University of Reading

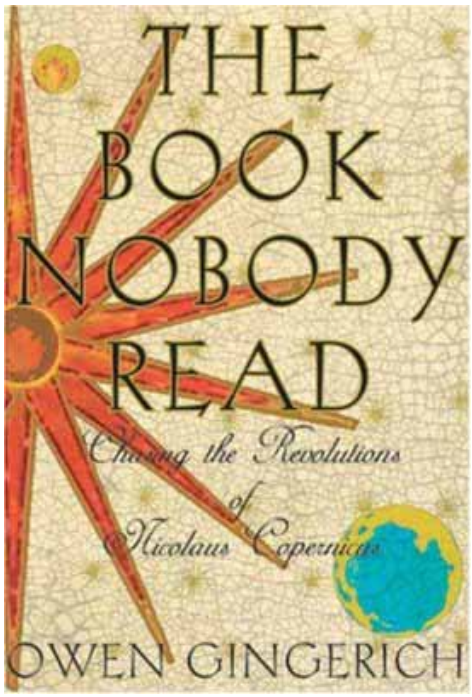
Nicolaus Copernicus, *De revolutionibus*,1566

Special Collections featured item for June 2005 by Carol Speirs, Rare Book Cataloguer

Nicolaus Copernicus, *De revolutionibus orbium coelestium* (2nd edition, Basel: Ex Officina Henricpetrina, 1566)

Item held in the Henley Parish Collection , University of Reading Library Special Collections

Owen Gingerich, a Harvard professor, was inspired by Arthur Koestler's claim in his book *The sleepwalkers* (a best selling history of early astronomy published in 1959) that nobody had read Copernicus's book *De revolutionibus orbium coelestium* when it was first published in 1543.



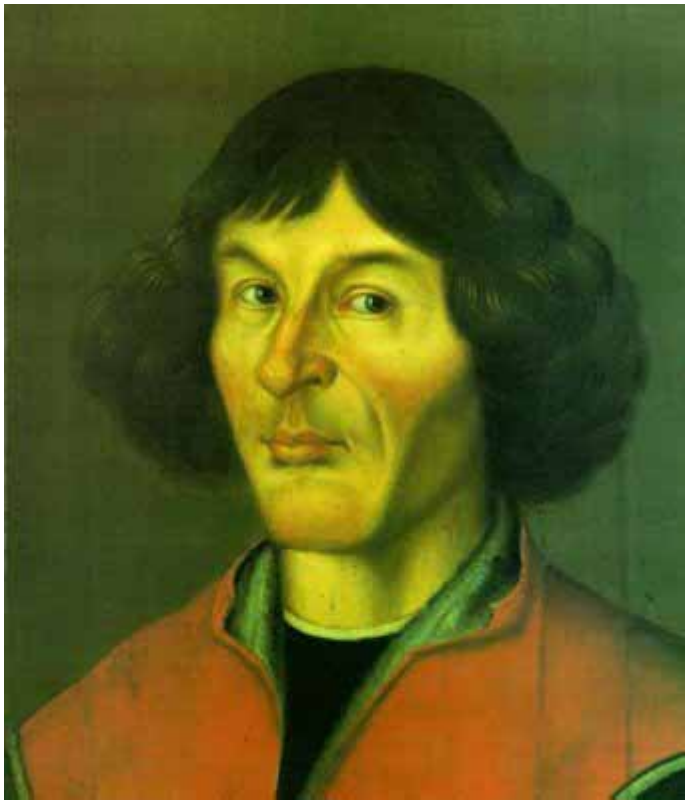
The book nobody read : chasing the revolutions of Nicholas Copernicus by Owen Gingerich, published in 2004, is the story of Gingerich's quest to prove Koestler wrong by locating all remaining copies of the first and second editions of Copernicus's book, which Gingerich published as *An annotated census of Copernicus's De revolutionibus*, a 400 page reference work. In this survey the provenance, annotations, marginal notes and condition of all known surviving copies were detailed. In order to do this Gingerich travelled the world to see every copy he could of the first and second editions of *De revolutionibus*.


