

1056-01-1072 **Menolly Lysne*** (mlysne@alumni.sfu.ca), 8888 University Dr, Burnaby, B.C. V5A 1S6,
Canada. *Understanding Early Laplacian Simplifications*. Preliminary report.

In 1772, Pierre Simon Laplace (1749-1827) wrote a memoir entitled "Sur le principe de la gravitation universelle et sur les inégalités séculaires des planètes qui en dépendent" (On the principle of universal gravitation and on the secular inequalities of the planets which depend on it). At one point in this memoir, Laplace arrives at a system of partial differential equations that he did not have methods to solve exactly. He dealt with this problem by developing a method of simplification in order to solve this system. In the following years, Laplace decided that this method could be used as a general method for simplifying complicated equations. This talk will investigate the method itself and the validity of Laplace calling this a general method. I will argue that while Laplace was able to obtain solid results using his method, it could not be considered general because it was not easily repeatable using Laplace's instructions. (Received September 20, 2009)