Isaac Newton, Architect

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It is well known that Isaac Newton had an interest in the Temple of Solomon. Most biographies of Newton mention this interest, but little attention, if any, is given to his architectural work on the Temple. Although there is no surviving book of Vitruvius’ *De Architectura* or even one of his commentators in Newton’s library, he had a good knowledge of Vitruvius. He mentioned and/or referenced Vitruvius in some of his unpublished papers. For Newton the Temple was built to the ‘proportions of the architecture’ and these proportions paralleled Vitruvius’ norms of architecture. From his early days in Cambridge up until his death Newton remained interested in the Temple, its meaning and its architecture.

When the Temple is mentioned in Newton’s biographies, in general it is illustrated with one of two floor plans by Newton. The most commonly illustrated is from *Chronology of Ancient Kingdoms Amended* posthumously published in 1728 and the other one commonly cited is from an unpublished manuscript known by its call name Babson Ms 0434, written circa mid-1680s. These two floor plans have become synonymous with Newton’s Temple of Solomon. There appears to be an initial similarity, but the floor plan of the *Chronology* has a great deal more detail than the floor plan in Babson Ms 0434. However, this detail is not backed up by the text in *Chronology* or in any other of Newton’s manuscripts. There is good reason to suggest that the floor plan in the *Chronology* is not Newton’s work. Furthermore the floor plan in Babson Ms 0434 is the beginning of the manuscript and is surpassed by another plan which is not illustrated, but is only expressed verbally. This paper examines Newton’s interest in architecture and discusses the relationship between these three floor plans of the Temple.

The unpublished papers of Isaac Newton and the publication of *The Chronology of Ancient Kingdoms Amended*

Newton died on 20 March 1727 leaving hundreds of unpublished manuscripts. Some of these manuscripts dated back to his arrival at Trinity College, Cambridge, in 1661.
Throughout Newton’s life he was a prolific writer. His surviving manuscripts included drafts of the *Principia*, mathematical and scientific papers, and his correspondence. They also included Newton’s works on prophecy, chronology, alchemy, and theology. Many of these manuscripts were not made public in his lifetime and for good reason. His unorthodox religious views would have been considered heretical in his lifetime. He rejected the Trinity. Scholars who are unravelling Newton’s religious beliefs have applied labels such as ‘Arian’ or ‘Unitarian’, but these do not appear to cover the complexity of his religious beliefs.\(^1\) William Whiston, former pupil and successor to Newton as Lucasian Professor at Cambridge, shared similar religious beliefs to Newton. Whiston made his beliefs public, which ended his career at Cambridge. He was later charged with heresy and although not convicted he never held an academic position again.\(^2\) Sir Isaac Newton, Lucasian Professor and Master of the Mint had a lot to lose if his religious beliefs were made public.

Newton’s heirs invited Thomas Pellett to examine the manuscripts and report on their suitability for publication. After only three days of examining these hundreds of manuscripts, Pellett, a qualified physician and member of the Royal Society, dismissed the majority of manuscripts as being ‘not fit to be printed’,\(^3\) ‘of no scientific value’ and ‘loose and foul papers’.\(^4\)

Pellett found only two sets of manuscripts that he deemed suitable for publication. The first were two manuscripts on prophecies, and although Pellet claimed that the text on prophecy was imperfect, they were nevertheless worthy of publication.\(^5\) This was eventually prepared for press by Newton’s nephew Benjamin Smith and published in 1733 as *The Observations upon the Prophecies of Daniel and the Apocalypse of St John*. *Observations* proved to be one of Newton’s best sellers in the eighteen century and it was also translated into Latin and German shortly after its first edition.\(^6\)

The second was a set of manuscripts on chronology. Newton’s interest in chronology, unlike his interest in alchemy and his unorthodox religion, was well known to the public in his lifetime and it had drawn him into a controversy at the end of his life. In his chronology he had shortened the accepted Greek historic chronology by at least 300 years. He had also shortened the duration of the Egyptian Empire and claimed that they had overstated their antiquity beyond the age of the world.\(^7\) Without Newton’s
permission or knowledge a summary of his chronology had been translated into French
and had been printed by Parisian Printer Guillaume Cavelier in 1725. This summary,
which became known as ‘Short Chronicle’, was highly criticized, even by some of
Newton’s strongest supporters.