NICOLAI
COPERNICI TO
RINENSIS DE REVOLVTIONI-
bus orbium cœlestium,
Libri VI.
IN QVIBVS STELLARVM ET FI-
XARVM ET ERRATICARVM MOTVS, EX VETE-
ribus atq recentibus observationibus, restituit hic autor.
Præterea tabulas expeditas luculentasq; addidit, ex quibus eosdem motus ad quodvis tempus Mathe-
maticum facillime calcu-
lare poterit.
ITEM, DE LIBRIS REVOLVTIONVM NICOLAI
Copernici Narratio prima per M. Georgium Ioachi-
mum Rheticum ad D. Ioan. Schone.
CUM GRATIA & PRIVILEGIO CAES. MAIEST.
BASILEAE, EX OFFICINA
HENRICPETRINA.

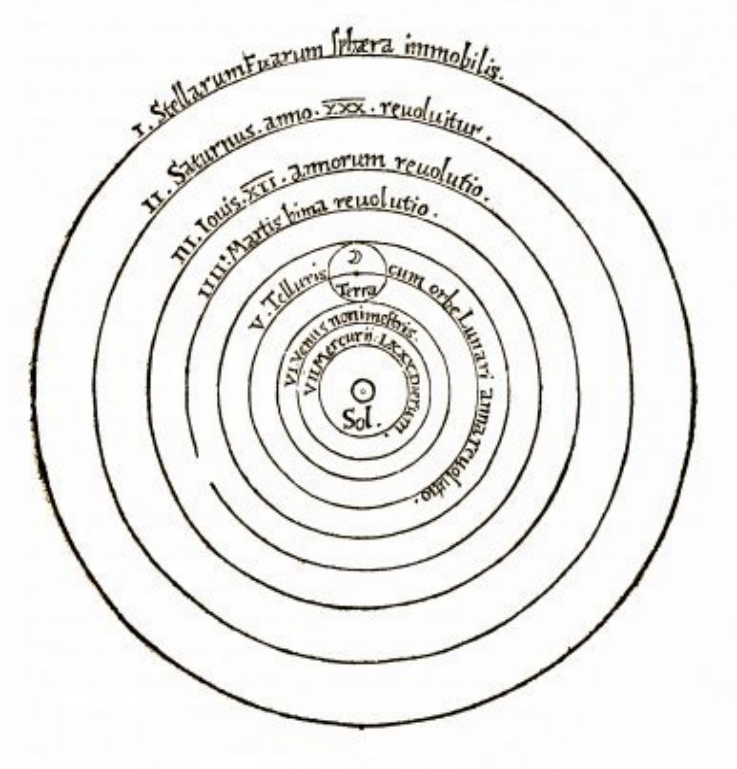
Title page of the copy of the second edition of De Revolutionibus by Copernicus in University of Reading Library.

We now know that the history of the making and publishing of *De revolutionibus* in 1543 is a story of Papal intrigue, drama, politics and a deathbed scene.

Nicolaus Copernicus was a Polish astronomer (1473-1543). Born in Torun, he began his university studies in Krakow in 1491, where he studied canon law and Latin and Greek classics. However he also had an interest in mathematics and astronomy. After obtaining his degree of Doctor of Canon Law in Italy in 1503, Copernicus returned home to Warmia in Poland to serve as Canon of the Cathedral Chapter of Frombork. It was from the turret in which he lived that he made his astronomical observations.



