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ART AND MAGIC IN THE
COURT OF THE STUART

PREFACE

Much of this book was written in Bath, a city which is coincidentally probably the last example of architecture influenced by the tradition of 'magical' British mythology explored in this book – although this study in fact ends with the execution of Charles I, over a century before the building of Bath's circus and crescent. I have traced the later influences of this British mythology in an article, 'One View of a Town: Prior Park and the City of Bath', *RES*, Spring–Autumn 1989, whilst the earlier manifestation of this mythology in the artistic image of Stuart monarchy formed the subject of my Ph.D. thesis, entitled 'Stonehenge as Emblem: Considerations on the Restoration of St Paul's Cathedral by Inigo Jones', undertaken at Trinity Hall, Cambridge. This book concentrates on the art of this early period, most notable for the birth of a movement in architecture which art historians have come to term 'Palladian'.

Art historians have traditionally stressed that Italian style, and particularly that based on the work of the Venetian architect Andrea Palladio, was the source of early Stuart Renaissance art. What this focus has tended to ignore, however, is the meaning behind this so-called style, the intention of which was not aesthetic satisfaction but a powerful political message, a confirmation of British monarchy in rivalry with the Italian states and the papal 'Anti-Christ'. In order to achieve this, the forces of nature itself were harnessed and confidently represented in various art-forms to express the legitimacy of British imperialism, and a mythical antiquity which had been superior even to that of the Golden Age of Augustan Rome. This study attempts to show that art played an important role in the theatre of ideas. As such this book maps a path through a largely uncharted territory, a lost and unacknowledged Stuart magical culture expressed in its artifacts, symbols and cosmology.

The study of this theme of the early British Renaissance led me into a relatively unexplored area, for in the period marking the eclipse of medieval cosmology by what is identifiable as a coherent Renaissance outlook an apparent void in traditional art historical studies emerged. Here, we have

what might be termed the 'fairy queen style', a bridge between the medieval world and the 'first moderns' of the seventeenth century. This aspect of the present study, and Chapter 3 in particular, was explored in a previous article, 'Heraldry and the Architectural Orders as Joint Emblems of British Chivalry', *RES*, Spring 1993. Aspects of Chapter 6 have been discussed in 'Conservation and Computers: A Reconstruction of Inigo Jones's original Whitehall Banqueting House, London c.1620', *Computers and the History of Art*, London, Courtauld Institute (1993), whilst the drawings (Figures 32 and 33) at the centre of this chapter were displayed in the Royal Academy Summer Exhibition of 1993.

A number of historians have assisted in this study, and should be thanked: Dr David Watkin, Dr Michael Hunter, and Professor Robert Tavernor all read and commented on earlier versions of the text. Dr Edward Chaney, Dr John Mac Arthur, Dr Sarah Bayliss, Dr Peter Hicks, and Neil Leach were all consulted on detailed points. Dr Michael Lewis at the Canadian Centre for Architecture, Montreal, helped me during my study of Inigo Jones's Serlio in the Centre's collection; and Peter Day at Chatsworth House, Dr Colin Shrimpton at Alnwick Castle, and the librarians at the Soane Museum and the R.I.B.A. Drawings Collection, London, Worcester College and Queen's College, Oxford, Magdalene College, Cambridge, together with those at the British Library, Bath University Library, Guildhall Library, Lambeth Palace Library, St Paul's Cathedral Library, and Public Records Office should be thanked. I am particularly indebted to the staff in the Rare Books Department of Cambridge University Library, who are always patient when dealing with my requests.

Bath University and Trinity Hall, Cambridge, provided financial assistance for travel associated with this work, whilst the British Academy awarded me a research grant to study in Montreal. A number of colleagues at Bath University have assisted in this work: David Cook carried out the photogrammetric survey of the Banqueting House and this was subsequently plotted with the advice of Dr Alan Day using Computer Aided Design software (CAD). Joe Robson and Garry Hunt gave valuable technical assistance. Both my father and Dr Jennifer Nutkins have patiently read through various drafts of this book, and Jennifer has borne with me through countless monologues on Stuart history. Finally, however, a mention should be made of the historians to whom I owe the greatest debt. Firstly, the late Dr Frances Yates, whose work has suggested many new areas of study and continues to prompt debate. And secondly Professor Joseph Rykwert, who first fired me with enthusiasm for the history of ideas and has been my guide through the labyrinth of the past.

