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The deification of Newton in 1711

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The mathematician William Jones obtained a number of Isaac Newton's manuscripts and letters through the acquisition of papers owned by John Collins. Jones published them in 1711 in a book entitled *Analysis per quantitatum series, fluxiones, ac differentias*. It was one of the small events in the priority controversy between Newton and Leibniz over the calculus. Inserted in the book, as well as on the title page, are a number of allegorical engravings, almost certainly commissioned by Jones. This article discusses some interpretations of the engravings. As with Halley's dedicatory poem to Newton in *Principia mathematica*, the engravings endow Newton with a god-like status. At the same time, the engravings also show some of Newton's activities as a mortal and place him in a superior position to Leibniz with respect to the discovery of the calculus and as a mathematician.

Background to Newton's deification

In the year 1708 the mathematician William Jones obtained a collection of manuscripts owned by John Collins. It is uncertain how the papers came into Jones' possession; Collins died in 1683 and the whereabouts of his papers for the next twenty-five years is unknown. Collins served as mathematical advisor to Henry Oldenburg, secretary to the Royal Society. In this capacity, he engaged in an extensive correspondence with mathematicians in England and elsewhere (Scriba 2004; Wallis 2004). Among the manuscripts and letters owned by Collins that Jones acquired were some by Isaac Newton pertaining to the early development of the calculus. With Newton's approval and possible oversight, early in 1711 Jones published Newton's letters and manuscripts under the title *Analysis per quantitatum series, fluxiones, ac differentias: cum enumeratione linearum tertii ordinis*, hereafter shortened to *Analysis per quantitatum series*. The book is divided into five parts:

1. 'De analysi per æquationes numero terminorum infinitas' [On analysis by means of equations having an infinite number of terms]. This manuscript on infinite series is reproduced with an English translation and commentary in Whiteside (1968, 206–247). Newton sent the manuscript to Isaac Barrow who, in turn, sent it to John Collins in 1669. Leibniz saw Collins' copy when he visited London in 1675 (Hall 1980, 73–74).
2. 'Fragmenta epistolarum' [Fragments of letters]. This section contains excerpts of letters on mathematics dated in the 1670s, three in total, from Newton to Oldenburg and Newton to Collins. A fourth letter was probably provided to Jones by Newton himself. It is a letter from Newton to the mathematician John Wallis written in 1692 well after Collins' death.
3. 'Tractatus de quadratura curvarum' [Treatise concerning the quadrature of curves]. This section is divided into an introduction followed by a treatment of the theory of the quadrature of curves. The manuscript treating the quadrature of curves with an English translation and commentary is in Whiteside (1976, 48–163).
4. 'Enumeratio linearum tertii ordinis' [Enumeration of lines of order three]. The English translation is a literal one. 'The enumeration of third order curves'

would be a better modern mathematical title. Third order curves are defined by equations in the variables x and y obtained by equating a function of y and sometimes x to a third degree polynomial in x. The four cases for the function of y and x are: $xy^2 + ay$, xy, y^2 and y, where a is a given constant. The original manuscript with an English translation and commentary is in Whiteside (1976, 588–645).

5. 'Methodus differentialis' [The method of differences]. The manuscript with an English translation and commentary is in Whiteside (1981, 244–255). This is Newton's development of the theory of finite differences.

Some of the material in the 1711 book had been previously published. Newton published his manuscripts on third order curves and on the quadrature of curves in his *Opticks* (Newton 1704). John Harris included English translations of the material on third order curves and the introduction to the quadrature of curves in his *Lexicon technicum* (Harris 1710). Whiteside (1976, 570) calls Harris's treatment of third order curves 'somewhat muddled and opaque'. The rest of Newton's work as given in *Analysis per quantitatum series* had not been seen before by the public.