Portrait of Copernicus in Torun town hall, painted around 1560

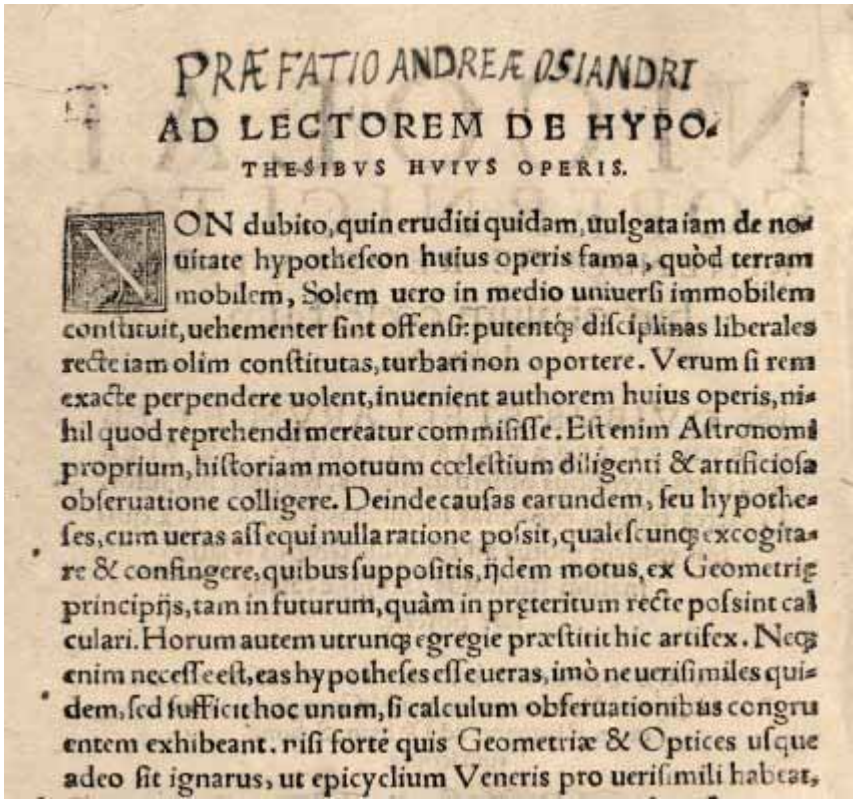


It was in the work De revolutionibus that Copernicus first presented the heliocentric model of the solar system, working out all the arithmetical details of a model consisting of the sun at the centre and the then known six planets – Mercury, Venus, Earth, Mars, Jupiter and Saturn –revolving around the sun in concentric circular orbits. This is exactly what Ptolemy had done for the geocentric model over a thousand years earlier, in the second century AD. Copernicus's work was accepted by fellow astronomers and Ptolemy's abandoned because De revolutionibus was simpler and more accurate.

Copernicus knew that these findings would lead him into trouble with the Roman Catholic Church, so he published a short summary in 1514 called *Commentariolus* and word of this extraordinary discovery spread amongst scholars of astronomy and mathematics. It was one such scholar, the Austrian Georg Rheticus (1514-1574), who travelled to Poland in 1539 and ended up staying for two years, during which he persuaded Copernicus to finally publish his findings. Myth has it that in the spring of 1543, as Copernicus lay on his deathbed, his fellow clerics brought him the printed pages of the *De revolutionibus*, the first and last time he saw his manuscript as a published book!

Though Copernicus did not live to hear of its extraordinary impact, the book which first suggested that the Sun, not the Earth, is the centre of the universe is now recognised as one of the most influential scientific works of all time.

The religious authorities at first did not react to the book's publication. This was most likely due to the addition of an anonymous preface, written by the publication's overseer, Andreas Osiander (1498-1552). This took the form of an unsigned Letter to the reader directly after the title-page, which maintained that the hypothesis was merely a device to simplify calculations. [*In Reading's copy the name of the author has been added as a later annotation*]



PRÆFATIO ANDREÆ OSIANDRI
AD LECTOREM DE HYPO-
THESIBVS HVIVS OPERIS.

NON dubito, quin eruditi quidam, uulgata iam de nouitate hypotheseon huius operis fama, quòd terram mobilem, Solem uero in medio uniuersi immobilem constituit, uehementer sint offensi: putentq; disciplinas liberales rectè iam olim constitutas, turbari non oportere. Verum si rem exactè perpendere uolent, inuenient authorem huius operis, nihil quod reprehendi mereatur commisisse. Est enim Astronomi proprium, historiam motuum cœlestium diligenti & artificiosa obseruatione colligere. Deinde causas earundem, seu hypotheses, cum ueras assequi nulla ratione possit, qualescunq; excogitare & confingere, quibus suppositis, ijdem motus, ex Geometrię principijs, tam in futurum, quàm in præteritum rectè possint calculari. Horum autem utrunq; egregiè præstitit hic artifex. Neq; enim necesse est, eas hypotheses esse ueras, imò ne ueri similes quidem, sed sufficit hoc unum, si calculum obseruationibus congruentem exhibeant. nisi forte quis Geometriæ & Optices usque adeo sit ignarus, ut epicyclium Veneris pro uerisimili habeat,

AD SANCTISSIMVM DOMINVM PAVLVM III. PONTIFICEM MAXIMVM, Nicolai Copernici Præfatio in libros Reuolutionum.