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VI

*'The lofty tunes of the Diapenthes, Diatessarons, and Diapasons
of our Royall Harpe'*

MUSICAL HARMONY AND PYTHAGOREAN PALACES

STUART COURT ART AND MUSICAL HARMONY

Whilst the study of Plato and aspects of Platonic numerology reflected in such works as St Augustine's *De Musica* had been common enough in medieval Europe, Renaissance Neoplatonism in its various forms was consistent in spreading the conception that the harmonic structure of the cosmos and man's ability to tune himself to it through art depended on number. Solomon's comment that God had 'ordered all things by measure, number and weight' (Wisdom 11: 12) was often quoted in defence of this view. Specific numbers in themselves defined qualities, three the Trinity, four the elements, seven the planets, twelve the heavenly temples or signs of the zodiac, and so on. Dee's 'Preface' makes clear that all the Vitruvian subjects, from mechanics, music, and perspective through to the queen of the arts, architecture itself, were dependent on number, being fundamentally mathematical arts expressive of nature.¹ In translating part of the eleventh mathematical conclusion of Pico's *Conclusiones*, Dee notes at the outset that by the property of numbers 'we may take view of all creatures distinct vertues, natures, properties, and *Formes*'.² As this implied, for the Neoplatonist number represented the means by which the human mind could ascend the triple hierarchy from the elemental to the angelic realm of Platonic *Ideas*. Hence according to Dee:

Thus, can the Mathematicall minde, deale Speculatiuely in his own Arte:
and by good meanes, Mount aboue the cloudes and sterres: And thirdly,
he can, by order, Descend, to frame naturall thinges, to wonderfull uses:
and when he list, retire home into his owne Centre: and there, prepare
more Meanes, to Ascend or Descend by: and, all, to the glory of God,
and our honest delectation in earth.

(Dee 1570: ciiij)

Even what Dee defined as 'absolute Theology', 'the attening of knowledge incomparable, and Heavenly Wisedome'³ was dependent on number. In the elemental world this was reflected by his study of mechanics and the practical arts recorded in the 'Preface' itself. In the celestial world Dee's study of number related to astrology and alchemy, and found expression in his *Monas hieroglyphica* which represented the link between the elemental and celestial hierarchy, whilst in the supercelestial world he believed that through numerical and alphabetical combinations he had found the secret of conjuration and the original language for communicating with angels.⁴ Such pretensions obviously foreshadowed the apparent powers of the masque to evoke the heavenly realm. In Jonson's *Hymenaei, the Masque of Union* (1605) celebrating the marriage of the Earl of Essex in 1606, the figure of 'Reason' descended from the top of a globe, 'her garments blue, and semined with stars, girded unto her with a white bend filled with arithmetical figures' (lines 121-3). As Jonson's marginal note makes clear,⁵ this alluded 'to that opinion of Pythagoras; who held, all reason, all knowledge, all discourse of the soul to be meer number'.⁶ Number mysticism thus came to be pictured in masque as the means by which the macrocosm was united to the microcosm, an alchemical commonplace reflected, for example, in such medical works as Timothy Willis's *The Search of Causes* (1616).⁷

Of all the arts, music was the most perfect reflection of the numerical harmony of the cosmos. The frontispiece to Dee's 'Preface' pictured the figure of Arithmetica opposite that of Musica, presided over by the central figure of Mercury. In thus defining music as a numerical art, Dee noted that '*Astronomie* and *Musike* are Sisters, saith *Plato*',⁸ and it was through this relationship that music was thought to possess its talismanic power. According to Ficino, musical harmony was the most powerful conveyor of celestial *spiritus* since the disembodied mathematical proportions from which the sounds were composed were more pure than those in corporeal forms. The harmoniously ordered forms were in motion, as were actual celestial influences, and they communicated that patterned movement, through the *spiritus*, to the soul.⁹ In the *Tempest* Prospero requires 'Some heavenly music . . . / To work mine end upon their senses' (V, i, 52-3), after which music sounds on the stage itself. In the famous scene from the *Merchant of Venice* (first printed in 1600), Lorenzo describes this cosmic harmony to Shylock's daughter Jessica:

Look how the floor of heaven
Is thick inlaid with patens of bright gold
There's not the smallest orb which thou behold'st
But in his motion like an angel sings,
Still choring to the young-eyed cherubins.
Such harmony is in immortal souls.

