FRANCESCO OF FERRARA'S
"QUESTIO DE PROPORTIONIBUS MOTUUM"

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The editor presents the complete text of the *Questio de proportionibus motuum* composed by Francesco of Ferrara at Padua in 1352. The text has been prepared from its unique copy in Oxford, Bodleian Library, MS Can. Misc. 226, 58r-63r. An introduction by the editor indicates briefly the potential importance of the tract for the evaluation of the influence in Italy of Thomas of Bradwardine's *Tractatus de proportionibus*, written at Oxford in 1328 and constituting the point of departure for Francesco's work. The editor also establishes with virtual certainty that the unique copy of Francesco's treatise is in the hand of the author. The text is supplemented by an extensive *Index verborum* that includes philosophical and scientific terms, as well as the names of the authors on whom Francesco depended.

The development of the quantitative treatment of qualities and motions in the fourteenth century has received considerable scholarly treatment in the last generation. One of the problems connected with describing this development is to trace the spread of English treatises on natural philosophy to France and Italy. Important among such treatises was Thomas Bradwardine's *Tractatus de proportionibus* written in 1328\(^1\). Its earliest influence on an Italian author is evident in

\(^1\) Edited and translated by H. L. Crosby, Jr: *Thomas of Bradwardine, His Tractatus de proportionibus* (Madison, Wisc., 1955). Cf. also the *Tractatus brevis proportionum*
Johannes de Casali's *Questio de velocitate motus alterationis* composed in 1346. That influence is not surprising in view of Casali's residence in England. Less well known than Casali's treatment is the *Questio de proportionibus motuum* composed by Francesco of Ferrara in 1352 and extant in an unique copy: Oxford, Bodleian Library MS Can. Misc. 226, 58r-63r. Its main purpose is to explain and discuss the conclusions of Bradwardine's tract. And indeed Francesco refers to Bradwardine as *Magister proportionum* (see 58r, 13) or simply as *Magister* (59r, 19). I first called attention to Francesco’s treatise when I published excerpts from it in my *The Science of Mechanics in the Middle Ages*. Now almost twenty years later it seems appropriate to publish the full text in view of the increased interest in Bradwardine and his so-called “exponential function” relating velocity and the ratio of force to resistance. To keep the text within publishable bounds, I shall reserve detailed analysis of the text to some future publication. However, the reader may find some preliminary observations concerning Francesco’s dependence on Bradwardine’s work and his possible dependence on the works of Bradwardine’s successors at Merton College as well as on Casali’s tract in my earlier exposition. I should also note that the reader can easily find out how Francesco used earlier works if he consults the *Index verborum* under the following entries: Aristoteles, Phylosophus or Philosophus, Averroes, Commentator, Euclides (where there is also a reference to the *Liber de curvis superficiebus Archimendis* here falsely attributed to Euclid but in all likelihood written, or translated from an unknown author, by Johannes de


3 Cf. M. CLAGETT, *Nicole Oresme*, p. 70, n. 27.

