

CULTURE AND COSMOS

A Journal of the History of Astrology and Cultural Astronomy

Vol. 17 no 1, Spring/Summer 2013

Published by Culture and Cosmos
and the Sophia Centre Press,
in partnership with the University of Wales Trinity Saint David,
in association with the Sophia Centre for the Study of Cosmology
in Culture,
University of Wales Trinity Saint David,
Faculty of Humanities and the Performing Arts
Lampeter, Ceredigion, Wales, SA48 7ED, UK.

www.cultureandcosmos.org

Cite this paper as: Clifford J. Cunningham and Günther Oestmann, 'Classical Deities in Astronomy: The Employment of Verse to Commemorate the Discovery of the Planets Uranus, Ceres, Pallas, Juno, and Vesta', *Culture and Cosmos*, Vol. 17, no. 1, (Spring/Summer 2013): pp. 3–29.

British Library Cataloguing in Publication Data
A catalogue card for this book is available from the British Library

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ISSN 1368-6534

Printed in Great Britain by Lightning Source

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Classical Deities in Astronomy: The Employment of Verse to Commemorate the Discovery of the Planets Uranus, Ceres, Pallas, Juno and Vesta

Clifford J. Cunningham and Günther Oestmann

Abstract: From 1781 to 1807 five new planetary objects transformed our basic ideas about the nature of the solar system. The coincidental discovery of these objects during a period when classical ideas permeated European thought produced a rich variety of verse in Latin, German, French, Italian and English. For the first time, they are collected here and put into context.

1. Introduction

The discovery of Uranus, the eighth planet of the solar system, in 1781, was an epochal event in late eighteenth-century astronomy. Likewise, the discovery of Ceres in 1801, now categorized as a dwarf planet, was an epochal event in early nineteenth-century astronomy. The subsequent discovery of three more minor planets (or asteroids) generated huge interest and caused great controversy about their nature. These discoveries commanded attention from a wide spectrum: poets, astronomers and royalty. From the time of the Renaissance, it was realized that ‘poetry is not just a pretty arrangement of words on a page but rather an intellectual tool of vast capability’.¹

The authors would like to acknowledge Dr. Brian Marsden (Smithsonian Astrophysical Observatory), who was involved with the early development of this paper in 2010, but died before its completion. Thanks also to Dr. John Ramsey of the University of Illinois at Chicago for some of the Latin translation. Information about Elizabeth Fergusson and her poem about Uranus is courtesy of Carla Loughlin at Graeme Park in Pennsylvania.

1 Marl A. Peterson, *Galileo’s Muse: Renaissance Mathematics and the Arts* (Cambridge, MA: Harvard University Press, 2011).

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4 Classical Deities in Astronomy

In the nineteenth century, poetry and science were ‘kindred thrones’ which possess the ‘power’ to ‘lift the mind above the stir of earth and win it from low-thoughted care’.² This important nineteenth-century aspect of science has recently been examined.³ While poetry relating to the stars has been the subject of scholarly study, the application of poetry to memorialize the discovery of Uranus and the four asteroids has never been considered.⁴ This paper addresses that neglected issue. The verses quoted here, from the late eighteenth and early nineteenth centuries, often reflect the intense rivalries between nations at the political level and between astronomers individually, as they jockeyed for the right to name these new and exciting celestial objects.

2. Eighteenth-Century Precedent

The use of Latin verse to mark advances in astronomy had eighteenth-century precedents. It was used to commemorate famous astronomers and to celebrate important discoveries. When the astronomer Tobias Mayer died in 1762, his elegy was written by Abraham Kaestner (1719–1800). Included in this elegy was a six-line Latin verse.

Te maris et terrae et magni sine limite coeli
Mensorem cohibent, Mayere,
Pulveris exigui prope clausum parvula templum
Munera: nec quidquam tibi prodest
Rexisse errantem lunam, movisque summo
Sidera fixa polo, morituro!⁵

2 William R. Hamilton, ‘Introductory Lecture on Astronomy. Delivered in Trinity College, Dublin. November 8th 1832’, *The Dublin University Review and Quarterly Magazine*, Vol. 1 (1833): pp. 72–85.

3 Gillian Jane Daw, ‘The Victorian Poetic Imagination and Astronomy: Tennyson, De Quincey, Hopkins and Hardy’ (PhD thesis, University of Sussex, 2011).

4 P. Boitano, ‘Poetry of the Stars’, *The Inspiration of Astronomical Phenomena* VI, *Astronomical Society of the Pacific Conference Series*, Vol. 441 (2011): pp. 289–309.

5 Abraham Kaestner, ‘In obitum Tobiae Mayeri’, *The Monthly Magazine* (Dec. 1799): p. 888.

This is based on Horace's Ode 1.28:

Te maris et terrae numeroque carentis harenae
 mensorem cohibent, Archyta,
pulueris exigui prope latum parua Matinum
 munera nec quicquam tibi prodest
aerias temptasse domos animoque rotundum
 percurrisse polum morituro.

For this there is an English translation by Charles Carrington:

The sea, the earth, the innumerable sand,
 Archytas, thou couldst measure; now, alas!
A little dust on Matine shore has spann'd
 That soaring spirit; vain it was to pass
The gates of heaven, and send thy soul in quest
 O'er air's wide realms; for thou hadst yet to die.

With similar poetic license, Kaestner's verse can be rendered as follows:

The sea, the earth, the boundless universe,
 Mayer, thou could'st measure; now, alas!
The paltry gift of a little dust confines your remains next to
 a shut-up temple; vain it was to fix the course of the
 wand'ring moon
and to chart the fixed stars in the dome of the sky;
 for thou had'st yet to die.⁶

This particular Latin verse was notable because of its link with the future discovery of Ceres. Firstly, the author of the verse, Kaestner, was the teacher of Carl Gauss (1777–1855), who developed the mathematical method required to predict the position of Ceres at the end of 1801. This prediction, accurate to about one degree, was sufficient to enable its recovery by Baron Franz von Zach (1754–1832) and Wilhelm Olbers (1758–1840).⁷ Secondly, the verse commemorates Tobias Mayer. On the

⁶ Translated John Ramsey.