Musicians enter and Lorenzo urges them to play for Jessica, 'And draw her home with music'. Here the magical power of earthly music as an echo of

celestial harmony is outlined, for,

a wild and wanton herd . . .
 If they but hear perchance a trumpet sound,
 Or any air of music touch their ears,
 You shall perceive them make a mutual stand,
 Their savage eyes turned to a modest gaze
 By the sweet power of music . . .
 The man that hath no music in himself,
 Nor is not moved with concord of sweet sounds,
 Is fit for treasons, stratagems, and spoils.

(V, i, 58–85)

In this spirit the music of Stuart masque and that emanating from mechanical devices in Court gardens was perceived as incantatory, drawing down favourable influences from the stars onto the Court through its imitation of the harmony of the spheres. Indeed, the idea that the earthly harmony of Stuart rule was itself a terrestrial manifestation of the harmony of the spheres became a thematic norm of masque. In Townshend's *Tempe Restored* (1632), for example, the figure of the 'highest sphere' descended to the stage and, addressing the queen, observed: 'When Divine Beauty will vouchsafe to stoop / And move to earth, 'tis fit the heavenly spheres / Should be her music, and the starry troupe / Shine round about her like the crown she wears' (lines 218–21).

Natural harmony was implicit in the Elizabethan conception of the Mercurian monarch, since harmony was naturally identified as one of the many virtues of Mercury,¹⁰ and the music of the Mercurian king's peace and policy became a common metaphor in Stuart propaganda. In reflecting the musical harmony of the heavens through his wise rule, James was inevitably cast as a musician, and was thus identified as Pan, for example, in Jonson's masque *Pan's Anniversary* (1620). The legends of the magical harps of David and Amphion and the songs of Solomon were cultivated as precedents for such royal harmony,¹¹ whilst the harp of Ireland was itself introduced by James as a charge in the royal heraldry of the reunited 'Great Britain'. The use of the harp as a Stuart symbol of harmony was reinforced in particular by the legend recorded in Samuel (16: 14–23) that David exorcised the evil spirit possessing Saul through the music of the harp. This and other legends of musical magic were commonplaces of Hermetic lore, and had been developed at some length by Agrippa. This formed part of Dee's discussion of music, noting that 'we finde in Recorde, that *Terpander, Arion, Ismenias, Orpheus, Amphion, David, Pythagoras, Empedocles, Asclepiades* and *Timotheus*, by *Harmonicall Consonacy*, have done, and brought to pas, thinges, more then mervailous, to here of';¹² having consulted 'the judgement and saying of the *Cabalists*', Marcelline placed James in the context of this mythology,

Behold, how like another *Orpheus, Amphion*, and *Arion*, he draweth to the true knowledge of God, very savage Beasts, Forrests, Trees, and Stones, by the sweet Harmony of his Harp . . . made in a triangle, having ten strings, which being touched above, doe resound beneath, and deliver such an acceptable melody, as it pierceth all the Celestiall Spheares . . . Such are the accents of this mysticall simphony, and the lofty tunes of the *Diapenthes, Diatessarons*, and *Diapasons* of our *Royall Harpe*.

(Marcelline 1610: 35–7)

According to Marcelline, this royal power was made manifest in particular by music's 'well tempered proportions'. This was echoed by the Paracelsian Bishop Thornborough who, in warning against the disunity of 'Great Britain' apparent in 1641 on the eve of Civil War, noted that 'a common Weale may fitly be resembled to musically instruments; which however consisting of the multitude of strings, yet the harmony is in the unity of proportion with agreeable consent of distinct sounds'.¹³ Within this 'excellent musical concord of a well ordered kingdome', in Thornborough's view, the Stuart monarchy distributed its favour 'equally, and graciously among all, by Geometricall proportion'.¹⁴