The book does contain some new material, at least new in 1711. The first is an eleven-page preface written by Jones. There Jones reviewed Newton's contributions to mathematics beginning in the 1660s. The second bit of new material is a set of six engravings that contain mythological figures and allegorical elements. These engravings are the focus of this paper. They were almost certainly commissioned by Jones. The engraving on the title page is signed by Joseph Nutting. Although the remaining engravings are unsigned, they might be attributed to Nutting. An eighteenth-century biography of Nutting states that he 'worked principally for booksellers, and his engravings have very little merit to recommend them' (Strutt 1786, 187). A more modern biography (Sharp 2004) mentions that he worked mostly on portraits and his engravings became frontispieces for books.

William Pearson was the printer for the book. He was an interesting and perhaps odd choice since this was his first mathematical book. Active in the printing trade from about 1699 to 1735, he was 'the principal type music printer during the first thirty-five years of the eighteenth century' (Kidson 1967, 88–90). A search through the online repository Eighteenth Century Collections Online (ECCO) shows 112 Pearson titles published between 1700 and 1750; most of the titles are musical, some secular but mostly religious. Subsequently, Pearson published only three other mathematical books, including *The doctrine of chances* (De Moivre 1718), *The history of fluxions* (Raphson 1715) and *De calculo fluentium libri duo* (Craig 1718).

The allegorical engravings in *Analysis per quantitatum series* are shown in Figures 1 to 6. Figure 1 appears on the title page of the book. Figure 2 is placed at the end of the introduction to the quadrature of curves. Figure 3 appears in three places. It is placed at the end of the entire section on the quadrature of curves as well as at the end of the part on the enumeration of third order curves and at the end of the entire book. Figure 4 appears at the head of the preface and is repeated at the beginning of the part on the enumeration of third order curves. Figure 5 also appears in two places: at the head of the part on the analysis of equations of an infinite number of terms and at the head of the part on the method of finite differences. Figure 6 appears at the head of the introduction to the quadrature of curves. Some interpretations of these engravings are given in the section entitled 'The deification of

Newton through engravings in his book'. It will be argued that the engravings endow Newton with a god-like status. At the same time, the engravings also show some of Newton's activities as a mortal and raise the status of his mathematical work by claiming Newton's priority over Leibniz in the discovery of the calculus.

The book in the context of the Newton–Leibniz controversy

The long-simmering controversy over who discovered the calculus – Newton or Leibniz – erupted spectacularly in 1710 when an attack on Leibniz by John Keill appeared in a paper in *Philosophical Transactions*; a discussion of the events is in Hall (1980, 168–170). The paper contains accusations of plagiarism on Leibniz's part. According to Hall, Leibniz, in his capacity as a fellow of the Royal Society, wrote on 21 February 1711 to Hans Sloane, secretary to the Society, demanding an apology from Keill. The letter was taken up at a meeting of the Royal Society held on 5 April 1711. There Keill successfully defended his attack but was required to provide a written account of the dispute. This was done at a meeting of the Royal Society held on 24 May 1711. Rather than a defensive move, his reply was a strong counterattack. With respect to the publication of *Analysis per quantitatum series*, these are the key dates. This dispute carried on for several more years ending, from the point of view of Leibniz, with his death in 1716.

The *Analysis per quantitatum series* was in print by the middle of February 1711 (Edleston 1850, 206). It came between Keill's attack and Leibniz's response read before the Royal Society. Unlike Keill, the book was not overtly anti-Leibnizian but was instead distinctly pro-Newtonian with no mention of Leibniz. As Hall and Tilling (Newton 1975, 95) have noted about Jones' preface:

> Without mentioning Leibniz or the calculus dispute, Jones in eleven short pages presented powerful evidence of Newton's mathematical originality as far back as 1665. For the first time the testimony of Newton's earliest communications to Barrow and Collins . . . was set before the public, thus anticipating the fuller documentation attempted in the *Commercium Epistolicum*.

The *Commercium epistolicum* is a collection of Newton's letters put together and published to support Newton's side of the calculus dispute. It was distributed early in 1713. The body of *Analysis per quantitatum series* contains key letters and papers that illustrate Newton's development of the calculus.