⁷ Clifford J. Cunningham, *The First Asteroid* (Ft. Lauderdale, FL: Star Lab Press, 2001). Peter Brosche, 'Die Wiederauffindung der Ceres 1801', in *Astronomie von Olbers bis Schwarzschild*, (eds.) Wolfgang R. Dick and Jürgen

night of 1 January 1801 Giuseppe Piazzi (1746–1826) was concentrating on Francis Wollaston's star catalogue.⁸ He was looking for Wollaston's star 'Mayer 87' and realized that the position given didn't agree with the 'Mayer 87' in Mayer's star catalogue. The real Mayer 87 (μ Arietis) is Piazzi II:153. By searching for Wollaston's 'Mayer 87' he found both it and Ceres!⁹ Kaestner's lines about the 'wand'ring moon' and the fixed stars refer to Mayer's lunar tables and catalogue of fixed stars respectively.¹⁰

3. The Discovery of Uranus

When William Herschel (1738–1822) discovered a new planet beyond Saturn in 1781, he was slow to select a name. Herschel eventually decided to name his discovery Georgium Sidus, 'The Georgian Star', in honour of his patron, King George III of Great Britain. He may have been led to this choice by Horace's phrase Julium Sidus, in compliment to Julius Caesar.¹¹

Since no one outside of Great Britain accepted the appellation, many other names were proposed: Herschel (favoured by the French astronomer Pierre-Simon Laplace), Astraea, Cybele, Neptune, Hypercronius, Transturnis and Minerva, among others. The multiple names attached to the recent solar system discoveries (Uranus=The Georgian

Hamel, *Acta Historica Astronomiae*, Vol. 14 (Frankfurt am Main: Deutsch, 2002), pp. 80–88.

8 Francis Wollaston, *Specimen of a General Astronomical Catalogue arranged in zones of north polar distance* (1789).

9 Clifford J. Cunningham, Brian G. Marsden, and Wayne Orchiston, 'Giuseppe Piazzi: The Controversial Discovery and Loss of Ceres in 1801', *Journal for the History of Astronomy*, Vol. 42, no. 3 (2011a): pp. 283–306.

10 Tobias Mayer, *Novae tabulae motuum solis et lunae*, *Commentarii societatis Regiae Scientiarum Göttingensis*, Vol. 2 (Göttingen, 1752). Eric Gray Forbes, 'Tobias Mayer's lunar tables', *Annals of Science*, Vol. 22, no. 2 (1966): pp. 105–16; Tobias Mayer, *Opera inedita* (Göttingen, 1755).

11 Letter from Herschel to Sir Joseph Banks, 7 November 1782, in the Herschel Archives, Royal Astronomical Society, London. Horace, *Lib. I, Ode XII*, lines 45–48.

Planet=Herschel; Ceres=Hera=Piazzi) also found its parallel in botany, where the same species might have several designations.¹²

The French classical scholar Louis Poinset de Sivry (1733–1804) chose Cybele, the spouse of Saturn and daughter of Uranus. He represented the order of the planets in the following verse.

Ambit Solem Hermes, Venus hunc, mox Terra, Diana.
Mars sequitur. Pergit Rex Juppiter. Hunc Saturnus.
Omnes hos orbis amplectitur alma Cybele.¹³

Mercury orbits the Sun; Venus orbits beyond Mercury, and next
the Earth, the Moon.
Mars follows. King Jupiter makes his way next. And Saturn
orbits beyond Jupiter.
All these orbs are enclosed by nurturing Cybele.¹⁴

The appellation ‘Georgian Star’ was the only one accepted in England, and it was celebrated in poetry and an epigram. In this extract from a long poem about the year 1782, the ‘thou’ referred to is the Muse of Glory.

Thou, who each Planet in his Orbit guide’st,
While round the Sun, on wings of light, thou ride’st,
Stop, ruling Angel, in thy rapid round,
And, at thy Solar-System’s utmost bound,
For one short moment, from thy native skies,
View the concluding Year with fav’ring eyes:
Beyond the search of NEWTON’s heav’nly eye,
Behold ambitious HERSCHEL dare to spy
(Aided by wond’rous Optic Glass) from far
The dim faint splendours of the GEORGIAN STAR.¹⁵

12 J. S. Phillips, ‘Nomenclature of Natural Science’, *Proceedings of the Academy of Natural Sciences of Philadelphia*, Vol. 1 (1841): pp. 85–88.

13 *Monatliche Correspondenz* (July 1801), p. 66.

14 Translated John Ramsey.

15 William Tasker, *Annus mirabilis; or, The eventful year eighty-two, An historical poem*, Verse 819–827 (Exeter: B. Thorn and Son, 1783).

8 Classical Deities in Astronomy

The name was also reiterated in this brief epigram.

GEORGIUM SIDUS, the new-discovered Planet

BRITAIN, in spite of ev'ry blow,
Thy George superior still shall rise;
Fate lessen'd here his realms below,
And gave him kingdoms in the skies.¹⁶

The unseemly dispute over the naming of Herschel's discovery inspired Georg Szerdahely (1740–1808) to compose a verse in 1787. Szerdahely was a professor of rhetoric who taught aesthetics at the University of Buda (modern-day Budapest). The verse was reworked by Baron Franz von Zach (editor of the *Monatliche Correspondenz*) in 1802 to describe the Ceres nomenclature controversy.

The astronomers battle, and still the case is before the judge,
with which name a new planet should be designated.

He has to exclaim once again:

O Gods above! What would this confusion of voices be?
If each voice should offer a name!

We shall wait and see and cry:

It is not ours to settle the disputes of voices that have already
begun.¹⁷

Another German publication devoted a full page to an anonymous poem about the discovery.

¹⁶ *The London Magazine*, Vol. 3 (1784): p. 297.

¹⁷ Lines in italics added in 1802 by Zach. Clifford J. Cunningham, Brian G. Marsden, and Wayne Orchiston, 'How the First Dwarf Planet Became the Asteroid Ceres', poster paper presented at International Astronomical Union conference in Rio de Janeiro, 2009.

