know. Dr. Lucio Prado and Dr. Johannes Familton started translating this paper in 2017, but never completed the task. Dr. Richard Friedberg, one of Dr. Familton's former advisors, has now been translating the entire paper. Dr. Familton has been intimately and continuously involved in the process of translation. Through this process we have uncovered just how deep and self-contained the paper is.

In this talk, Dr. Familton will discuss the history of Rodrigues' work, and his 1840 paper. He will also give some of the insights that he and Dr. Friedberg have discussed and discovered as a result of struggling through this paper in its original form. (Received September 13, 2020)