Jones was elected a fellow of the Royal Society 30 November 1711. His election was almost certainly connected to the publication of *Analysis per quantitatum series*. On 6 March 1712, Newton, as President of the Royal Society, appointed a committee to adjudicate his claim to priority in the discovery of the calculus. Jones became a member of the committee and was involved with Newton in the publication of *Commercium epistolicum* that came out of its deliberations.

Allegorical engravings in mathematics books

The use of allegory is an ancient practice. Its popularity in the early modern era inspired Cesare Ripa, an Italian aesthetician, to compose a book of comprehensive explanations of allegorical images. First published in 1593, it went through several

editions (Ripa 1719 appears to be the first English edition). In my analysis of the images in *Analysis per quantitatum series* I have used an English descendant of Ripa, a two-volume catalogue of images and explanations written in the 1770s by Richardson (1779). In his preface, Richardson provided an insightful explanation of the interaction between the image maker and the viewer of the image.

> All the fine arts have a double purpose; they are destined both to *please* and to *instruct*; and this consideration has engaged many eminent artists to introduce *historical* or *moral* representations even in their landscapes. The pencil of the painter, like the pen of the philosopher, ought to be always directed by reason and good sense. He must present to the understanding and judgement of the spectator, something more than is offered to the external eye; and in this attempt he will succeed perfectly, if he knows the right use of allegory, and is dextrous enough, to employ it as a transparent veil, which rather *covers* than *conceals* his thoughts.

By looking through the veil of the images in *Analysis per quantitatum series*, a message can be extracted that speaks to Newton's status in general and to Leibniz's status within the priority dispute as interpreted by Jones.

A major contribution to the analysis of images in books, particularly frontispieces and those on title pages, has been made by Remmert (2006, 2011). Remmert has analysed over seventy images in a very successful attempt to examine emerging scientific theories, the Copernican system in particular, and efforts to legitimize some scientific disciplines in the seventeenth century. In Remmert's words (Remmert 2011, 4):

> The legitimization of a (scientific) discipline depends on the capital it has or can obtain from the trust engendered by the accuracy and truth of the knowledge it produces, and from the belief in the usefulness, actual or potential, of that knowledge.

This concept can be applied to the study of mathematics in the seventeenth century. Up to the sixteenth century mathematics had been taught as part of the quadrivium. It was considered as a subject that was preparatory to studies of higher status: law, medicine and theology. A legitimization of mathematics meant a rise in its status.

This kind of analysis can be applied to the frontispiece of an early eighteenth century mathematics book on probability, *Essay d'analyse sur les jeux de hazard* (de Montmort 1708, 1713). At the head of the preface in both editions of the *Essay d'analyse* is an image with allegorical elements set in a gambling scene that I have previously analysed (Bellhouse 2008). One of the elements of the image is a man (Montmort) standing in front of a table in a dominant position showing a manuscript with mathematical symbols to a seated Minerva, the goddess of wisdom. The message is that mathematics explains chance, not the vagaries of the gods. The interpretation of the image is connected to what Montmort wrote in his preface. There is no validity to superstition in games of chance; it is mathematics that explains the outcomes. Taking on Remmert's approach to the analysis of the image, the study of games of chance through mathematics should rise in status since it is a legitimate activity shown by the usefulness of the study in the banishment of superstition as part of the game.

Montmort's rival in probability theory was Abraham de Moivre, a Huguenot refugee living in London. De Moivre (1718) included an allegorical engraving in *The*

doctrine of chances. It is the only other book printed by William Pearson that contains an allegorical engraving. In this case, Remmert's analysis that it would result in a legitimization of the study of probability applies only in a roundabout way. It applies more to the legitimization of an individual rather than an entire discipline. The message in de Moivre's image is polemical. Montmort's approach to probability should be discarded; de Moivre is the legitimate probabilist with much better solutions to problems in probability than Montmort. Some of the images in *Analysis per quantitatum series* printed earlier by Pearson also have polemical elements to them. At the same time these images were meant to raise Newton's status and to legitimize his work when compared to Leibniz.

