

The third edition of Newton's *Principia*, the last printed in his lifetime, is considered the definitive version of his great work.

Newton, Isaac. *Philosophiæ naturalis principia mathematica*. Third edition. Londini, G. & J. Innys, 1726. 9 7/8 inches (250 mm), 530 pp.

Newton's great work, by almost universal consent, the most significant book ever published in the exact sciences, was written (at least in part) to establish his claim to certain contested theories of celestial dynamics and planetary motion. Two years in the writing, it drew on many concepts formulated by Newton in his lectures and notes over the previous twenty years. But the book left some matters in doubt, to be cleared up or partially elucidated in two later revisions. Newton, for instance, had succeeded in showing that gravity could account for the movement of the heavens but had not provided a philosophical explanation for its effects. This inevitably led Newton to theological speculations linking God to Gravity, and the exact sciences to uncorrupted beliefs and observations of the Ancients. The calculation of the parabolic or elliptical orbits of comets and the role of such signs and portents in human history—Newton saw comets as managerial emissaries from God was further explored in the third edition reproduced here.

Newton kept an interleaved copy of the *Principia*, adding more material on methodology—on rules for the practice of natural philosophy. The 9 “Hypotheses” of the first edition were diminished by one and augmented by three for this third and final edition, in which they were reclassified into one Hypothesis (something unproved but “acknowledged by all” i.e., that “the center of the system of the world is immovable”), six *Phaenomena* (truths about the solar system on **Spreads 217–19**) and four *Regulae Philosophandi*. Three of these “Rules of Reasoning” were added to the second edition (1713). The fourth first appeared in this third edition (1726)—see **Spreads 215–16**—stating that if propositions have been inferred by general induction from phenomena as accurately or very nearly true, they could be accepted even if we can imagine contrary hypotheses. After 42 Propositions (**Spreads 219–85**), the work concludes with a *Scolium Generale* (**Spreads 285–87**) that first appeared in the second edition, in which Newton

insisted that “I frame no hypotheses ... It is enough that gravity does really exist, and act according to the laws which we have explained.” G.W. Leibniz (1646–1716) having died between the second and the third edition of the *Principia*, the conciliatory *Scolium* relating to his claims to independent discovery—Newton and he had quarreled over the invention of the differential calculus—was replaced with another that ignored the German philosopher altogether and made new assertions of priority (see **Spread 145, left**).

This third edition was the last published in Newton’s lifetime, and presents the definitive Latin text of the *Principia*. (The first and—even now—only English translation did not appear until 1729). The third is also the first edition to include a portrait of the author (aged 83)—see **Spread 7**. The edition was issued in three forms: 1000 copies were printed on ordinary paper, 200 on large paper, and 50 (although some authorities reduce this figure to 20 or even 12) on still larger and thicker paper. These last—the copy reproduced here is an example—were bound in a style known as “Harleian” (after the Earl of Harley, a mighty collector of the time), a dark red goatskin with a central gilt lozenge. The front pastedown bears the bookplate of the Earls of Clarendon, with the motto *Fidei Crux Coticula* (The Cross is the Touchstone of Faith). “The Grove” in Hertfordshire (now a hotel) was the Clarendon family seat from 1753 until the 1920s.