SATIS equidem, Sanctissime pater, æstimare possum, futurũ esse, ut simulatq; quidam acceperint, me hisce meis libris, quos de Reuolutionibus sphærarum mundi scripsi, terræ globo tribuere quosdam motus, statim me explodendum cum tali opinione clamitent. Neque enim ita mihi mea placent, ut non perpendam, quid alij de illis iudicaturi sint. Et quamuis sciam, hominis philosophi cogitationes esse remotas à iudicio uulgi, propterea quòd illius studium sit, ueritatem omnibus in rebus, quatenus id à Deo rationi humanæ permissum est, inquirere: tamen alienas prorsus à

In fact, Copernicus, mindful of the likely reaction of the Roman Catholic Church, adds a lengthy letter addressed to: "His holiness, Pope Paul III…" in which he states that readers will be shocked by the new theory.

Pope Paul's reaction is not known. There was no great upset until Galileo forced the issue with the Church authorities. By this time the book had sold out as scholars were eager to read it, hence the publication in Basle of the second edition in 1566.

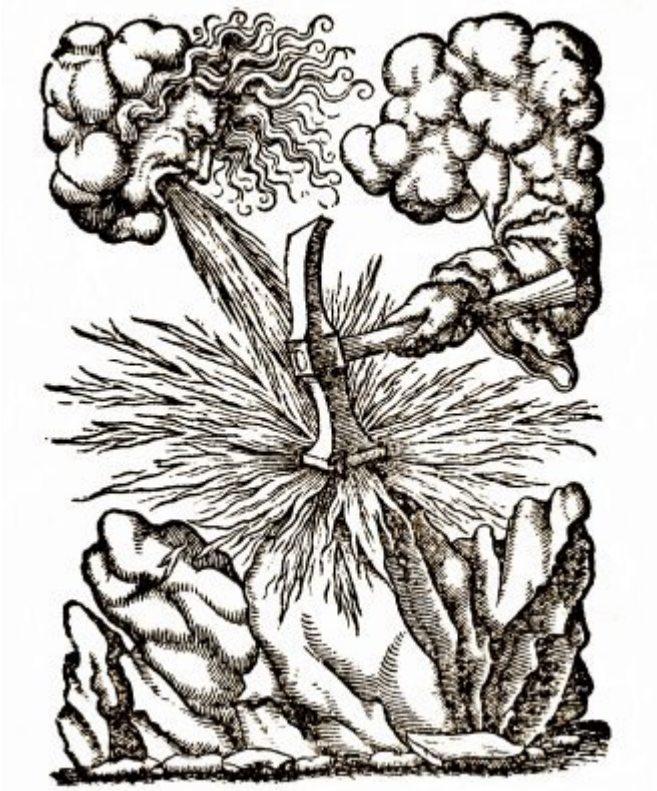
De revolutionibus was placed on the Index of Prohibited Books in 1616. A papal decree in 1620 demanded alterations in ten specific places in the text – these alterations emphasised, as had Osiander, that the heliocentric theory was hypothetical. In his census Gingerich discovered that 60% of the copies in Italy were 'corrected' but virtually none outside Italy were touched. It seems that the rest of Europe viewed this controversy as a local dispute.

Very early on in his search, Gingerich discovered in Edinburgh a first edition richly annotated in the margins by a leading scholar in Europe in the 1540s. The marginal notes Gingerich has found in the copies he has seen demonstrate the existence of a silent network that connected 16th century astronomers a 16th century equivalent of email. This contradicts Koestler's theory that Copernicus's book was unread".

Reading's second edition

Gingerich never came to Reading, so the Library's copy of the second edition is not recorded in his census. Reading's copy has few annotations and these are mostly corrections to errors, which come from a rare errata leaf published after the first edition. It also has a signature "Georgii Fairfaxii 1662" on the front endpaper.

The second edition was printed in Basle in 1566 by the publishing house founded in 1496 and carried on by generations of the Petri family. In the 16th century Heinrich Petri's son Sebastian adopted the surname Henripetri and the company also changed its name.



The distinctive printer's mark on the title page, which depicts a rock being smashed by a godlike hammer over which fire is blown by a heavenly face, is an allusion to the family name. The symbolism is explained by the biblical motto (Jeremiah 23:29) which is not present here but which is printed in Greek, Latin, and Hebrew in some books published by the company, "Is not my Word like fire, says the Lord, and like a hammer that breaks a rock in pieces?"

References

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