As Remmert (2011, 5) has noted in his study of images:

> A picture never contains a single message, nor does it consist of unambiguously readable signs; its meaning is not determined unalterably before it is produced, and there are no formulas that automatically lead to its authoritative interpretation.

The same can be said for my interpretation of the images in *Analysis per quantitatum series*. At the same time I will justify my interpretation by relying on Richardson's *Iconology* to identify elements in the images and by connecting my interpretation to the historical background in which the images were produced.

The deification of Newton through the engravings

The near deification of Newton began very early on with the publication of *Principia mathematica* (Newton 1687). At the beginning of the *Principia*, Halley inserted a poem in praise of Newton written in Latin hexameters. The last line of the poem is, 'Nec fas est propius mortali attingere divos', which has been translated by Gay (1969, 131) as, 'It is not lawful for mortals to approach divinity nearer than this'. Fara (2003, 23) has given some examples of Newton's deification by his supporters that occurred after Newton's death in 1727. Two of Fara's examples dating from 1729 and 1738 are allegorical engravings, appearing respectively in the first translation of the *Principia* into English and in *Éléments de la philosophie de Newton, mis à la portée de tout le monde* (Voltaire 1738). Both engravings give Newton a semi-divine status. Gjersten (1988, 29) gives other examples in which Newton is given a special god-like status by his contemporaries and near contemporaries. The engravings in *Analysis per quantitatum series* fall in line and, with the exception of Halley's, precede the other adorations of Newton that have been mentioned.

I am not the first to consider the images in *Analysis per quantitatum series*. Guicciardini (2009, 370–72) has provided interpretations to some of the images in the book, in particular Figures 4, 5 and 6. I agree with many of his interpretations but, in that he has ignored Figures 1, 2 and 3 and, in my view, has misidentified some of the elements in Figures 4, 5 and 6, I propose that there is an additional layer to the interpretation. It is the deification of Newton and his superiority to Leibniz as a mathematician.

For each of Figures 1 to 6 in *Analysis per quantitatum series*, I will begin by describing the allegorical elements to which a positive identification can be attached. Where appropriate, I will mention and comment on Guicciardini's interpretation. Then I will provide some additional interpretation to the material.

Figure 1. Announcement of the divinely inspired Newton

Figure 1, which appears on the title page of the book, is an immediate indication that the engravings will deal with god-like qualities of Newton. The engraving shows the head of a mature man within an aureole. The rays of the sun behind the man indicate divine assistance (Ripa 1719, 2). Although Keynes (2005) does not include this engraving in his iconography of Newton, I would claim that the head is a representation, though not necessarily a likeness, of Newton. It is likely that the engraver Nutting worked only with the publisher Pearson or with Jones, and never met Newton. When Abraham de Moivre commissioned his engraving for *The doctrine of chances* published by Pearson, contact with, and instructions to, the engraver were made through de Moivre's friend, Brook Taylor (Bellhouse 2011, 116–117). The figure on the right of the engraving in Figure 1 is Mercury, identified by the winged helmet and the caduceus at the bottom centre right of the picture. The caduceus is a symbol of virtue and peace (Richardson 1779, II, 155). The trumpet is a symbol of celebrity and renown (Richardson 1779, II, 127). The figure on the left is Minerva, goddess of wisdom. She is identified by the owl sitting atop her helmet, the attribute of the wisdom of the owl being associated with her. The bird on Mercury's helmet is possibly a dove, which in this case is a symbol of integrity of mind (Richardson II 1779, II, 131). Taken together with the interpretation that the man in the engraving represents Newton, the image shows a divinely inspired Newton whose work has found favour with the gods who are proclaiming its worth. This is the first image that greets the reader of the book.