Following the articulation of this theme of royal musical 'proportion' in Court mythology, Platonic harmony and, by implication, its talismanic power might be seen to have found further expression in the proportions of Jones's Vitruvian architecture forming the backdrops in masques and indeed in actual building projects, as evidenced by propaganda surrounding their construction.¹⁵ For with the text supplied by James, the theme of musical magic itself echoed in the sermon delivered by Bishop John King in 1620 on the subject of cathedral restoration, since here 'the tongue of a King, like the harpe of *Amphion* . . . [will] draw stones to the building'.¹⁶ Later Edmund Waller, when commenting on a partially 'restored' cathedral, made the Stuart kings 'antique minstrels', with 'Cities their lutes, and subjects' hearts their strings', whilst Charles ' . . . like *Amphion*, makes those quarries leap / Into fair figures, from a confused heap; / For in his art of regiment is found / A pow'r like that of harmony in sound'.¹⁷ Solomon's musical magic equally featured in a contemporary 'dream' or 'vision' for St Paul's, for as part of his series of appeals for cathedral repair, Henry Farley in *The Complaint of Paule's* of 1616 allowed the cathedral itself the gift of speech:

thou send'st a second *Salomon* . . .
 His song of songs most sure shall be,
 That shall set forth His Kingly love to me,
 His chiefe delight is all in *Trinitie*,
 Of them to make a perfect *Unitie* . . .
 For he that in his breast doth weare that *Sheild*
 (As doth this *David*) needs not feare the field.

(Farley 1616: 27, 41)

Here Farley's cathedral would seem to urge the need to 'weare that Sheild', the emblem of Solomon formed from equilateral triangles, which in themselves had musical properties according to Vitruvius, as Jones made clear in explaining his geometric plan at Stonehenge. As authors of the early masque productions, both Jones and Jonson were obviously well aware of the magical virtues of music. In James Shirley's play *Love's Crueltie* (1631) a tribute was paid to Jonson when Hippolito declares 'a Maske is prepared, and Musicke to charme *Orpheus* himselfe into a stone, numbers presented to your eare that shall speake the soule of the immortall English *Jonson*' (II, ii, 17-19). In his 1614 Italian translation of Plutarch's *Opusculi Morali, di Plutarco Cheronese*, Jones's annotations¹⁸ show that he paid close attention to the essays *Della creazione dell'anima descritta nel Timeo di Platone* and *Della musica* in which the theory of the magical effect of ancient music on the soul is discussed with reference to Pythagoras and Plato. In his Italian translation of Plato's *Republic* Jones noted 'the end of Musik love of y^e beutifull or fairer'.¹⁹ This interest in musical harmony is equally evident in his Vitruvius, in which Jones echoed Dee's observations when noting against Daniel Barbaro's commentary that 'in musicke the[re] must be a proporsionall distance betwene the low and heeygt', 'The same simpathy is in the Stares', 'the ruels of arethmaticke shad unite musicke with astrologiy'.²⁰ The theme of musical magic evident in Court mythology and music's relationship to architecture as studied by Jones found expression through the numerical ratios which proportioned Jones's designs, in their reflection of celestial harmony.

THE STUART 'PYTHAGOREAN PALACE' AT WHITEHALL

Few of Jones's many architectural designs for the Stuart capital were realised. What follows is an analysis of one that was, the Banqueting House which stands to this day in Whitehall, in an attempt to interpret the meaning or programme behind its façade. This is the first and only surviving example of Jones's city architecture to be built with a façade of superimposed Orders forming pilasters. In order to make the analysis, we must start with the building's internal form, which is a double cube (55 feet by 55 feet by 110 feet). The cube was a fundamental form in Platonic cosmology. Following his notes on musical harmony, Jones observed in his Vitruvius that 'Pythagoras his followers made their precepts with cubik reason'.²¹ Pythagoras had considered the cube to be the source of all number and form since its root is one. In Valeriano's *Hieroglyphica*, which, it was noted, Jones used when composing his Stonehenge plan, the cube formed a hieroglyph of the 'supremum numen', whilst in the Hermetic frescos within the Escorial, God the Father and Son are shown with a cube at their feet. Ficino claimed that the cube (or hexahedron) was the most beautiful form for architects, based on its stability in Platonic cosmology derived from its representation of the earth as discussed in the *Timaeus*.²² Hence with the cube as the basis of Platonic order, this

represents the most likely source for Jones's choice of the double cubic form for his Banqueting House, which can thus be seen to have been designed as a model of the cosmology celebrated by the masques performed within its walls. Indeed in a drawing by Jones from one of these masques a deity rests her foot on a cube.²³ In his editions of Serlio, Jones would have seen various examples of the use of the cube in architecture.²⁴ Jones in fact used cubes or their multiples throughout his work,²⁵ notable examples including the hall of the Queen's House, the Prince's Lodging at Newmarket, St James's Chapel, the new chapel at Somerset House, and two rooms at Wilton House (c. 1650, probably not by Jones himself but by Webb).