Chronology had been a long running interest of Newton’s. Two of the earliest
purchases Newton made on arriving at Cambridge University in 1661 were Hall’s
Chronicles and Johann Sleidan’s Four Monarchies. The copy of Sleidan remained in
his library for the rest of his life. His interest in chronology, particularly associated with
prophecies, spanned over fifty years. However, the ‘Short Chronicle’ was a list of names
and dates, but the dates were not justified. If Newton was to silence his critics he needed
to prepare his chronology, with proofs, for publication. To this end he spent the rest of his
life working day and night on the chronology. He died with the chronology unfinished
and the controversy was still raging in 1727 and it continued to rage well into the
nineteenth century.

The set of manuscripts of Newton’s justification for his chronology were
compiled and arranged by John Conduit and published in 1728 as Chronology of Ancient
Kingdoms Amended. In the Preface of a 1770 edition of Chronology, which is in the form
of a correspondence between Dr Thomas Hunt, Hebrew Professor at Oxford University
and Rev Zachary Pearce, the Bishop of Rochester, the Bishop reiterated to Dr Hunt the
controversy that surrounded the publication of the ‘Short Chronology’. He claimed that
after Newton’s death sixteen drafts of the Chronology were found. However, there are
many other manuscripts of Newton’s that relate to his chronology which reveal
developments, changing ideas and, perhaps at the end of his life and at the time of the
controversy, a sanitization of his more radical and unorthodox religious beliefs from his
chronology. The final form of the Chronology in Newton's best handwriting, with
hardly any deletions or emendations, can be seen in a manuscript held at Cambridge
University Library, Additional Ms 3988. This manuscript was written toward the end of
his life and there are only minor editorial corrections in the text of the published version.
The book that resulted from these drafts cannot be considered to be a success and is
exceptionally dull!
The structure of the book has the ‘Short Chronicle’ at the front of the book, followed by six chapters:

Chapter I – Of the Chronology of the First Ages of the Greek
Chapter II – Of the Empire of Egypt
Chapter III – Of the Assyrian Empire
Chapter IV – Of the Two Contemporary Empires of the Babylonians and Medes
Chapter V – A Description of the Temple
Chapter VI – Of the Empire of the Persians

Contemporary Hermetic philosophers, such as Athanasius Kircher, Giordano Bruno and Tommaso Campanella, promulgated that Moses had learned his wisdom and the theology of the Hebrews from the Egyptians. Plato too had learned from the Egyptians, thus, Greece and Jewish wisdom stemmed from the great civilization of Egypt. Although in Newton’s unpublished papers he demonstrated an interest in the symbolism of Hermetic philosophy, for Newton, it was the Kingdom of Israel that was the first significant political society that could be truly called a civilisation. However, Newton did have trouble justifying this against the accounts in the Old Testament, which he had claimed to be the oldest existing records of any civilisation. In the Book of Exodus it clearly reveals Moses leading the Israelites out of a large and powerful Egyptian Empire. Yet Newton diminished Egypt to a country of little city kingdoms that was not united into a great Empire until the reigns of Ammon and Sesac. In the Short Chronicle, Newton dated Ammon 1034BC and Sesac 1014BC, both post-date the reigns of David (1059BC) and Solomon (1019BC). According to these dates Egypt was not an Empire until after the establishment of the Kingdom of Israel.