Der neue Planet

Der Deutsche, der, an Avons Strand,
Des Himmels jüngsten Liebling fand,
Grüßt' ihn entzückt: 'Georgia!'
Damit in dieser weiten Sphäre
Dem besten Herrn Amerika,
Das ihn verließ, ersetzt wäre.

Pfui, rief der Franze, nimmermehr
Soll unsres alten Feindes Ehr'
In Ewigkeiten prangen! Da,
Bei des Gemals bekanten Grenzen,
Wird eher Cybeleia
Im neuen Irgestirne glänzen.

Warum willst du den heil'gen Ort,
So fiel ihm Bode rasch ins Wort,
Nach Deines Volks Galanterie'n,
Ihr weihen? Dort in niedren Höhen
Siehst du sein Harem sich um ihn
Im engren Kreise leuchtend drehen.

Am besten machet Uranus
Vom Fabelstamme den Beschluß.
In seine Reihe schicket sich
Kein Fürst vom sterblichen Geschlechte;
Wer hätte sonst als Friederich
Zur ersten Stelle größte Rechte?¹⁸

The New Planet

The German, who, on Avon's beach,
Found sky's youngest darling,
Greets him delighted: 'Georgia!'
So that in this vast sphere
Worthy Mr. America,
Who abandoned him, should be replaced.

Fie, the French exclaimed, nevermore

18 *Deutsches Museum*, Vol. 11 (Leipzig, June, 1786): p. 563.

Should our old foe's honour be
Emblazoned in eternity! There,
Near the bridegroom's known borders,
Rather Cybele may
Glare in the new planet.

Why will thou the holy place
So Bode cut off rashly,
Hallow after your people's gallantries?
There in lower heights
You see his harem around him
In close circles revolving brightly.

Uranus of fabulous root
Makes best the close.
In his succession
No ruler of mortal lineage shall acquiesce.
Who else than Frederick
Should have greater rights in first place?¹⁹

The first verse refers to Herschel as a German (he was born in Hannover) on the shores of Avon, a reference to the river Avon, which runs through the city of Bath, from where Herschel discovered Uranus. The first verse also makes a pointed reference to the fact that England's King George III (1723–1820) was abandoned by America. The second verse gives voice to the French opinion about naming the planet after George, giving instead their choice of Cybele. The third verse refers to Johann Bode (1747–1826), Director of Berlin Observatory, who proposed the name Uranus. The writer concludes by saying that a classical deity is a much better choice than one of mortal origins, slyly noting that none other than Frederick the Great (1712–1786) of Prussia should be given priority over any other mortal (including King George III) if a planet should be named for one.

The discovery of Uranus also elicited great interest in the newly-formed United States of America, where the Revolutionary War was still raging. In the small town of Horsham, Pennsylvania, Elizabeth Ferguson *née* Graeme (1737–1801) hosted literary 'Attic Evenings' in Keith House.

¹⁹ Translated Guenther Oestmann.

The house, located in Graeme Park, is the only surviving residence of a Colonial Pennsylvania governor. Elizabeth, who published poetry in Philadelphia magazines and newspapers, was inspired to pen a poem about Uranus entitled 'Upon the Discovery of a Planet by Mr. Herschel of Bath and by Him Named the Georgium Sidus in Honor of His Britannic Majesty'. The poem appears in Ferguson's *Commonplace Book* (somewhat like a diary, but usually written to be read by others), compiled in 1787 for Annis Boudinet Stockton. The antipathy felt by Ferguson towards King George III, who had been trying to retain America for the British Crown, is pointedly expressed in Ferguson's poem:

Whether the optics piercing eyes
Have introduc'd to view,
A distant planet of the skies,
Bright, wonderful, and new?

Or whether we are nearer thrown
To the grand fount of light,
And from that source each mist is flown
That wrapt the star in night?

To deep this point, a female pen,
Dare not such heights explore;
The subject's left to learned men,
Of philosophic lore!

A star is found, that's clear; and hail'd
With Britain's monarch's name;
If his terrestrial glory's fail'd,
The Heaven's enroll his name.

But sordid Souls I greatly fear,
Will not the Change approve:
To think the Empire fled from here,
In Azure plains to rove.

Perchance in Days to Come some youth
Whose Bosom genius fire
When warmed with Scientific Truth,

He ardent thus Enquires.

What mortal Great who dwelt on Earth
Assigned this Star his Name?
Another George of Martial Worth
May be mistook by Fame.

Yet be it fixed Britannia's King,
We with this Planet done;
Will yield the late found Star to him
And Hail our George a Sun.²⁰

In France, the use of verse replete with classical allusions to celebrate scientific advancements was deeply entrenched.²¹ Of note are the astronomical poems of Dominic Ricard (author of *La Sphere* in 1796; died 1803) and Louis Marcelin de Fontanes (author of *Essai sur l'Astronomie* in 1789; 1757–1821). Herschel's discovery was commemorated in French by Gudin de la Brenellerie (1738–1820), associate member of the Institut National.

L'amour propre si vif, et si souvent déçu,
Pretendait dans les cieux avoir tout aperçu;
Quand soudain on apprend du fond de l'Angleterre,
Qu'il s'offre un nouvel aster aux regards de la terre;
Que par de-là Saturne il brille dans la nuit;
Qu'Herschel l'a découvert, qu'il l'observe et le suit.²²

20 The Port Folio, vol 2, no 1, July 1809, p. 149. The book is a compilation of pieces Stockton wrote between 1770 and 1787. The note at the end says that it was written at Graeme Park on 6 January 1784 and is signed 'Laura' (a pen name she frequently used). She also wrote at the end of the entry 'This was printed in the Newspaper but not with the signature Laura'.

21 Jean Dhombres, 'Culture scientifique et poésie aux alentours de la Révolution française', in *Nature, histoire, société: Essais en hommage à Jacques Roger*, rassemblés et présentés par Claude Blanckaert, Jean-Louis Fischer, Roselyne Rey (Paris: Klincksiek, 1995).

22 Paul-Philippe Gudin de la Brenellerie, 'L'Astronomie,' poème en quatre chants (2nd edition; first was published as 'poème en trois chants' in 1801). (Auxerre, L. Fournier, an IX., 1810).

