

M.G. Agnesi, R. Rampinelli and the Riccati family: A cultural fellowship formed for an important scientific purpose, the *Instituzioni analitiche* [☆]

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Abstract

The intense correspondence that developed between Rampinelli, Agnesi and the Riccatis from 1745 to 1752 documents with a wealth of details the exchange of scientific ideas that arose around the writing and printing of *Instituzioni analitiche ad uso della gioventù italiana*. Reconstructing the history and significance of this undertaking can help us understand the role that Agnesi's work played in the mathematics and general culture in Italy at the time, as well as the farsightedness of her tutors and supporters. It can also help demonstrate why today we no longer consider valid the judgments that Loria and Truesdell passed on this exemplar of a female intellectual.

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Sommario

Il copioso epistolario che fra il 1745 e il 1752 si sviluppò fra Ramiro Rampinelli, Maria Gaetana Agnesi e la famiglia Riccati, il padre Jacopo Riccati e i figli Giordano e Vincenzo, documenta, con ricchezza di dettagli, il dialogo scientifico intrecciato intorno alla redazione, composizione e stampa delle *Instituzioni analitiche ad uso della gioventù italiana* di Agnesi. Ricostruire la storia e il significato di quest'impresa, per così dire collettiva, può contribuire a comprendere il ruolo che l'opera di Agnesi svolse nella matematica e nella cultura italiana dell'epoca e la lungimiranza dei suoi maestri e sostenitori. Può inoltre mostrare le ragioni per cui oggi non riteniamo più validi i giudizi espressi da Gino Loria e Clifford A. Truesdell su questa figura di intellettuale al femminile.

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*Not every learned man makes a good teacher, nor is he able to transmit to others what he knows. Rampinelli, however, was marvellously endowed with this talent.*¹

1. Introduction

“Shortly after I arrived in Milan I had the pleasure of meeting the Maiden Countess Donna Maria Agnesi who was well versed in the Latin and Greek languages, and even Hebrew, as well as other more familiar tongues; moreover, she was well educated in the most important Metaphysics, the Physics of the day and Geometry, and she knew enough of Mechanics for the purposes of Physics; she had a little knowledge of Cartesian algebra, but all self-acquired as there was no one here who could enlighten her. Therefore she asked would I not assist her in that study, to which I agreed, and in a short time she had, with extraordinary strength and depth of talent, wonderfully mastered Cartesian algebra and the two infinitesimal Calculi,² to which she added the application of these to the most lofty physical matters. I assure you that I have always been and still am amazed by seeing such talent and such depth of knowledge in a woman as would be remarkable in a man, and in particular by seeing this accompanied by quite remarkable Christian virtue.”³

On 9 June 1745, Ramiro Rampinelli (1697–1759) thus presented to his main scientific interlocutor of the time, Giordano Riccati (1709–1790), the talents of his Milanese pupil Maria Gaetana Agnesi (1718–1799), who was near to completing a treatise on mathematical analysis designed to instruct young students. In order to complete this important project, he requested the material aid of the mathematicians from the Riccati family, above all the famous Count Jacopo (1676–1754), and his sons Giordano, who at the time resided with his father in Castelfranco Veneto, and the Jesuit Vincenzo (1707–1775), who had been teaching mathematics at the *Collegio di Santa Lucia* in Bologna since 1739.

The intense correspondence that developed between Rampinelli, Agnesi and the three Riccatis from 1745 to 1752 – now available in a critical online edition – documents with a wealth of details the fascinating exchange of scientific ideas that was born around the writing, editing and printing of *Instituzioni analitiche ad uso della gioventù italiana* (‘Introduction to Analysis for the Use of the Youth of Italy’). Reconstructing the history and significance of this undertaking (which we may call collective) can help us understand the role that Agnesi’s work played in the mathematics and general culture in Italy at the time, as well as the farsightedness of her tutors and supporters. It can also help demonstrate why today we no longer consider valid the excessively severe judgments that G. Loria [Loria, 1903, 388; 1904, 339; 1936, 453–455] and C.A. Truesdell passed on this exemplar of a female intellectual [Truesdell, 1989; 1991].

2. The protagonists

Regarding the subjects of our study, the biographical notes and comments on Agnesi and her cultural context [Frisi, 1799; Cantù, 1836; Anzoletti, 1900; Masotti, 1940; Gliozzi and Orlandelli, 1960; Mazzotti, 2007; Minonzio, 2000; Roero, 2011; Roero and Luciano, 2013; Findlen et al., 2009] and the three

¹ Brognoli, 1785, 85: «Non tutti i dotti sono capaci di essere istruttori, né sanno comunicare agli altri quello che sanno. Il Rampinelli di questo talento era maravigliosamente dotato.»

² I.e. Differential and Integral Calculus.

³ R. Rampinelli to G. Riccati, 9 June 1745 [Mazzone and Roero et al., 2010, 1745, letter 143]. «Poco dopo, che io venni in Milano ebbi il piacere di conoscere la Signora Contessa Donna Maria Agnesi Zittella molto versata nelle lingue Latina, Greca, ed anco Ebraica, oltre altre più famigliari; di più molto dotta nelle migliori Metafisiche, e nella moda Fisica, nella Geometria, e nelle Meccaniche quanto basta per la Fisica, aveva qualche notizia nell’algebra cartesiana, ma acquistata da sé, perché non aveva qui chi potesse darle lume. Volle per tanto, che io la servissi in tale studio, come ho fatto, ed in poco tempo con robustezza e profondità di talento straordinaria si è impossessata a meraviglia della Cartesiana, e de’ due Calcoli infinitesimali, al che si ha aggiunta l’applicazione di essi alle cose fisiche più sublimi. L’assicuro che mi ha sempre fatto, e mi fa stupore il vedere tanto talento, e tanto fondo di sapere in una Donna, che sarebbe particolare in un Uomo, e massime il vedere l’accompagnamento di una virtù morale cristiana molto particolare.»

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