

Thomas of Bradwardine His
Tractatus de Proportionibus
Its Significance for the Development
of Mathematical Physics

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The University of Wisconsin Press
MADISON ~ 1955

Published by the University of Wisconsin Press
811 State Street, Madison, Wisconsin

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Distributed in Canada by Burns and MacEachern,
Toronto

Printed in the United States of America
by Cushing-Malloy, Inc., Ann Arbor, Michigan

Library of Congress Catalogue Card Number 54-6740

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CAPITULUM SECUNDUM

Istis introductoriiis praelibatis, ad illud quod propositum est ab initio accedamus. Et primo, more Aristotelis, reprobemus opiniones erroneas ut magis veritas patefiat. 1

Opiniones erroneae proposito pertinentes sunt quattuor, quarum prima ponit proportionem velocitatum in motibus sequi excessum potentiae motoris ad potentiam rei motae. Et hoc capit evidenciam primo De caelo et mundo, capitulo de infinito, ex textu dicente: "Proportionaliter oportet secundum excellentiam motoris," et ex dictis Averrois super quartum Physicorum, commento 71, dicentis quod, "Omnis motus est secundum excessum potentiae motoris super rem motam." Et septimo Physicorum, commento 35, sic dicit: "Velocitas propria unicuique motui sequitur excessum potentiae motoris super potentiam moti," et commento 39, scilicet ultimo, dicit sic: "Secundum excessum potentiae alterantis super potentiam alterati erit velocitas alterationis et quantitas temporis." Et multa similia asserit multis locis. 5 10 15

Haec autem opinio destrui poterit multis modis. Primo sic: Secundum istum modum sequitur quod, aliquo motore movente aliquod mobile per aliquod spatium in aliquo tempore, medietas motoris medietatem moti per medietatem excessus; sicut quaternarius excedit binarium per binarium, et medietas eius (scilicet binarius) excedit medietatem eius (scilicet unitatem) per unitatem tantum, quae est medietas prioris excessus. Et falsitas consequentis patet per Aristotelem, septimo Physicorum, in fine, ubi probat istam conclusionem: "Si aliqua potentia moveat aliquod mobile per aliquod spatium in aliquo tempore, medietas movebit medietatem per aequale spatium in aequali tempore." Et haec ratio Aristotelis satis probat, nam "similiter se habet et secundum eandem proportionem medietas ad medietatem sicut totum ad totum. Igitur motus sunt aequaveloces." 20 25 30

Secundo sic: Tunc sequitur quod, duobus motoribus moventibus duo mobilia per aequale spatium in aequali tempore, illi duo motores coniunctim non moverent illa duo mobilia coniuncta praecise per aequale spatium in aequali tempore, sed semper per duplum. Consequentia patet, quia excessus istorum duorum motorum coniunctorum ad ista duo mobilia coniuncta est duplus ad excessum unius istorum motorum super suum mobile; sicut quilibet binarius 35

Having looked with the underta after the manne so that the truth

There are fou investigation, th the speeds with whereby the pov the thing moved

This theory c De Caelo et Mu which reads: "I in excess, etc." the Physics, in ance with the e: thing moved." It ther states that with the excess moved," and in speed of alterat with the amount ation exceeds tl tion." Many othe

The present t First, accord mover moved a time, half of th the same distar tance. The cons ceeds the whole exceeds half th 4 exceeds 2 by by 1, which is o

That such a t tle proves, at power moves a half that power an equal time." is related to th whole, the two

Secondly, it f two mobilia thr conjoined, woul ly equal distanc distance. This the two movers is twice the exc