

= Urania 's Mirror =

Urania 's Mirror ; or , a view of the Heavens is a set of 32 astronomical star chart cards , first published in November 1824 . They had illustrations based on Alexander Jamieson 's A Celestial Atlas , but the addition of holes punched in them allowed them to be held up to a light to see a depiction of the constellation 's stars . They were engraved by Sidney Hall , and were said to be designed by " a lady " , but have since been identified as the work of the Reverend Richard Rouse Bloxam , an assistant master at Rugby School .

The cover of the box @-@ set showed a depiction of Urania , the muse of astronomy , and came with a book entitled A Familiar Treatise on Astronomy ... written as an accompaniment . P. D. Hingley , the researcher who solved the mystery of who designed the cards a hundred and seventy years after their publication , considers them amongst the most attractive star chart cards of the many produced in the early 19th century .

= = Description = =

Urania 's Mirror illustrates 79 constellations , some of which are now obsolete , and various subconstellations , such as Caput Medusæ ( the head of Medusa , carried by Perseus ) . It was originally advertised as including " all the constellations visible in the British Empire " , but , in fact , leaves out the southern constellations and , by the second edition , advertisements merely claimed illustration of the constellations visible from " Great Britain " . Some cards focus on a single constellation , others include several , with Card 32 , centered on Hydra , illustrating twelve constellations ( several of which are no longer recognised ) . Card 28 has six , and no other card has more than four . Each card measures 8 inches by 5 1/2 ( about 20 by 14 cm ) . A book by Jehoshaphat Aspin entitled A Familiar Treatise on Astronomy ( or , to give its full name , A Familiar Treatise on Astronomy , Explaining the General Phenomena of the Celestial Bodies ; with Numerous Graphical Illustrations ) was written to accompany the cards . Both the book and cards were originally published by Samuel Leigh , 18 Strand , London , although the publishing firm had moved to 421 Strand and changed its name to M. A. Leigh by the fourth edition . The cards and books came within a box illustrated with a woman almost certainly intended to be Urania , muse of astronomy .

P.D. Hingley calls it " One of the most charming and visually attractive of the many aids to astronomical self @-@ instruction produced in the early nineteenth century " . On its main gimmick , the holes in the stars meant to show the constellation when held in front of a light , he notes that , as the size of the holes marked correspond to the magnitude of the stars , a quite realistic depiction of the constellation is provided . Ian Ridpath mostly concurs . He describes the device as an " attractive feature " , but notes that , due to the light at the time being provided primarily by candles , many cards likely burned up due to carelessness when trying to hold them in front of the flame . He notes three other attempts to use the same gimmick ? Franz Niklaus König 's Atlas céleste ( 1826 ) , Friedrich Braun 's Himmels @-@ Atlas in transparenten Karten ( 1850 ) , and Otto Möllinger 's Himmelsatlas ( 1851 ) , but states that they lack Urania 's Mirror 's artistry .

= = Copying from A Celestial Atlas = =

The depictions of the constellations are redrawn from those in Alexander Jamieson 's A Celestial Atlas , published about three years earlier , and include unique quirks of Jamieson 's sky atlas , including the new constellation of Noctua the owl , and " Norma Nilotica " ? a measuring device for the Nile floods ? held by Aquarius the water bearer .

= = Mystery of the designer , and solution = =

Advertisements for Urania 's Mirror , as well as the introduction to its companion book A Familiar Treatise on Astronomy , credit the design of the cards simply to a " lady " , who is described in the

introduction of the book as being " young " . This led to speculation for over a century ; some proposed prominent female astronomers such as Caroline Herschel and Mary Somerville , others credited the engraver Sidney Hall , but no guess was seen as a particularly credible fit . The designer 's real identity was not discovered for some 170 years ; in 1994 , while archiving early election certificates used to propose people to be admitted to the Royal Astronomical Society , P. D. Hingley found one proposing the Reverend Richard Rouse Bloxam and naming him as " Author of Urania 's Mirror " . While he had several notable sons , he has no other known publications , his main distinction being to have served as assistant master at Rugby School for 38 years .

The reasons for the disguise are unknown . Hingley notes that many contemporary publications attempted to suggest women had played a role in their creation , perhaps to make them sound less threatening . He suggests that anonymity might have been necessary to protect Bloxam 's position at Rugby , but notes Rugby was quite progressive , which makes this unlikely ; and , finally , suggests modesty as a possibility . Ian Ridpath , noting the plagiarism of the art from A Celestial Atlas , suggests that this alone might be sufficient to cause the author to wish to remain anonymous .

= = Editions = =

A December 1824 advertisement , which states the cards were " just published " , offered the cards " plain " at £ 1 / 8s or " fully coloured " for £ 1 / 14s . This first edition did not include any stars surrounding the named constellations , leaving those parts blank . This was changed for the second edition , which added back stars around those constellations . An American edition was published in 1832 . Modern reprints were produced in 1993 , and Barnes & Noble reproduced the American edition ( with accompanying book ) in 2004 . The accompanying book , A Familiar Treatise on Astronomy by Jehoshaphat Aspin went through at least four editions , with the last coming out in 1834 . The second edition featured a marked expansion in content , growing from 121 pages in the first edition to 200 pages in the second . The book , by the time of the 1834 American edition , consisted of an introduction , a list of the northern and southern constellations , a description of each of the plates , with the history and background of the constellations depicted , and an alphabetical list of named stars ( such as Achernar ) with their Bayer designation , magnitude , and respective constellation .

A " Second Part " of Urania 's Mirror , which was to have included illustrations of the planets and a portable orrery , was advertised , but no evidence exists to show it was ever released .

= = Gallery = =

= = Constellations depicted = =

The constellations depicted , in the order they are listed on the cards , are :

In addition , Mons Mænalus is shown below Boötes , Caput Medusæ is shown as part of Perseus , and Cerberus is shown with Hercules .