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Lagrange, Sufficient Reason, and Space. Preliminary report.

A well-known story, at least partially true, about Lagrange is that in 1806 he read a memoir on Euclid's parallel postulate to the Acadmie des Sciences in Paris, but stopped and said, "I've got to think about this some more." We will look at Lagrange's unpublished Paris manuscripts on this subject, and set this activity into a picture of his career. We'll also look at how these manuscripts are related to his general philosophy of mathematics and to his use of Leibniz's Principle of Sufficient Reason. We will also reflect on what this episode tells us about Cartesian and Enlightenment attitudes about geometry and space. (Received September 14, 2005)