Self-esteem so lively, and so often disappointed,
Pretended to have seen everything in the skies;
When all of a sudden one learned from the heart of England,
That a new star presented itself to the world;
That beyond Saturn it shines in the night;
That Herschel had discovered it, observes and follows it.²³

The British were quite proud that a planet had been named for their monarch, as evidenced by this verse commemorating the discovery of the moons of Uranus.

Delighted Herschel, with reflected light,
Pursues his radiant journey through the night;
Detects new guards, that roll their orbs afar,
In lucid ringlets round the Georgian star.²⁴

The ‘delighted Herschel’ was also personally involved in the inclusion of astronomical discoveries in verse. He worked closely with Dr. Charles Burney in the creation of a lengthy astronomical poem, which Burney later abandoned and largely destroyed.²⁵ It has also been noted recently that certain astronomical imagery in the grand verse-drama *Prometheus Unbound* by Percy Bysshe Shelley most likely was inspired by Herschel’s cosmological discoveries.²⁶

The highly charged political nature of Herschel’s choice ‘Georgian’ resonated through the decades of the conflict with France. After caustically noting that French astronomers had renamed the belt and sword of Orion in honour of Napoleon Bonaparte (1769–1821), the writer (named only as Stella), concluded the poem thus:

23 Translated James Lequeux.

24 Erasmus Darwin, *The Temple of Nature* (Baltimore: John Butler, 1804).

25 Roger Lonsdale, *Dr. Charles Burney: A Literary Biography* (Oxford: Clarendon Press, 1965).

26 Christopher Goulding, ‘Shelley’s Cosmological Sublime: William Herschel, James Lind and “*The Multitudinous Orb*”’, *The Review of English Studies*, New Series, Vol. 57, no. 232 (2006): pp. 783–92.

The rays of *Orion* oft guide our bold tars;
But they ne'er will be led by '*Napoleon's Stars*.'
We discover'd a planet, and call'd it *our own*,
As a tribute to virtue that beams on the throne;
But they, who the Georgium Sidus deride,
New name the *old* stars to please *Corsican* pride.²⁷

4. Anticipating a New Planet

In his 1773 didactic poem '*Sistema dei Cieli*' (System of the Skies), Carlo Gastone della Torre Rezzonico of Como (1742–1796) wrote about a little unknown planet between Mars and Jupiter.²⁸ He was quite correct in surmising that it was both the smallness of its disk, and its low albedo, that had prevented it from being seen. The largest asteroid Ceres has a diameter of 960 km and a geometric albedo of 0.09. This compares to the smallest planet Mercury, with a diameter of 4878 km and an albedo of 0.138, lowest among the major planets.

Sola poi vien la rubiconda stella
Del Fero Marte e dopo lui l'immenso
Giove, che tanto gli è lontan quant'esso
Dal Sol due volte. In così vasto campo
Forse alcun'altra dell'erranti stelle
Ruota da noi non conosciuta, e forse
Suo picciol disco, o per gran macchia oscuro
Fe sì, che invan della ritrosa in cerca
Al notturno favor di doppia lente
Vagò pel ciel l'astronoma pupilla...²⁹

Alone then arrives the reddish star of the proud Mars,
and after it the huge Jupiter, that is twice as far from it as
it is from the Sun. In so vast space maybe some

27 'Stella', '*Napoleon's Stars*', *Anti-Jacobin Review*, Vol. 27, p. 528, 28 August 1807.

28 Piero Sicoli, 'Duecento anni fa la scoperta di Cerere', *Astronomia*, no. 214 (Milan, November, 2000), p. 30.

²⁹ *Raccolta di Poemetti Didascalici Originali o Tradotti*, vol. 3 (1822), Visai Nei Tre Re, Milan. Lines quoted are from pages 155-156.

other of the wandering stars revolve unknown to us and
maybe because of its little disk, or because of darkness stain,
made so that in vain was a search of the bashful made
with the favoured nocturnal double lens
as the astronomer's pupil roamed the sky....³⁰

5. The Discovery of Ceres

From the Palermo Observatory in Sicily, Giuseppe Piazzi discovered an extraordinary object on the first day of the nineteenth century, and four months later he had christened it Ceres Ferdinandea. Ceres was chosen as the patron goddess of Sicily, and Ferdinand in honour of Piazzi's patron King Ferdinand of Naples and Sicily.³¹ Once it had been recognized by the astronomical community as a new planet, King Ferdinand felt obliged to commemorate the event. He first proposed to strike a gold medal, but was dissuaded in this intention by Piazzi, who asked that the funds instead be used for astronomical instruments.³²

In England, it was dryly noted that 'the King of Naples has added sixty pounds a year to Mr. Piazzi's salary, for the discovery of the new planet, and honouring it with the royal name. So small a reward assuredly justifies astronomers in refusing to accede to the new title, and in immortalising the discoverer rather than the monarch'.³³

Since the commemoration of the discovery was thus somewhat subdued in Sicily, it was left to those with the power of verse to mark the event for the ages. One who took the opportunity to do so was the Italian poetic improviser Pietro Scotese from Verona, who was quite the sensation just after the turn of the century in Weimar and elsewhere in Germany.

'The various themes he [Scotese] set for himself to render in various poetic meter, in ottava rime etc., included: the advantages of blondes over brunettes, Achilles' lament for Patroclus, Nina's lament for her beloved, the advantages of music over painting, and of hope over fulfillment. One of his most beautiful poems was dedicated to the discovery of Ceres

30 Translated Piero Sicoli.

31 Clifford J. Cunningham, Brian G. Marsden, and Wayne Orchiston, 'How the First Dwarf Planet Became the Asteroid Ceres', *Journal of Astronomical History and Heritage*, Vol. 12, no. 3 (2009): pp. 240–48.

32 Cunningham, *The First Asteroid*, p. 193.

33 *Annual Review of History and Literature* for 1804, Vol. 3 (1805): p. 855.

