

# Quantification and the Quest for Medical Certainty

J. ROSSER MATTHEWS

Since its inception in World War II, the clinical trial has evolved into a standard procedure in determining therapeutic efficacy. However, the use of comparative statistics in a therapeutic context has a much longer history. Here J. Rosser Matthews discusses three crucial debates: that among clinicians before the Parisian Academy of Medicine in 1837, the debate in the German physiological literature during the 1850s, and, in the early twentieth century, the debate over the bacteriologist's diagnostic technique involving the "opsonic index."

Matthews demonstrates that despite the very real differences separating clinician, physiologist, and bacteriologist, they all shared an antipathy toward the methods of the statistician. Only when "medical decision-making" moved from the cloistered confines of professional medical expertise into the arena of open political debate could the medical statistician (and the clinical trial) gain the upper hand.

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## The History of Science

### Force and Geometry in Newton's *Principia*

FRANÇOIS DEGANDT

*Translated by Curtis Wilson*

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In Chapter I De Gandt presents a translation of and detailed commentary on an earlier and simpler version of what in 1687 became Book I of the *Principia*. Chapter II places this work in the intellectual context of earlier efforts—the first seeds of celestial dynamics in Kepler, Galileo's theory of accelerated motion, and Huygens's quantification of centrifugal force—and evaluates Newton's debt to these thinkers. Chapter III is a study of the mathematical tools used by Newton and their intellectual antecedents in the works of Galileo, Torricelli, Barrow, and other seventeenth-century mathematicians. The conclusion discusses the new status of force and cause in the science that emerges from Newton's *Principia*.

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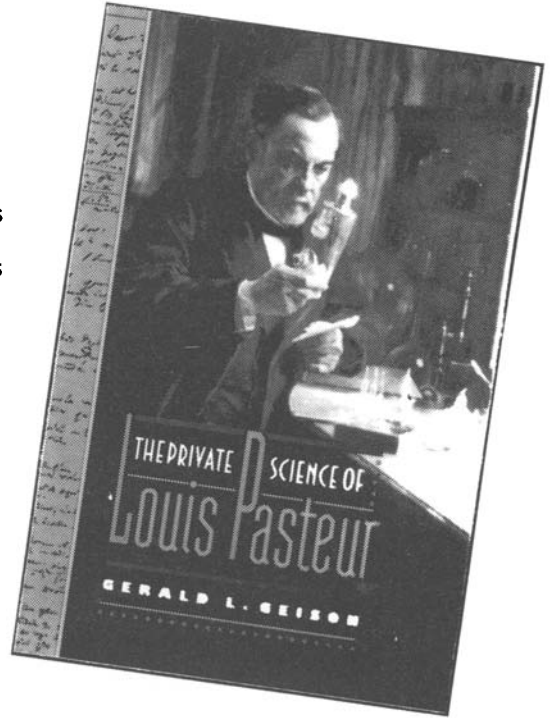
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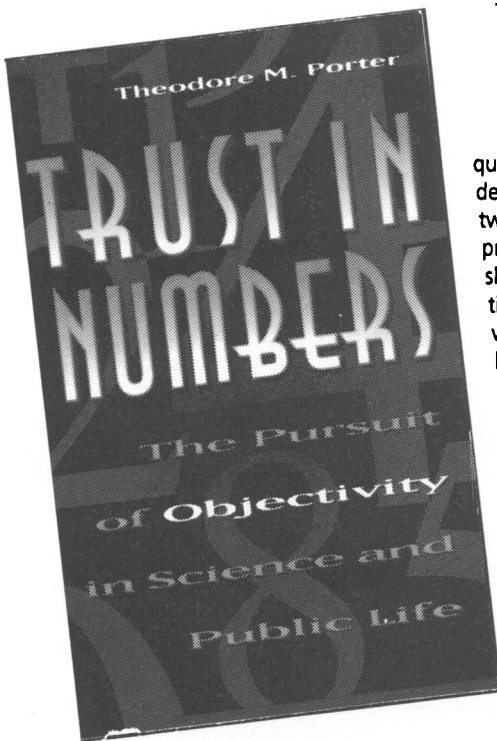
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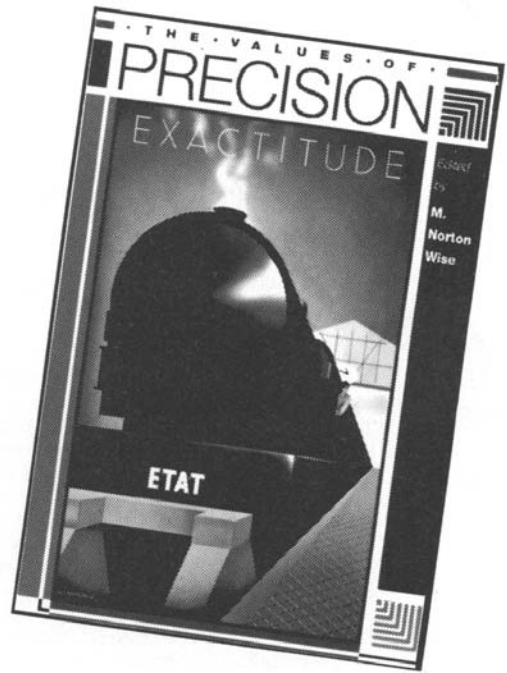
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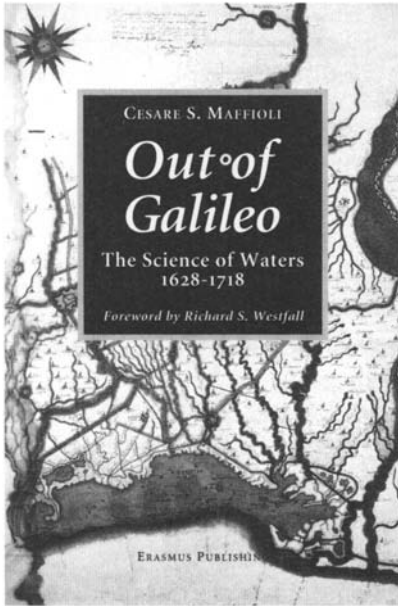
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