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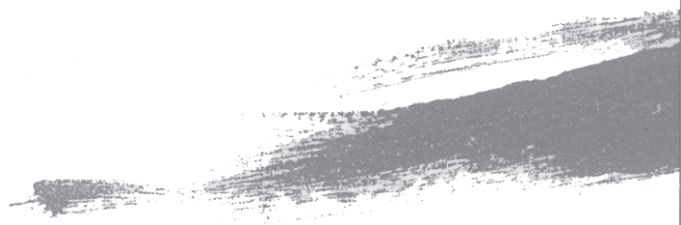
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**MATHEMATICS AND HYDRAULICS
BETWEEN TURIN AND FERRARA IN THE 18TH CENTURY:
THE WORKS BY F. D. MICHELOTTI AND T. BONATI**

Maria Giulia Lugaresi

Abstract. — During the 18th century mathematical studies devoted to hydraulic and hydrodynamics applications become relevant. The importance of studies both from a theoretical and a practical point of view is well documented by a remarkable increase of papers about the motion of waters. Many mathematicians were involved in this research field. They were asked to describe the motion of waters by means of mathematical formulas. Unfortunately, the motion of water can't be described by Euler's equations. That's why in this period many practical experiments were conducted in order to find a better description of the motion of waters in rivers and streams. After a brief overview of the condition of Italian studies about hydraulics and hydrodynamics in the 17th century, we will focus on case studies of Turin and Ferrara. In 1763 the King Carlo Emanuele III of Savoy financially supported the construction of a laboratory for hydraulic experiments in Turin and appointed Francesco Domenico Michelotti (1710–1787), professor of hydraulics at the university of Turin, with these experiments. In the same period another mathematician from Ferrara, Teodoro Bonati (1726–1820), was involved in similar studies and experiments on behalf of the Papal States. The scientific relationship

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Mots clefs. — Mathématiques appliquées au mouvement de l'eau, enseignement de l'hydraulique dans les universités et collèges italiens, consultant en hydraulique, Francesco Domenico Michelotti, Teodoro Bonati, expériences sur l'eau.