Ferdinanda, whereby he took every opportunity to extol the merits of his fatherland'.³⁴

Unfortunately it appears the text of his poem on Ceres has not survived. 'All these things were extemporized at (often exclusive) social gatherings (what professional musicians today call "one nighters"), with individual poems often prompted by a topic, line, meter, or even end rhyme supplied by the audience or guest of honor—but the poems themselves were to my knowledge neither written down nor published. The reviews (there are two) address his performance rather than the text of the extemporized poems'.³⁵

5.1 Verses in the *Monatliche Correspondenz*

As Editor of the world's only astronomical journal, the *Monatliche Correspondenz* (Monthly Correspondence), Baron Franz von Zach was in a unique position to publish whatever he saw fit. Not content with printing positional measurements of Ceres, he often inserted personal comments and quoted directly from the letters he received.³⁶ 'One of my friends expresses the order of the now eight planets in the following not unsuccessful verses, which, according to the custom of usual memorial verses, expresses a further thought'. Here the name Hera (spouse of Zeus in the Greek pantheon) is used instead of Ceres. Anticipating the discovery of a new planet, it was the name selected by Zach's patron, Duke Ernst II of Saxe-Gotha, sixteen years earlier.

Mercurius primus; Venus altera; Terra deinde;
Mars posthac; quintam sedem sibi vindicate Hera.
Juppiter hanc ultra est. Sequitur Saturnus; at illum
Uranus egreditur, non ausim dicere summus.

Oder:
Mercurius Solem comitatur proximus. Illum

34 Anon., Review of 'Der Improvisator Scotès', *Der neue Teutsche Merkur*, Vol. 3, no. 9 (September 1802): pp. 71–73. Karl August Boettiger, 'Der Improvisator Pietro Scotès aus Verona', *Der neue Teutsche Merkur*, Vol. 3 (1802): pp. 135–48.

35 Doug Stott, Personal communication (2011).

36 Clifford J. Cunningham, et al., 'Giuseppe Piazzi', pp. 283–306.

Insequitur Venus, hano Tellus, Luna comitante;
Mars posthac, Martem prohibet Jovis esse sequacem
Hera lateens srustra, et melioribus obvia vitris.
Saturnum extrema Proavi statione locabant,
Nos aliter. Supremara coeli nunc Uranus arcem
Usurpat, poenas ausi fortasse daturus.³⁷

Mercury first, Venus second, then the Earth;
Mars after Earth; Hera lays claim to the 5th place.
Jupiter is beyond that one. Saturn comes next; but
Uranus (I should scarcely dare to say the last) makes his way
beyond Saturn.

Or:

Mercury is the closest companion of the Sun.
Venus follows Mercury, and Venus is followed by Earth, with its
companion the Moon;
Mars comes after Earth; Jove forbids Mars to be a close follower.
Next is Hera hiding in vain and exposed by better lenses.
Earlier generations situated Saturn in the outermost place,
But not we. Uranus now lays claim to the farthest arc of heaven,
Destined, perhaps, to be punished for his daring deed.³⁸

This is the only one of the verses dedicated to the discovery of Ceres that mentions—albeit rather obliquely—the technology that made it possible (i.e., ‘better lenses’). Likewise, the Ramsden Circle used by Piazzi to discover Ceres did not feature in any paintings or engravings done to commemorate the event, although it was depicted in relation to Piazzi’s star catalogue.³⁹

Zach rhapsodized about the discovery of both Ceres and Pallas, inserting what appears to be a Latin verse of his own design. ‘It is easy to

37 Anonymous verse, *Monatliche Correspondenz* (July 1801), p. 67.

38 Translated John Ramsey.

39 Clifford J. Cunningham, Brian G. Marsden, and Wayne Orchiston, ‘The Attribution of Classical Deities in the Iconography of Giuseppe Piazzi’, *Journal of Astronomical History and Heritage*, Vol. 14, no. 2 (2011b): pp. 129–35.

immortalize such an epoch-making occurrence in the history of astronomy. The heavens will proclaim these works to all people and for all time to come’.

Videbo coelos tuos, opera digitorum tuorum,
Cerem et Palladem, quae tu fundasii.⁴⁰

I will see thy heavens, the works of thy fingers,
Ceres and Pallas, which thou hast founded.⁴¹

5.2 Capel Lofft

The English antiquarian Capel Lofft gave public vent to his long-held fascination with astronomy in several sonnets.⁴² His lengthy poem ‘Eudosia’ encompassed most of what was known in astronomy on the eve of the discovery of Uranus.⁴³ On 29 August 1801 he penned a sonnet about the newly-discovered planet:

To Miss Sarah Watson Finch.

With a Sketch of THE SOLAR SYSTEM, according to the latest
Discoveries.

On the supposition of a new-discover’d Planet..

40 *Monatliche Correspondenz* (June 1802). p. 589.

41 Translated John Ramsey.

42 Roger Meyenberg, *Capel Lofft and the English Sonnet Tradition* (Tübingen: Francke, 2005).

43 Capel Lofft, *Eudosia: or, A Poem on the Universe* (London: W. Richardson, 1781).

To thee whom as MINERVA* I revere,
To whom my cares and happier thoughts all tend,
This sketch of every planetary Sphere
Known to obey our central Sun I send.

In these the eccentric orbs have ear
To Harmony divine! the wild career
Of Comets thus revolves: prompt to descend
To that great source which rules their mighty year.

O might my Griefs and my charm'd Passions hear
Like influence divine! - thus should I know
Like thee to teach my moments how to flow
Useful and calm; unrackt by Doubt and Fear,
And thus ascend above all earthly Woe;
That Order, Heaven's bright Grace, anticipating here.
C.L. 1801.

*It was hop'd the New Planet, if ascertain'd to be such,
would be nam'd Minerva: in conformity to the other my-
thologic designations, and in honour of Science, and of the
Arts of Peace.⁴⁴

5.3 Nicolaus Lipari

In 1801 Piazzzi sent a copy of his treatise about Ceres to Lofft, together with a Latin epigram by a Sicilian, Nicolaus Lipari. Here is how Lofft described it:

If these Observations will be acceptable for the Mirror they are much at your service, as also the subjoin'd Epigram on its discovery and name, CERES FERDINANDEA, which I think has not appear'd in Print in England. Piazzzi has prefixt it to his Account.⁴⁵

44 Capel Lofft, *Laura, or, an Anthology of Sonnets* (London: R. & A. Taylor, 1814). This includes the exact date of creation and a dedication to Miss Finch, who became Lofft's wife. The verse, without her name, was originally published in the *Monthly Mirror* (December 1801), p. 416.