The introduction to the quadrature of curves ends with Figure 2. It is a reference to Queen Anne. She is head of the Knights of the Garter, the highest chivalric order of knighthood in England. The badge of the order is shown in the middle of the engraving. Newton was promoted to a lower order of knighthood; he was made a

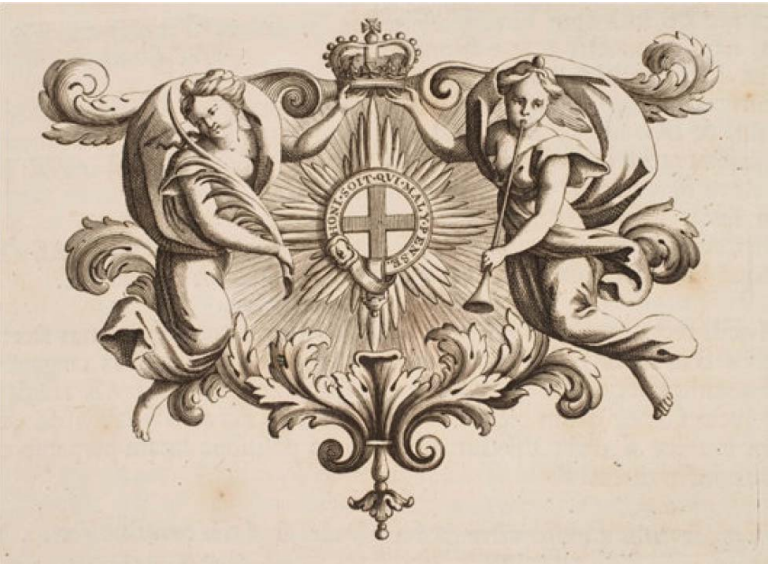

Figure 2. Queen Anne and the Order of the Garter

knight bachelor on 16 April 1705 at Cambridge University when the queen was visiting the university (Shaw 1906, 274). Around the badge and supporting the crown are two women. The one on the left holds a palm branch representing 'reward due to merit' and the other on the right has a trumpet indicating 'fame' (Richardson 1779, I, 81), perhaps indicating that the truth of what Newton has done has brought fame to the British crown. Since it was well known in 1711 that Anne would be succeeded by Sophia of Hanover or by her son George, Figure 2 is also a message to Leibniz. Newton was a member of a chivalric order, close to the monarch. Soon that monarch would be Leibniz's current employer and Leibniz did not enjoy the same relationship with the monarch as Newton did. Newton was the knight and Leibniz the servant.

Figure 3 is placed at the end of the section on the quadrature of curves. There are rays of light around a representation of a youthful Newton, again indicating divine assistance. The youthfulness is an indication that Newton obtained his results much earlier in his career. Note also the laurel wreath on his head to which two interpretations can be given. The first, and most common, interpretation is that laurel signifies honour and respect, which in this case should rest on Newton (Richardson 1779, I, 100). The second interpretation comes from the nature of the plant. Laurel is an evergreen so that the use of laurel signifies that Newton's work has remained relevant over time (Richardson 1779, I, 74). The engraving as a whole is a reference to Newton's work in a variety of areas. In the left part of the picture a putto is making a rainbow, a reference to Newton's work in optics. To the putto's right, another putto is holding a telescope, a reference to celestial mechanics. In the middle is a prism and next to it is a parabolic mirror, again references to optics. The alembic on the right (the two connecting flasks used in distillation) may be a reference to Newton's work in alchemy.

Figure 4 appears at the head of the preface and at the head of the *Enumeratio*, the section on third order curves. The goddess shown on the right in the figure is the emblem for mathematics (Richardson 1779, I, 71). She is identified by the wings on her temples and the globe with the signs of the celestial zones, or armillary sphere, at

Figure 3. A young Newton and his work

her side. A number of putti at her feet are engaged in some kind of mathematical activity. The goddess holds in her right hand a representation of the solar system including the moon in a circular orbit around Earth and a comet in a highly elliptical orbit around the sun.