In Jones's unexecuted design of St Paul's west front the perimeter can be encompassed by a circle, understood as a plainer representation of the heavenly sphere when placed alongside the earthly double-cube interior of the Banqueting House. When put together, in their embodiment of pure forms both designs reflect simultaneously not only the Platonic cosmos, but the heavenly temple and antique perfection, for the Holy of Holies, the sanctuary housing the Ark of the Covenant, was described as a perfect cube (I Kings 6: 20), as was the celestial New Jerusalem (Revelation 21: 16), whilst the Pantheon with its spherical interior was seen as an exemplar of antique architecture through its representation of heaven. When comparing the Pantheon to Stonehenge, Jones noted that the Roman monument was 'called the Pantheon, because by the form of that vault wherewith covered, it represented the concave of Heaven, or . . . the figure of the world; for the world being mans house, the firmament is as the vaulted roof thereof'.²⁶ In stressing the primacy of Euclidean geometry, Dee's 'Preface' noted under 'Architecture': 'And we may prescribe in mind and imagination the whole forms all material stuffe being secluded.' In this spirit pure forms, the circle and the square, would seem to be the basis of each of Jones's designs which the Orders structure or compartition.²⁷ Through this compartitioning, the harmonic relationships of the individual elements composed whole figures which in turn had their own Vitruvian astrological and musical virtues. Accordingly, in the illustrations of the square and circle framing the Vitruvian man, human proportions can be seen as formed by, rather than forming, the perfect geometry of circle and square. This reading is echoed in Jones's observation in his Vitruvius quoted in Chapter 5 that the circle 'forms the Bodi of man', and his note that 'every part must answer in a convenient proportion to [t]he whole'.²⁸ The conception of the Orders as clothing for an underlying body was reflected in Jones's note elsewhere that 'a hooole ffigure' was made by 'the partes of the boddy of man as Eyes noses mouthes Eares', and that these 'cloath y^e and consequently a hooole Storry wth all y^e ornamentes'.²⁹ The Pantheon's perfect form clearly dictates the compartitioning of the Orders internally, Jones himself noting in his 1601 edition of Serlio that: 'the members answer to y^e boddye', 'the rownd the perfatetest forme'.³⁰

As the most important and first Court ceremonial room to be designed or compartmented by the Orders, the walls of the Banqueting House were not merely a neutral framework but, like the cube which they form, were intended as a permanent reflection of Platonic virtue celebrated by the transitory masques themselves, as indeed Rubens's painted ceiling would subsequently make clear. It follows that the double-cube room should be understood as the perfect body which the exterior equally clothes or reflects. This stresses the primacy of the double cube, as the objective behind the compartmenting of the Orders on the façade. An important aspect of Jones's external expression of the double-cube hall has in fact been lost, for originally the form of this room was made more immediately apparent through his use of three different coloured limestones for the façade. The basement below the hall was in Oxfordshire stone, the body in Northamptonshire stone (reflecting the cubic hall behind), whilst the balustrade and indeed the Orders were in Portland stone (Figure 32). An anatomical character was thus achieved, the Portland stone Orders standing out as 'bones' against the darker Northamptonshire stone on the face itself, before decay necessitated the gradual refacing of the entire façade in the Portland stone we see today.³¹ However, the interior Ionic Order below the gallery and Corinthian Order above (see Figure 1) is still reflected on the exterior by an Ionic and Composite storey, the latter Order ornamented with a fascia of draped female masks between swags of fruit which match those inside. The external entablatures also represent a translation of those inside, with the cymatium to the first-storey cornice providing a datum for both the internal pedestals and outer bases.³² Below, the external rustication directly reflected the original grotto basement inside. Indeed, horizontally the external Orders are directly set out by, and thus reflect, the internal column centre lines which compartment the length of the hall and thereby that of the double cube (a relationship which can be seen indicated by dotted lines on Webb's original plan).³³ This cubic *Idea* found further expression on the façade through the numerical relationship of the elements.