45 Lofft, C., 'Ceres Ferdinanda', *Monthly Mirror*, April 1802, pp. 240-241.

Alma Ceres, pertaesa hominum consortia, summas
Ut Superum tetigit, non reditura, Domos,
Septem inter Caeli volventia sidera, cursum
Flectere, et immensas caepit inire vias;
Mortales fugiens oculis! Post saecula tandem
Longa, ubi conspectum non renuisse datum est,
Ante alias SICULAE voluit nova fulgere Terrae
Immemor haud Patriae, quae sibi culta, suae.

Nicolaus Lipari.

Ceres from Human intercourse had fled
And viewless through the Heavens her orb had led
Mid seven companion Planets fond to stray
Latent, through the immense aerial way,
When, after Ages, to our sight was given
This last-discover'd Daughter of our Heaven.
As chief Sicilia, while on earth, she blest,
On SICILY her STAR first shone confest.

C.L.⁴⁶

5.4 Marcin Odlanicki Poczobut

The 73-year-old Polish astronomer Marcin Poczobut (1728–1810) was an assiduous observer of Ceres from Vilnius Observatory in Lithuania. His colleague at Cracow Observatory, Jan Sniadecki, kept Zach apprised of Poczobut's work. A letter from Sniadecki to Zach dated 24 May 1802 includes more than just positional data from Poczobut. 'He loves to write Latin verses and sometimes quite good ones. You will find at the beginning of his observations two Latin verses about the distinctive character of Ceres'.

Quae segetum culmos docuisti falce secare
Falx dentate sacrum sit tibi stemma Ceres.⁴⁷

46 Giuseppe Piazzi, *Risultati delle Osservazioni della Nuova Stella* (Palermo: Palermo Observatory, 1801) Lofft, Capel, *Monthly Mirror* (April 1802) pp. 240–41.

47 *Monatliche Correspondenz* (July 1802), p. 63. See also Clifford J. Cunningham, *The Collected Correspondence of Baron Franz von Zach*, Vol. 1, (Ft. Lauderdale, FL: Star Lab Press, 2004).

Thou hast taught her to cut the stalks
Of standing corn with a sickle.
The toothed sickle shall become for you
The consecrated garland of Ceres.⁴⁸

This verse refers to the use of the sickle (suggested by Zach) as the planetary symbol to denote Ceres.⁴⁹ This matter is discussed in more detail in Section 6.

5.5 Michel Monti

The Piarist monk Michel Angelo Monti (1751–1822) gave the reason for the naming of Ceres in Latin verse.

Telluris patraie ductura a Principe nomen
Astra inter Siculis fulsit ab axe Ceres.⁵⁰

From the most important of the fatherland of the Earth
the name will be derived
Immortality shone from the eye of Ceres
among the Sicilians.⁵¹

Monti was a poet and orator. A native of Genoa, he became Professor of Eloquence in the University of Palermo. Thus his line about Sicily being ‘the most important fatherland of the Earth’ is an homage to his place of residence. There is a monument to him in the San Domenico church in Palermo, the city in which he died at age 71.

6. The Discovery of Pallas

⁴⁸ Translated John Ramsey.

⁴⁹ B. Boncompagni, ‘Intorno ad una lettera di Carlo Federico Gauss al Dr. Guglielmo Mattia Olbers Memoria’, *Atti dell’Accademia Pontificia de’ Nuovi Lincei*, Tomo XXXVI (Rome, 1882–1883), pp. 2012–95. Citation from p. 265.

⁵⁰ *Monatliche Correspondenz* (Jan. 1811), p. 7.

⁵¹ Translated John Ramsey.

On 28 March 1802, Wilhelm Olbers discovered another ‘planet’ between Mars and Jupiter. Named Pallas in honour of the goddess Pallas Athena, it is now designated as 2 Pallas, signifying it as the second minor planet or asteroid. Unlike Ceres, Pallas has not been accorded ‘dwarf planet’ status in the twenty-first century, as it is too small to qualify.

The discovery of Ceres, the first object found between Mars and Jupiter, naturally elicited a substantial outpouring of commemoration in verse. Pallas received very little notice by comparison. In addition to his verse about Ceres, Poczobut wrote about Pallas.

Falx Cereris signum esto; tu ut taere laboris
Sideribus sacros, aegida Pallas habe.⁵²

Oh sickle, be the sign of Ceres; and have with you
Pallas who has the Aegida, so that you can protect
the sacred works in the skies.⁵³

Each of the major planets had long been assigned a symbol, often used as shorthand in planetary tables. When Piazzi’s discovery Ceres was named, it was suggested by Zach that a sickle be used as its sign, in accordance with the role of Ceres as goddess of Agriculture. The Aegida is the protective shield made of goat skin and the Medusa head, used by Pallas Athena.

Even though Pallas had been discovered in Bremen, the following verse by an anonymous author is lacking in any nationalistic sentiment. This could possibly be due to the fact that Germany was not yet a unified country.

Der neue Planet Pallas

Endlich erschieonest du Pallas, und mit dir der Oelzweig
des Friedens;
Göttin der Weisheit, warum nahtest du leider so spät?
Mögest du heller noch leuchten, daß heller auf Erden
es werde!—
Siehe wie funkelt so hell Venus vor allen hervor!

⁵² *Monatliche Correspondenz* (July 1802), p. 74.

⁵³ Translated John Ramsey.

Zünd' o Weisheit dein Licht am Schwesternaltare der
Liebe!
Weisheit mit Liebe vereint—so nur beglückt sie die
Welt.⁵⁴

The new planet Pallas

At last you appeared, Pallas, and with you the olive branch of
peace;
Goddess of wisdom, why did you come so late?
May your light shine even brighter so that it might be lighter on
Earth!—
See how bright Venus sparkles!
Light, o wisdom, your fire at the sisterly altar of love!
Wisdom combined with love—it only gladdens the world this
way.⁵⁵

A footnote told the reader that Dr. Olbers discovered Pallas on 28 March, one day after the Amiens peace treaty (which marked the end of the French Revolutionary War), which explains the peace reference in the second line. The writer then implores Pallas to join with Venus, the goddess of love, so that their combined radiance (the wisdom of Pallas and the love of Venus) may salve the wounds of a lengthy war.