Throughout the chapter on the Egyptian Empire Newton again used the importance that he gave the Kingdom of Israel and the key focus point for dating the Empires of Greece and Egypt being the death of Solomon. For example, Newton had dated the Argonautic expedition to 936BC, forty-three years after the death of Solomon, and the fall of Troy to seventy-six years after the death of Solomon. However, despite this importance put on the Kingdom of Israel there is no chapter on it, and the description of the Temple of Solomon is curiously placed between the chapter ‘Of the Two Contemporary Empires of the Babylonians and Medes’, and the chapter ‘Of the Empire
of the Persians’. In the ‘Short Chronicle’, the beginning of Solomon’s Reign in 1019 BC and the founding of the Temple in 1015 BC are given as key dates. Yet the beginning of Chapter Five is quite dismissive: ‘The Temple of Solomon being destroyed by the Babylonians, it may not be amiss here to give a description of that edifice’. The only link with the previous chapter, and rationale of its position, was the Temple’s destruction, which Newton dated 588 BC. The chapter consists of a brief description of its floor plan which is barely 3,000 words long, with three illustrated floor plans. There is no mention of the style of architecture, its splendour or its significance. The analysis lacks any enthusiasm and is a highly clinical and static description. This along with its brevity appears to contradict the importance given to Solomon throughout the Greek and Egyptian chapters. Furthermore, the architectural description has many problems and there are parts in the description of the building that do not make structural sense.

Babson Ms 0434

Over forty years before the publication of Chronology Newton worked on a more detailed and considered reconstruction of the Temple of Solomon. An unpublished manuscript entitled A treatise or remarks on Solomon’s Temple introduction to the lexicon of the prophets, part two: About the appearance of the Jewish Temple or more commonly known by its call name Babson Ms 0434, is a manuscript of over eighty pages long. Despite its name, apart from the first page which is true to the title, it is an architectural reconstruction of the Temple of Jerusalem of Newton’s dated circa mid-1680s.

In Babson Ms 0434 Newton examined the verses of the Book of Ezekiel that related to the Temple twice. In his first verse by verse examination he scrutinized the dimensions of the gates, and the interior and exterior atriums with their colonnades. He mapped out the floor plan of the Temple, relating it to each verse through three floor plans, two floor-plans of the gate and one of the Temple precinct, and he constantly checked all the measurements. In his second verse by verse examination, Newton again related the measurements given by Ezekiel to his floor plan with more detail and he footnoted explanations of corruptions of the texts between Greek, Alexandrian, Hebrew, Latin and Arabian texts along with traditional Jewish texts. He also expanded some of the
details of the text and he commented on other contemporary commentators on the Temple such as Juan Bautista Villalpando, and briefly on Louis Cappel, Constantin L’Empereur and Arias Montano. However, he also added unexplained elements such as the number of the rooms in a building, as if this number were included in Ezekiel’s text, whereas Ezekiel does not mention the number of rooms.

Newton claimed that the description of Ezekiel was open to interpretation and that it was incomplete in its measurements. He attempted to rationalise the measurements given by Ezekiel and established the missing measurements which were not given by Ezekiel from other sources. He examined the architectural features of the Temple through the writing of ancient writers, such as Josephus, Hecataeus, Maimonides, Philo, the Talmud and the Septuaginta. In his examination of these writers he was able to highlight the additions and changes made to the design of the Temple through time. Newton also integrated the Jewish rituals into the building as another way of justifying the floor plan of the Temple. He looked for confirmation of the description by Ezekiel though these ancient writers. Where Ezekiel gave overall measurements, Newton demonstrated that the collection of buildings described by the ancient writers corresponded with Ezekiel’s description and dimensions. His comparison of the measurements through the different stages of the development of the Temple was carefully executed and inconsistencies were discarded from his floor plan.

