

Meeting: 1002, Pittsburgh, Pennsylvania, SS 3A, Special Session on The History of Mathematics

1002-01-107 **Michel Pierre Serfati*** (serfati@math.jussieu.fr). *The development of the mathematical thought of the young Descartes.*

This paper is devoted to the young Descartes and to the development of his mathematical thought from 1618 to 1629, since the meeting with Beeckman until his departure towards Holland. One can distinguish various steps in the progressive maturation of the mathematical thought of Descartes in these earlier cartesian mathematics, previous to the *Gomtrie*. The mathematical features of some cartesian texts of the time are thus examined : the letter to Beeckmann (26th march 1619) and the *Cogitationes Privatae*, then the Rules for the direction of the mind, and finally the discovery of the construction of the solutions of equations of third and fourth degree, which has been conclusive for the awakening of Descartes as a mathematician. A figure of thought, the so-called medium term which is central in young Descartes, as well as three of its mathematical embodiments, proportional means, cartesian compasses, and rule-and-slide, are especially highlighted.

Key-words: Rules for the direction of the mind; proportional means; cartesian compasses; admirable discovery. (Received September 09, 2004)