7. Juno and Vesta

When Gudin de la Brenellerie published his *Astronomical Poem* in 1801, only seven planets were known, but the discovery of four new 'planets' from 1801 to 1807 prompted him to revise the poem. Juno, the third one, was discovered by Karl Harding in 1804 and named in honour of Jupiter's spouse. The fourth was found by Olbers in 1807 and named Vesta, Roman goddess of the home and family. As the review in the *Mercure de France* suggested, such a profusion of new planetary objects made it quite likely that the roster of objects in the solar system was far from complete: 'Mais quatre nouvelles planètes découvertes en peu d'années, le font douter que le nombre en soit encore complet'.⁵⁶

54 *Vossische Zeitung* (16 September 1802).

55 Translated Guenther Oestmann

56 Pierre Louis Ginguené, Review of the new edition of the poem *L'Astronomie* by Gudin, *Mercure de France*, Vol. 49 (1811), pp. 209–15.

Gudin wrote about the unexpected developments with a sequence of questions:

Mais ai-je tout compté? Mais puis-je être assure
 Qu'un meilleur telescope, un oeil mieux éclairé,
 Sondant des vastes cieux les profondes retraites,
 N'apercevra jamais que ces onze planets?
 Ce nombre est-il prescrit? Ai-je atteint et pu voir
 Le terme où du soleil s'arrête le pouvoir?⁵⁷

But have I counted all? But can I be sure
 that a better telescope, a better educated eye,
 scanning the vast skies[,] the deepest retreats,
 will never see but these eleven planets?
 Is this number fixed? Have I reached and been able to see
 the limit where the sun loses its power?⁵⁸

A lengthy Latin verse by 'Pastor Schulze zu Polenz bey Leipzig' was published in 1810. In rich detail, it encompasses the discoveries of Uranus and the four asteroids.

In media *Sol* sede regit lucemque ministrat
 Orbibus undenis cunctisque sequacibus horum.
 Illorum hos *Comites* dicunt illosque *Planetas*.
 Solem quisque sua circum pro lege rotatur
 Ocyor igne Jovis, non unguem a calle recedens.
 Orbita cuique sua est distans a Rege statuta
 Lege, minor propior majorque remotior ambit.
Mercurius Regem primus circuire jubetur,
 Perque dies octo undecies sibi conficit orbem.
 Hunc ultra *Venus* est splendore et lumine praestans:
 Hebdomadas tringinta duas absolvit eundo.
Tellus cum *Luna* sequitur, data mansio nobis;
 Mensibns haec bis sex praescriptum conficit orbem.
 Scanditur ad *Martem*, qui lusem miscet et ignem:
 Bis septem hebdomadas septenas pervolat orbem.

⁵⁷ Gudin de la Brenellerie, Paul-Philppe (1810). *L'Astronomie, 'poeme en quatre chants* (2nd ed). L. Fournier, Auxerre.

⁵⁸ Translated James Lequeux.

Huncce Jovemque inter veteres vacuum esse putarunt.
 At cum nostra aetas nimia intervalla videret,
 Atque a consueta distandi lege recedei:
 Res suspecta viros investigare monebat;
 Ingenio, arte, armis instructi, vera videbant,
 Proque uno quatuor cernunt, mirabile dictu,
 Fragmina quos *Olbers* rupti putat esse planetae.
 Sic *Cererem* Sículus detexit forte *Piazzi*;
 Hebdomadas bis sex vicenas pervolat orbem.
Pallada sic *Olbers* Bremensis acutus adivit;
 Haec per idem *Cereri* tempus circumvolat orbem.
 Sic se aperit Goettingensi *Harding* candida *Juno*;
 Per decies quinos et tres huic est via menses.
 Quaesitam felix *Vestam* sic conspicit *Olbers*;
 Per quadraginta tres huic est semita menses.
 Ambitus his quatuor, quo non perplexior ullus,
 Vix foret explicitus, nisi *Praestantissime* nobis
 Montstrasses *Gauss*, nunquam moriture. Planetas
Jupiter hos ultra es, cunctorum maxime, coeli
 Tu decus excellens, dignus tu, quem comitentur
 Bis bini comites, *Veneris* tu lumine fulges;
 Bis fere sex annis stadium métier coruscus.
Saturnus sequitur, comites quem tres quatuorque
 Circumeunt. Duplex cingit, mirabile visu,
 Annulus hunc; fere ter denis iter exiget annis.
Uranus insequitur, quem tu, pater Astronomorum,
Herschel, digne, tuo qui tangas vertice soles.
 Errantem agnosti primus. Distare jubetur
 Ultimus ante omnes, poenas fortasse daturus;
 Namque Gigantes Titanasque deumque hominumque
 Terrorem genuit. Comites circum volitantes
 Ter duo sunt illi, plures fortasse patescent;
 Finit iter decies octonis amplius annis.⁵⁹

In the midst of his throne the Sun rules and furnishes light
 To all the eleven spheres following.
 Of these orbs, some they call Comets, and some Planets.
 Each one is whirled around the sun according to its own principle

59 *Monatliche Correspondenz*, (Dec. 1810), pp. 576–78.