Newton examined the colonnades: the numbers of columns, their height, their thickness, their intervals and their style. These are discerned according to the proportions of architecture. Newton revealed that he was familiar with the architectural theory of Vitruvius’ De Architectura, particularly Books III and IV. When Newton derived the width of the inter-columns from the measurement of the column given from Josephus he paraphrased Vitruvius Book III, Chapter III, ‘The Proportions of Intercolumniations and of Columns’. He claimed that the ‘intervals of these pedestals, according to the proportions of architecture, should not be less than the pedestals’. From Vitruvius, Book IV, Chapter III and the measurements of Josephus Newton estimated the height of the columns were ‘six times the thickness according to the Doric style’. In Ezekiel 40: 14 the measurement of the height of the doorway were given as twenty cubits thus Newton claimed that the ‘width of the doorway was of ten cubits and the height
according to the rules of the architects, should be double the width’.34 For Newton most of the measurements of the Temple are exactly to the ‘proportion of architectural demand’.35 However, according to Newton the architecture of the Temple sometimes surpassed the beauty that classical architecture demands. He confirmed that there were in a row twenty-one columns and twenty inter-columns in the Royal colonnade from the measurement described by Josephus. Newton stated;

the Royal colonnade will occupy seventeen, twenty or twenty-four [spaces] between the columns of the same magnitude. But seventeen, according to the architectural proportions, will be too few, and twenty-four will be excessive if the columns were estimated to be equal to those of the other atriums, and, in one and another case, are set apart too much by the numbers of Josephus, therefore it should be twenty [inter-columns]. According to this proportion, the columns will be less numerous than in the proportion of the eustyl 36 of Vitruvius, but more beautiful; and here, where instead of the architrave there are large blocks of marble that cannot be broken, it does not fit the objections of Vitruvius.37

From the description of the Temple given by the ancient writers, Newton claimed that it was possible to distinguish the plan of the Temple of Solomon. Since Zerubbabel had built on the foundations of the Temple of Solomon, everything that Zerubbabel and Herod added, or anything that is irregular, must be rejected. Harmony and symmetry in the design of the Temple were important elements in the layout of the Temple plan. Newton accepted particular dimensions of Josephus on the strength of their being harmonious with the plan. 38 He stated that, ‘The structure is valued by such great simplicity and harmony of all its proportions’. 39 The perfection of the measurements was of paramount importance to the design.

The Newton’s images of the Temple

There are six drawings in Babson Ms 0434 but only four of these relate to the text. Of the six drawings, two of them are incomplete and they are not referred to in the text. Only four of the six drawings have sufficient detail to allow their annotations within the text to
be followed. Two of these plans are of the gates, one of the altar and the other one is the plan of the Temple precinct (Figure 1). The images in the *Chronology* consist of floor plans of the Temple precinct (Figure 2), the Temple and inner court (Figure 3) and a detail of the colonnades of the courts (Figure 4). These images are complete floor plans, but their completeness is not backed up by the very brief and confused verbal description that is given in Chapter Five of the *Chronology*. The image of the Temple precinct in Babson Ms 0434 lacks any details in some areas, and the other images in Babson Ms 0434 do not add information to fill these gaps. In the two images of the Temple precinct, from Babson Ms 0434 and the *Chronology*, there are clear differences in the floor plan even though the overall appearance does seem similar. These two famous illustrations of the Temple precinct are repeatedly used to illustrate Newton’s Temple of Solomon.\(^{40}\) However, the image in the *Chronology* is preferred over the Babson Ms 0434 image in publications because it fills in what seems to be the ‘grey’ areas that the floor plan in Babson Ms 0434 does not provide and in addition it is a well drafted image which is clear in all the details of the plan.

The differences between the reconstructions of the Temple of Solomon in the *Chronology* and in Babson Ms 0434

Although the floor plan in *Chronology* does appear to have a similar appearance to Babson Ms 0434, it is different in many elements of the plan. In Babson Ms 0434 Newton does not mention any stairs that lead to the second and third floors of the thirty rooms that surround the Temple. In the floor plan in the *Chronology* there is a spiral staircase to the right of the main entrance of the Temple. To access these stairs the priests would have to use the main Temple stairs to go to these chambers and to the lower floor. However, in Babson Ms 0434\(^{41}\) and the Book of Ezekiel\(^{42}\) the priests enter these rooms through the lower floor from steps that are at the side of the Temple and not in the front by way of the main entrance. These stairs at the side of the Temple are missing from *Chronology* and the only access to the Temple and the chambers is through the main entrance (compare Figure 5a & 5b).

