Gottfried Wilhelm Leibniz's "Nova Methodus pro Maximis et Minimis" (A New Method for Maxima and Minima) stands as a seminal work in the history of mathematics, particularly in the development of calculus. Composed in 1684, this Latin treatise is a pivotal contribution to the understanding of mathematical optimization and introduces fundamental concepts that remain integral to calculus.

In "Nova Methodus," Leibniz presents a systematic method for finding maxima and minima of functions, a central problem in calculus. His innovative approach involves introducing the concept of differentials and employing a symbolic notation that significantly facilitates mathematical expressions. Leibniz's notation, including the use of dy/dx for derivatives and ∫ for integrals, has become the standard language of calculus, highlighting the lasting impact of "Nova Methodus."

The notation of Leibniz's work stands as the main difference between his work and Newton's. Newton's notation was rather inconsistent, but Leibniz was strict and thorough with his notation.

This treatise marks the culmination of Leibniz's independent development of differential calculus. The work not only demonstrates his profound understanding of mathematical analysis but also reveals his vision for a unified mathematical language. Leibniz's notational system, characterized by its clarity and flexibility, played a crucial role in the dissemination and widespread adoption of calculus.

"Nova Methodus" contributes not only to the theoretical foundations of calculus but also showcases its practical utility in solving problems related to optimization and motion. Leibniz's ability to bridge the abstract realm of mathematics with real-world applications is evident in his exploration of curves and surfaces, providing a comprehensive framework for solving problems in geometry and physics.

"Nova Methodus pro Maximis et Minimis" stands as a testament to Leibniz's pioneering contributions to calculus and mathematical notation. His work laid the groundwork for the development of calculus and remains a cornerstone in the history of mathematics, influencing generations of mathematicians and scientists.

Sack, H. (2019). *Leibniz and the Invention of Integral Calculus*. SciHi. http://scihi.org/leibniz-integral-calculus/