More swiftly than the fire of Jove, not drawing back its hand
 from the heat.
 The orbit to each is established by its own principle at a distance
 from the King,
 The lesser circle closer, and the greater more distant.
 Mercury is the first commanded to go around the King,
 And through eight times eleven days it finishes its circuit.
 Beyond him Venus stands out with its brilliance and light;
 In thirty-two weeks she completes her journeying.
 The Earth, the dwelling given to us, follows along with the
 Moon;
 She consumes her ordained orbit in twice six months.
 This gives rise to Mars, who mingles light with fire;
 He flies across his orbit in twice seventy-seven weeks.
 Among the ancients, they judged Jupiter to be solitary.
 But when our generation should look upon excessive spaces,
 And be withdrawn from the usual law of standing apart:
 A suspect matter advises men to search deeper;
 Prepared with talent, skill, equipment, they see the truth,
 They see four before the one, amazing to say,
 Which Olbers judges to be fragments of a shattered planet.
 Thus the Sicilian Piazzi uncovered Ceres by chance;
 She flies across her circuit in twice six times twenty weeks.
 Thus did wise Olbers of Bremen add Pallas;
 She wings about her orbit in the same time as Ceres.
 Thus did lucid Juno reveal herself to Harding at Goettingen;
 Her path is three and ten times five months.
 Happily did Olbers catch sight of the looked-for Vesta;
 Through forty-three months she takes her road.
 The circuit of these four, than which nothing is more puzzling,
 Would scarcely have been explained, unless you, Gauss,
 Standing so much above us, would have demonstrated it, may
 you never pass on.
 Beyond these Planets you, Jupiter, greatest of all,
 Distinguished glory of the heavens, whom your four companions
 accompany,
 Worthily you shine with the light of Venus;
 In nearly twice six years you traverse your course, twinkling.
 Saturn follows, about whom go three and four companions.
 A two-fold ring, wondrous to look upon,

Girdles him; He finishes his route in nearly ten times three years.
Uranus comes along after, whom you, father of Astronomers,
Worthy Herschel, you who touch the stars with your head,
First recognized wandering around. He is bidden to be
Most distant of all; perhaps it is a punishment;
For the Giants and Titans gave birth to the terror
Of Gods and Men. He and his six companions
Fly about, perhaps more will be revealed;
He finishes his path in more than ten times eight years.⁶⁰

The ‘companions’ are satellites—the four Galilean satellites of Jupiter, the four satellites of Saturn, and six of Uranus are mentioned. This latter is, however, incorrect. Herschel discovered two moons of Uranus in 1787. He then claimed two more moons in 1790 and an additional two in 1794. These latter four moons were spurious, but this was not known until the 1850s. The issue of the ‘suspect matter’ is covered in section 4 of this paper.

This poem is unique in mentioning, as ‘fragments of a shattered planet’, the asteroid explosion hypothesis of Olbers. His idea, now discredited, was that the four asteroids were originally part of a much larger planet that exploded eons ago. The hypothesis—widely accepted in the early nineteenth century—was the subject of lively debate and controversy for more than a century.⁶¹

The allusion to Vesta being ‘looked-for’ reflects the fact that Olbers did a deliberate search of the sky for more asteroids. After several years of effort, he finally found Vesta.

Better than any other, this poetic tribute encapsulated the discovery of—and mystery surrounding—the four new planets.

Beyond the orb of Mars behold we find
Four smaller bodies of the planet kind.-

⁶⁰ Translated Roger Ceragioli.

⁶¹ Olbers first broached the idea of a planet shattered into fragments in a letter to Carl Gauss (23 April 1802). Bremen, State and University Library; reproduced in Carl David Schilling (ed.), *Wilhelm Olbers: Sein Leben und seine Werke* (Berlin: Julius Springer, 1894–1909). How the hypothesis was received during the past two centuries is reviewed in Clifford J. Cunningham, *The Origin of the Asteroids: Olbers vs Regner* (Ft. Lauderdale, FL: Star Lab Press, 2012).

The first, though last reveal'd to human sight,
Is Vesta call'd; of feeble, dusky light;
Whose bulk and distance are to us unknown,
Nor have her revolutions yet been shown.

Still farther off (with telescopic eye)
The late discovered Ceres we descry;
Of size minute, and various in her hue,
Sometimes a red, at others, white or blue.

See Pallas, gliding on in annual round,
The minimus of planet-stars, is found;
Of size so small, as well as feeble light,
No wonder she so long escap'd our sight.

In path elliptic, Juno wings her way,
And feebly sheds on us her silver ray;-
Her length of days (as yet to us unknown)
By future observations, will be shown.
Whate'er her bulk, her days how short or long,
Creative judgment has not made them wrong.
In ev'ry world, in ev'ry part, we find
Th' unerring wisdom of th' eternal mind.⁶²

The mention of various colours being attributed to Ceres is also unique to this poem. Different observers discerned Ceres in different ways. The general consensus of modern telescopic observers is that Ceres appears white or bluish-white. Whether Herschel's observation of Ceres as reddish 'was a purely subjective problem, a physiological one, or down to his speculum metal being a better reflector at the long-wavelength end of the spectrum, is still open to debate'.⁶³

8. Legacy

As a plethora of discoveries of more asteroids followed from the mid-nineteenth century on, the impulse to commemorate astronomical discoveries in verse evaporated, although the asteroids and 'The Georgian Planet' continued to be featured in prose. Among these is a poem by the American Lydia Sigourney, an anonymous poem entitled 'Immortality' from an English writer in 1839, and this example by Thomas Edgar that

62 A. Crocker, *The universe; a philosophical poem* (Taunton: J. Poole, 1808).

63 R. Holmes, *The Age of Wonder* (New York: Pantheon Books, 2008), p. 87.

weaves in the purely classical attributes of the deities: Ceres, goddess of Agriculture, Pallas, who bestowed arts and science on humanity, Juno, the jealous wife of Jupiter, and Vesta, the goddess of the hearth and home.

Next, four twin sisters, lately known,
In noble splendor do roll on—
Ceres, who agriculture taught—
Pallas, who arts and science brought
To ancient Greece, as poets tell,
In which she did the world excell—
Juno, the watchful, jealous wife,
Vesta, who virgin was for life.⁶⁴

The rich and fascinating verse elicited by the amazing astronomical discoveries of the late eighteenth and early nineteenth centuries, collected here for the first time, offers a unique insight into the golden age of planetary science.

64 Thomas Edgar, 'On a Beautiful Aurora Borealis, which appeared in Autumn 1819, With a cursory sketch of the Heavens at the time' in *Poems on various subjects* (Dumfries: J. M'Ciarmid, 1822); See also Lydia Howard Sigourney, *Poems* (Boston: S. G. Goodrich, 1827) and Anonymous, *Immortality, a Poem in Six Books* (London: John Hearne, 1829).