In the plan of the *Chronology* these thirty chambers that surround the Temple are a double row of fifteen rooms, which face each other with a hallway dividing them.
However, this would not fit the measurements and the order of the rooms given by Newton, in Babson Ms 0434. In Babson Ms 0434 Newton clearly stated the order and the measurements of the widths of the rooms from the Temple wall to the outside of the thirty rooms. These details are as follows: the Temple wall, six cubits wide; storeroom, four cubits wide; the walkway, five cubits wide; the chambers, five cubits and the outer wall, five cubits wide.43 While in the Chronology Newton does not give the measurement but from the image, the order of the rooms are completely different: the Temple wall followed by a chamber, the hall, a chamber and then the outside wall. Newton claimed that the thirty chambers were six cubits in breadth making the circumference of the three walls of the Temple 180 cubits.44 The image in the Chronology indicates that the chambers would be at least twelve cubits in breadth making them twice the breath of the chambers in the plan of Babson Ms 0434. In Babson Ms 0434, each chamber had its own storeroom directly opposite it so there were thirty chambers and thirty storerooms on each of the three floors (see Figure 5).

The Temple is 100 cubits deep; this includes the other chambers, porch and walls. In the Chronology the Temple occupies the entire Separate Place, this was the sacred area that contained the Temple (see Figure 7 for the division of the Temple). However, the back wall of the Temple is also the back wall of the Separate Place. This reduces the depth of the Separate Place by six cubits. The Separate Place of nine-four by 100 cubits does not follow the proportions of Moses’ measurement of the Tabernacle, the measurements of Ezekiel’s text or Newton measurements. In Babson Ms 0434 this width of the surrounding wall is not counted as part of the Separate Place.

In the floor plan of the Temple precinct in the Chronology an external wall encloses the entire precinct wall. This external wall has four gates on the Western side which were the Gate of Shallecheth, the Gate of Parbar, and the two Gates of Assupim (see Figure 2). These gates are also in the text of the Chronology. In the Bible this wall and gates are not part of the Temple of Solomon but belong to the plan of the Second Temple.45 This wall and the four gates are not included in the floor plan of Babson Ms 0434 and Newton clearly attributed these gates to the Second Temple.46

In the floor plan of the Chronology, both the chambers of the people in the Exterior court and of the priests in the Interior Court are supported by a cloister or
colonnade of three rows of columns. The floor plan for this colonnade is illustrated by its own illustration in the *Chronology* (see Figure 4). In the floor plan of Babson Ms 0434 there is a triple colonnade which is in front of the chambers in the exterior court but no details are provided in this image as to what was underneath the chambers (Figure 1). The floor plan gives no details of the colonnade in the Interior Court. However, in Newton’s description of the Temple in Babson Ms 0434 he clearly stated that the colonnades are in front of the chambers.47

The most significant difference in the floor plans of the Temple precinct is the Interior Court. In the floor plan of the *Chronology* the two Eastern corners of the Interior Court are the kitchens and stair cases that led to the priest’s chambers (see Figure 1). This is not included in the floor plan or the description of Babson Ms 0434 and this area is occupied more priest’s chambers (see Figure 1). In Babson Ms 0434 the kitchens of the priests are in the two Western corners of the Interior Court. The stairs to the upper floors, although not included in the image, are described, but they are not in the kitchen. They are in the Exterior court, they are separate and much smaller and they lead only to the upper floors.

An interesting difference is some of the expressions used in the *Chronology* which are not used in Babson Ms 0434 or any other unpublished manuscripts by Newton. Such expressions include the ‘people’s Court’ for the Exterior court and the ‘cloister’ for the colonnade under the chambers. The gate on the Eastern side of the exterior court was the gate where Ezekiel enters the Temple precinct; thus it had great religious significance and in Babson Ms 0434 Newton referred to it simply as the Eastern gate the same expression used by Ezekiel but in the *Chronology* it is referred to by the more secular name of the King’s Gate.48 This secular expression is not used in Babson Ms 0434.

