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Abstract for Keynote Speaker

Helvetian Readings of Newton. The Geneva Edition of the *Principia* in the Context of the Scientific Networks of Cramer and Calandrini

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Abstract. As is well known, contemporaries of Gabriel Cramer (1704-1752) and Jean-Louis Calandrini (1703-1758) likened the two men with the mythological figures of Castor and Pollux. So inseparable were they in their youth that they were jointly appointed to the then newly-created chair of mathematics at the Académie de Genève in 1724. This arrangement allowed them to divide their academic duties so that while one was teaching the other could take time to travel and extend his circle of scientific acquaintances at places near and far, ranging from Basel and Paris to Leiden and London. Cramer alone could count Daniel and Nikolaus I Bernoulli, Leonhard Euler, Abraham de Moivre, Edmond Halley, Alexis Clairaut, and Pierre Louis Maupertuis among his friends and acquaintances. Through his reputation as a mathematician and his close ties to Basel, he was later commissioned to edit the works of Johann I Bernoulli and the *Varia opera* of Jacob Bernoulli.

Calandrini's name is above all associated with the Geneva edition of Isaac Newton's (1642-1727) *Principia*, to which he is considered by to have contributed some of the most significant commentaries. While many questions relating to the production of the edition remain unanswered, it is clear that the scholars whose names grace the title page, Thomas le Seur (1703-1770) and François Jacquier (1711-1788), both accomplished mathematicians in their own right, greatly valued Calandrini's many additions. In the preface, they explicitly point out that he had taken upon himself the labour not only of checking the various engraved figures and correcting typographical errors, but also of writing comments on conic sections. Furthermore, they commend his having elucidated with his own notes those of their own comments that appeared to him to have not been treated clearly enough. One suspects, however, that even this praise does not go far enough, for there is evidence Calandrini did far more.

The talk will focus on previously under-researched aspects of the Geneva edition that have come to light through investigating the extensive correspondence networks of Cramer and Calandrini, in which the Bernoullis, Jakob Hermann, Leonhard Euler, Clairaut, and others play an important role. Among the questions that will be considered are the extent to which these networks can throw light on the editors' decisions to include commentaries and the nature of Calandrini's own contributions.

Selected References

Arrighi G (1975) Jean-Louis Calandrini (1703-1758) e il suo commento di Newton. Physis 17/1-2: 129-137.

Beeley P, Mac an Bhaird, C (2023) (eds) Mathematical Book Histories. Printing, Provenance, and Practices of Reading. Birkhäuser, Cham, *forthcoming*

Benguigi I (1998) Gabriel Cramer: illustre mathématicien, 1704-1752. Messieurs Cramer & cie, Genf.

Euler L (1980) Correspondance de Leonhard Euler avec C. Clairaut, J. D'Alembert et J. L. Lagrange. Opera Omnia Ser. Quarta A: Vol V. Birkhäuser, Basel

Euler L (2017) Correspondance de Leonhard Euler avec L. Bertrand, Ch. Bonnet, M.M. Bousquet, J. de Castillon, G. Cramer, Ph. Cramer, G. Cuenz, A. von Haller, G. L. Lesage, J. M. von Loen, J.C. Wettstein. Opera Omnia Ser. Quarta A: Vol VII. Birkhäuser, Basel.

Gagnebin B (1952) (ed) Gabriel Cramer, Lettres inédites à son imprimeur. Droz, Geneva—Giard, Lille.

Guicciardini N (2015) Editing Newton in Geneva and Rome. The annotated edition of the Principia by Calandrini, Le Seur and Jacquier. Annals of Science 72:237-280.

Le Roy G (1953) (ed) Condillac, lettres inédites à Gabriel Cramer. Presses Universitaires de France, Vendôme.

Newton I ([1739-1742]1822) Philosophiae Naturalis Mathematica Principia, auctore Isaaco Newtono, Eq. Aurato, perpetuis commentariis illustrata, communi studio Pp. Thomae Le Seur et Francisci Jacquier ex Gallicana minimorum familia, matheseos professorum. Editio nova. Duncan, Glasgow.

Newton I (1972) Philosophiae Naturalis Principia Mathematica. The Third Edition (1726) with Variant Readings. Assembled and edited by A. Koyré and I B Cohen, with the assistance of A. Whitman. HUP, Cambridge—Mass.

Speziali P (1955) Une correspondance inédite entre Clairaut et Cramer. Revue d'histoire des sciences VIII:193-237.

Speziali P (1983) Léonard Euler et Gabriel Cramer. In: Kanton Basel-Stadt. Leonhard Euler 1707-1783. Beiträge zu Leben und Werk. Birkhäuser, Basel, pp. 421-434.

Taton R (1969) M. du Châtelet, traductrice de Newton. Archives internationales d'histoire des sciences 22:185-210.

Trembley J (1987) (ed) Les savants genevoise dans l'Europe intellectuelle du XVIIe au milieu du XIXe siècle. Éditions du Journal de Genève, Geneva.