Guicciardini tentatively, but in my view incorrectly, identifies the goddess as Urania. With the proper identification of the goddess as 'Mathematics', the interpretation of the engraving is similar to but slightly different from Guicciardini's. The focal point of the engraving is the goddess connecting mathematics to celestial mechanics, a direct reference to Newton's *Principia mathematica*. I interpret the putti at her feet as students of mathematics who are learning the background necessary to the understanding of Newton's work. The remainder of Guicciardini's interpretation concerning the nature of the putti's activity at the feet of 'Mathematics' is

Figure 4. The goddess of mathematics and Newton's work

appropriate. After noting that the putti's activity 'expresses an idea that was quite important for Newton', Guicciardini (2009, 371) elaborates:

> The objects of geometry, in this case, plane curves, should be conceived of as traced by motion, geometry being based upon mechanical practice. Indeed, the two putti are intent on drawing a conic by deploying Newton's mechanical description via rotating rulers ... Such generations of curves, treated in the final chapters of the *Enumeratio*, can be performed both by artifice and by nature (see chapters 13 and 14). Plane curves are indeed daily observed in *rerum natura*.

With this background in mind, Guicciardini goes on to observe that one putto is tracing the orbit of the moon using a compass and another putto is generating the elliptical orbit of the comet using an instrument devised by Newton.

The central figure in Figure 5 is Minerva, goddess of wisdom, identified by her helmet, spear and shield. Here the deification of Newton is near complete. Minerva is presiding over the mathematical discussions among a number of putti. Rather than the usual Medusa on her shield, Minerva has geometrical diagrams from the *Principia*, indicating Newton as the personification of the goddess of wisdom. Her shield or aegis is resting on a globe, indicating that Earth operates under Newton's laws. The armillary sphere has been cast into the background on the left indicating perhaps that the old approach to astronomy has been replaced by Newton's work, which the putti are studying. The remaining diagrams in the engraving are taken from the *Principia*. The diagram on the upper part of the shield is associated with Section VII, Proposition XXXII, Problem XXIV and the one on the lower part of the shield is associated with Section IX, Proposition XLIV, Theorem XIV. The diagrams at the bottom of the engraving, from left to right are associated with: (1) Section XIV, Proposition XCIV, Theorem XLVIII; (2) Section XI, Proposition LXVI, Theorem XXVI; (3) Section II, Proposition I, Theorem I; and (4) Section XIII, Proposition XCI, Problem XLV, Corollary 2. Guicciardini has also identified the diagrams and put them into context in terms of the subject material in *Principia mathematica*.

Figure 5. Newton as Minerva, the goddess of wisdom

Figure 6. Three aspects of Newton's career

Based on its placement at the head of *De analysi*, Guicciardini (2009, 370) has interpreted Figure 5 in the context of the Newton–Leibniz dispute in the following way:

> It expresses a cherished idea of Newton and his acolytes. The fluxional methods revealed in *De Analysi* would, according to Jones' propaganda, constitute the hidden analysis of the *Principia*.

He later concludes that, 'The message addressed to the Leibnizians such as Johann Bernoulli could not be clearer.' Figure 5 is also placed at the head of the section on finite differences. Since the methods in *De analysi* and in *Methodus differentialis* were both used in the *Principia*, the figure refers to Newton's mathematical achievements expressed within his great work.

Figure 6 is probably the most difficult of the engravings to interpret. It contains a mixture of scenes. In the foreground on the right half of the engraving is a goddess whose portrait is in the process of being painted. There are a number of individuals around her. In the background there is an apparent flurry of activity mostly related to the building trades. My interpretation may not be fully accurate or complete; but it is in keeping with the god-like status of Newton and his superiority to Leibniz.