In the *Chronology* Newton stated that ‘the cubit was about 21 ½, or almost 22 inches of the English foot, being the sacred cubit of the Jews, which was a hand-breadth, or the sixth part of its length bigger than the common cubit’.49 This is an extremely curious statement for one of the greatest mathematicians the world has ever produced to make. To estimate a measurement so casually does appear to contradict a life of mathematics and science. It also contradicts his earlier work on the sacred cubit. In a careful and extensive study of the sacred cubit entitled ‘A Dissertation Upon the Sacred
Cubit of the Jews’, Newton scientifically estimated the sacred cubit to be 2.068 English feet or 24.816 inches using a series of limits, derived from ancient sources. The measurement of 21.5 or almost 22 inches given in the Chronology was established by Bishop Cumberland (1631-1718) and is quoted as being the measurement of the sacred cubit in numerous lexicons and dictionaries of Freemasonry. A measurement of 21.5, or almost 22 inches of the English foot would have no connection to any of the Egyptian, Memphis or Babylonian cubits which were the starting point of Newton’s original study on the sacred cubit in ‘A Dissertation Upon the Sacred Cubit of the Jews’.

Chapter Five, ‘A description of the Temple of Solomon’, in the Chronology is very brief and quite confused, and without the three illustrations (Figures 2, 3 & 4) the description would make very little sense. Even with these illustrations there are major problems. The description of the buildings in the Chronology is so different to Babson Ms 0434 that it does raise questions such as: ‘is Chapter Five in the Chronology the work of Newton?’; ‘if it is his work did he change his mind about the structure of the Temple?’; or ‘did he want to sanitise his work on the Temple by underplaying the importance that he had given it in his early unpublished manuscripts?’ The differences, the brevity, the confused description and the use of terminology in the Chronology strongly suggest that the plan given in the Chronology is not the work of Newton. On the other hand, it is known that he did attempt to sanitise some of his work at the end of his life, and his early works on Solomon’s Temple does reveal unorthodox religious beliefs that would have been unacceptable to the public. His editors acknowledged this through their actions.

However, these changes were subsequently made by Newton in a manuscript held at Cambridge University Library, Additional Ms 3988. He also added a floor plan to this manuscript (see Figure 6) and although this is even less detailed than his other floor plans, in fact it is a most crude outline without any details and it reveals, a confused mixture of the features from the first and second Temples. This is possibly where the artist of this drawing got the design for the floor plan of the precinct for the Chronology. However, the artist used a great deal of imagination by adding many details that are not mentioned by Newton. Thus the floor plans in the Chronology could not be considered Newton’s design. Although the text in Additional Ms 3988 is the same as the Chronology
for Chapter Five, it shows no notes or corrections by Conduitt in the course of editing. It is possible that there are other unknown or lost manuscripts on the Temple with further diagrams.

**Conclusion**

The detailed illustrations of the Temple in the *Chronology* are not supported by the accompanying brief and confused description of its structure. The text of the *Chronology* is indeed Newton’s, but it is very confused and sections of it make no architectural sense. Although the floor plan does have similarities in its overall appearance, it is very different to the plan presented in Babson Ms 0434. Newton strove to illustrate and understand what he perceived to be the God-given plan that Solomon implemented and that Ezekiel’s prophecy described for posterity. He also attempted to justify the text of Ezekiel and to prove that the plan and the measurements that Ezekiel gave were correct.

Throughout Babson Ms 0434 Newton displayed a good working knowledge of Vitruvian theory and a keenness to express the Temple in architectural terms; perhaps to render the building in real terms rather than just spiritual terms alone and to make the vision concrete. This had been previously achieved by Juan Bautista Villalpando, Louis Cappel, Arias Montano and others, and in Babson Ms 0434 Newton followed this tradition. However, in the architectural description in the *Chronology*, over forty years later, Newton reveals no knowledge of architecture or Vitruvian theory. The description of the Temple’s architecture in the *Chronology* is a string of Biblical paraphrases with virtually no justification.

Why this change in the description of the Temple? This is a question that can never be satisfactorily answered. Newton’s study of the Temple spanned over fifty years and he retained many of the manuscripts from this study including Babson Ms 0434. Babson Ms 0434 is a manuscript over eighty pages long while the description of the *Chronology* is very minimal, it is only 3,000 words long and contradicts the importance that he had previously given the Temple. He was not only interested in the architecture of the Temple but he had an abiding interest in it for its theological significance writings. When Newton wrote Babson Ms 0434 he was at the height of his intellectual powers but at that stage he had not gained any public recognition. By the end of his life, when writing the *Chronology*, he had a legacy to maintain and to maintain that legacy he
sanitized some of his work to disguise his religious beliefs, which if known, would have seen him publicly disgraced. After Newton’s death his heir continued to sanitize his work and build on the image of him as an inspired genius, devoutly religious and working in isolation for the betterment of mankind. This image was maintained until the auction of his unpublished papers in 1936.

Babson Ms 0434 reveals his continual refinements of that plan in the mid-1680s and it may not be the last development in his architectural refinements to it, but it is his last known surviving architectural description. The two floor plans of the Temple precinct that have become synonymous with Newton’s Temple of Solomon are not the only ones attributed to Newton. In the Chronology the precinct floor plan is similar to the rudimentary outlined plan in Additional Ms 3988, which was written towards the very end of his life and is a mixture of Solomon’s Temple and the Second Temple. But the resulting drawings in the Chronology have so much detail added they cannot be considered to be the work of Newton. The plan of the Temple precinct of Babson Ms 0434 was surpassed by a description further on in the text, he added more detail in his second description, and although the changes are not significant, they do give a better and clearer idea of his design for the Temple. Figure 7 is drawn by the author according to this second description in Babson Ms 0434 and, it highlights the amount of architectural detail that Newton discussed. Babson Ms 0434 is the only manuscript of Newton that revealed his interest in architecture, the other manuscript on Solomon’s Temple are more theological than architectural, but nevertheless Babson Ms 0434 demonstrates that he had a working knowledge of Vitruvian theory and an interest in architectural aesthetics – two aspects of his work that are not normal associated with Isaac Newton.
Figures

Figure 1: The Temple Precinct as drawn by Newton in Babson MS 0434 (with kind permission of Huntington Library)

Figure 2: The floor plan of the Temple precinct published in the Chronology in 1728\textsuperscript{56}
Figure 3: The floor plan of the Temple and inner court published in the *Chronology* in 1728\textsuperscript{57}

Figure 4: Floor plan of the cloister under the chambers published in the *Chronology* in 1728\textsuperscript{58}
Figure 7: The final floor plan drawn by author from the description of Newton in Babson Ms 0434
ABCD: The Separate Place that contains the Temple
DCEF: The Court of the Priests or the Inner Court
G: The Altar
H: The kitchen of the priest and where the sacrifices were prepared
I: The Temple
KADJ and BLMC: The chambers of the higher ranking priests
JDFECMNO: The chambers of the priests
P: The gates
Q: The kitchens of the people and the stairs to the upper chambers
RSTUVWXYZ: The chambers of the people of the Outer court

Notes


14 Examples of some of these manuscripts are Isaac Newton, Draft sections of the ‘Chronology of Ancient Kingdoms Amended’ and of a treatise of Daniel, (National Library of Israel, Jerusalem, Yahuda Ms 25.1a, undated); Isaac Newton Notes on Jewish Chronology,(National Library of Israel, Jerusalem, Yahuda Ms 24h, undated); Isaac Newton, Notes on Biblical Chronology, (Huntingrton Library, San Marino, California, Babson Ms 1029, undated).

15 Isaac Newton, Fair copies of the ‘Short Chronicle’ and ‘Chronology of Ancient Kingdoms Amended, (Unpublished manuscript Cambridge, Cambridge University Library, Additional Ms 3988, undated).