The part of the engraving in Figure 6 containing the goddess and her entourage is reminiscent of an engraving in a set entitled *Nova reperta* published by Jan van der Straet (Johannes Stradanus) in the late sixteenth century. A copy of the engraving may be found in Ernst van de Wetering (1997, 138).[1] Hans Sloane, who was close to the action in the Newton–Leibniz controversy during the events of 1710–11, owned a copy of the engraving, which is now in the British Museum.[2] The Stradanus engraving shows a portrait painter at work in his studio with several of his students at work around him. Some of the students are copying the work of the master. The grouping

[1]It may also be found on the website European Cultural Heritage Online (ECHO), http://echo.mpiwg-berlin.mpg.de/home, by searching for 'Straet, Jan van der'.

[2]The reference to the Sloane bequest to the British Museum can be found by going to the British Museum's online collection database at http://www.britishmuseum.org/research/search_the_collection_database.aspx and searching on the keywords 'nova reperta color olivi'.

in Figure 6 of the goddess and her entourage is similar to the Stradanus engraving. In Figure 6 someone is painting the goddess's portrait. There are students at the goddess's feet and one student is at the foot of the artist copying his work. I interpret the goddess as Newton and the painter as Leibniz with Johann Bernoulli as the student at Leibniz's feet. Leibniz's act of putting the image of Newton on canvas is a message that Leibniz has merely reproduced Newton's work. Bernoulli is relegated to being a student of the portrait master who could only produce an image of Newton and not of the mathematical master, Newton himself. Further, the goddess, or Newton, appears to be directing the painter Leibniz in his work. Finally, Leibniz as artist has painted an aureole around the head of Newton as subject of the portrait, thus openly recognizing Newton's superiority. To cap it off, the painter has put the subject in the sky emerging from an opening in the clouds thus openly endowing Newton with god-like status.

Guicciardini has not attempted to identify the goddess in Figure 6, probably for good reason. The only clue to her identity is the compass in her left hand. This may be a reference to the emblem for 'Geometry' or for 'Civil Architecture', both of whom hold compasses (Richardson 1779, I, 66 and 74–75). For either emblem, the other elements that define them are missing. On the other hand, Guicciardini (2009, 372) has interpreted all the elements of Figure 6 as a collection of applications of mathematics – to carpentry, to painting, and to fortification, for example. He equates the collection of diverse activities of the various craftsmen to the collection of heuristic techniques that were part of the method of quadrature.

My interpretation is quite different. I have already argued that the mathematical aspect of Newton's career and his status in mathematics is captured by the goddess and her entourage. My interpretation of the remainder of the elements in the engraving is that they refer to two other aspects of his career: President of the Royal Society and Master of the Mint. Reference to the Royal Society is made on the left of the engraving and reference to the Royal Mint is in the background on the right. The building activity on the left of the engraving (including a putto working at a spring pole lathe and a putto with a saw) and in the background (including several putti carrying building materials) refers to the building of the new repository to contain the Royal Society's museum undertaken during Newton's presidency. The cost of the museum plus other repairs to the building totalled £800, of which Newton contributed £120 (Weld 1848, 399). In the background on the right side of the engraving is a putto working at a forge and to the right of the portrait artist is another putto striking something with a hammer. I interpret these activities as references to the minting of coins. To support this, I interpret the map of the fortification and the scales that appear on the right hand side of the engraving as references respectively to the Tower of London, where the coins were minted, and to the trial of the Pyx, where coins were weighed and tested as a quality control exercise. See, for example, Stigler (1977) for a description of Newton's work related to the Pyx. Following my interpretation, Figure 6 captures Newton's entire career by 1711. At the same time, the engraving emphasizes the centrality and importance of his work as a mathematician, and endows him with a god-like status. This interpretation is consistent with the interpretations I have given to the other five engravings.

Taken as a whole, the engravings are a strong argument that speaks to Newton's priority in the calculus dispute and to his superiority as a mathematician when compared to Leibniz. The engravings take the viewer a leap beyond the mortal realm by giving Newton a god-like status as a result of his mathematical work.

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