17 Isaac Newton, Notes from Ramon Lull, (unpublished manuscript, Stanford, California, Stanford University Library, M132/2/8, undated); Isaac Newton, Experimenta Raymundi, (unpublished manuscript, Cambridge: King’s College, Keynes Ms 47, undated); Isaac Newton, Tabula Smaragdina and Hieroglyphica Planetarum, (unpublished manuscript, Cambridge, King’s College, Keynes Ms 60, undated).


20 Ibid, p.16.

21 Ibid, p.11.

22 Ibid, p.16.

23 Ibid, pp. 94 and 100-101.

24 Ibid, p.66.

25 Ibid, p.16.

26 Ibid, p.332.

27 Newton ‘A Short Chronicle from the First Memory to the Conquest of Persia by Alexander the Great’, 39.

30 Isaac Newton, A Treatise or Remarks on Solomon’s Temple Introduction to the Lexicon of the Prophets, Part two: About the appearance of the Jewish Temple, (unpublished manuscript, Wellesley, Massachusetts: Babson College, Babson Ms 0434, c mid-1680s), 53r, all quotations from Babson Ms 0434 are translated from Latin by the author. For full translation of Babson Ms 0434 see Tessa Morrison, Isaac Newton’s Temple of Solomon and his reconstruction of Sacred Architecture, (Birkhäuser, Basel, 2010).
31 Ibid, 31rff.
32 Ibid, 29r (Intervalla harum basium ex rationibus architectonicis non debent esse minora basibus.).
33 Ibid, 36r (quam posuerim sextuplam crassitudinis more Dorico).
34 Ibid, 45r (Erat autem latitudo dccem cubitorum et altitudo justa regulas architectorum debet esse dupla latitudinis.);
35 Newton, Babson Ms 0434, 10r (Architecturae ratio postulat).
36 Vitruvius, III, iii, 6. Eustyle is a type of temple whose columns had the better proportions according to Vitruvius, from the point of view of the aesthetics and of solidity. The length of its intercolumninos equalled to two diameters and a fourth of the columns, except the head of the subsequent and previous part; that midal is three diameters.
37 Newton, Babson Ms 0434, 37r (ejusdem magnitudinis intercolumnia porticus Regia capiet aut 17 aut 20 aut 24. Verum septendecim juxta rationes architectonicas nimis rara erunt & 24 aud satis rara si modo columnae illis atri alterius aequales constituantur, et utraque a numeris Josephi nimis recedunt, ergo viginti debent inseri. Hac ratione columnae paulo rariores erunt quam in ratione eustyli Vitruvij). This could refer to diastyle from Vitruvius III, iii, 4-5 – the interval being three times the thickness of the columns or areostyles – the interval being four times the thickness of the columns. Both are in danger of the architraves breaking if built in marble but areostyles must be built in wood.
38 Newton, Babson Ms 0434, 29r.
39 Ibid, 62r (Tanta proportiomnum omnium simplicitate et harmonia commendatur haec structura).
41 Newton, Babson Ms 0434, 10r.
42 Ezekiel 41:11.
43 Newton, Babson Ms 0434, 11r.
44 Ibid.
45 2 Samuel 6:11-12.
46 Newton, Babson Ms 0434, 68 r.
47 Ibid, 10r.
48 Newton, The Chronology of Ancient Kingdoms Amended, p.335.
49 Ibid, p.333.
52 For example Newton, The first book concerning the language of the prophets (Keynes Ms 5); Newton, The Original of Religions (unpublished manuscript, Jerusalem, Israel, Jewish National and University Library, Yahuda Ms 41, c early 1690s); Newton, Rough draft of and notes for ‘Theologiae gentilis origines philosophica’ (unpublished manuscript, Jerusalem, Israel, Jewish National and University Library, Yahuda Ms 16, c1684-90).
53 Westfall, Never at Rest: A Biography of Isaac Newton, p.817.
56 Drawn by author from Newton, The Chronology of Ancient Kingdoms Amended, unpaginated.
57 Ibid.
58 Ibid.