Despite Jones's importance in English architectural history, little consideration has been given to the numerical ratios governing the setting out of the Orders in his designs, although their proportions clearly show that such ratios were used.³⁴ Indeed Jones's very uniqueness lies in this apparently systematic use of proportion, not in the mere application of the Orders in isolation which had been relatively common in Elizabethan architecture. The idea that specific perfect numbers could proportion architecture to reflect the structure of the three Platonic worlds had found earlier expression in Elizabethan poetry, however. For the Castle of Alma in Spenser's *Faerie Queene* was proportioned in this way:

The frame thereof seemd partly circulare,
And part triangulare, O worke divine;

Those two the first and last proportions are,
The one imperfect, mortall, foeminine;
Th' other immortall, perfect, masculine,
And twixt them both a quadrate was the base,
Proportioned equally by seven and nine,
Nine was the circle set in heavens place,
All which compacted made a goodly diapase.

(II, ix, 22)

Here in echoing the harmony implicit in the body of Hermaphrodite, the square, or 'quadrate', can be interpreted as the world of the four elements, the number seven the celestial world of the seven planets, and the nine and circle the angelic hierarchies governing the cosmos and the soul of man.³⁵ Indeed, the internal length of the Banqueting House (at 110 feet) is itself a multiple of Plato's perfect number ten. Jones himself noted in his *Vitruvius* against the Roman author's description of the relationship between the body and Platonic-Pythagorean numbers (III.i.5-9), 'what a perfect thing is / Plato affirms tenn to be a perfect number'.³⁶ The frequency with which Jones designed rooms based on multiples of 10 feet testifies to the number's significance to him. Further, in embodying ratios of specific numbers based on the column module as a unit, measured from the bottom of the column shaft following Roman practice recorded by Vitruvius (I.ii.4; III.iii.7; IV.i.1/8; V.ix.3), columns and their spacing (called intercolumniation) were considered by Renaissance theorists to reflect the proportions of the human body (and that of the royal patron in particular). Systems of proportion could be described as a building's anatomy, a means by which Renaissance architecture was thought to harmonise with, and become the mediator between, man the microcosm and the macrocosm.³⁷ The proportioning of columns using their module may well have been widely understood by artificers in Stuart England since, with reference to Vitruvius, Wotton noted on the Tuscan Order:

The length thereof shall be six *Diameters*, of the grossest of the Pillar below. Of all proportions, in truth, the most naturall; For our Author tells us, *lib.3.cap.1.* that the foote of a man is the fixt part of his bodie in ordinary measure, and *Man* himselfe, according to the saying of *Protagoras* . . . [is] as it were the *Prototype* of all exact *Symmetrie*. . . The distance or *Intercolumniation* (which word Artificers doe usually borrow) may bee neere foure of his owne *Diameters*.

(Wotton 1624: 33-4)

Through the use of such proportions Jones's buildings might be described as 'frozen music', and perhaps here he comes closest to Palladio in reflecting the tradition of the Italian 'Pythagorean Palace'.³⁸

In both its plan and section the Banqueting House obviously primarily embodies the proportion 1:2. In Pythagorean musical harmonics this ratio represented the consonant tone 'Diapason', from which the harmonies progressed to 'Sesquialtera' 2:3, 'Sesquitercia' 3:4, and 'Tonus' 8:9. In elaborating on Vitruvius' description of perfect numbers, Alberti noted in the fifth chapter of book nine of the *De re aedificatoria* that:

the lower-pitched a sound, the longer the string that emits it; the higher-pitched, the shorter the string. From the different contrasts between these sounds arise the varying harmonies which the ancients have classified into set numbers corresponding to the relationships between the consonant strings.

(Alberti 1988: 305)

Wotton pointed out Alberti's reliance in this explanation on 'the Schoole of Pythagoras', and quoted their maxim that the '*Images* of all things are latent in *Numbers*'.³⁹ Wotton paraphrased Alberti's chapter on Pythagorean numerology when discussing door and window openings, since Alberti 'doth determine the comeliest Proportion, betweene breadths and heights'. Here Wotton alluded to the concept of architecture as 'frozen music' in explaining how to reduce

Symmetrie to *Symphonie*, and the *harmonie* of *Sounde*, to a kinde of *harmonie* in *Sight*, after this manner: The two principall *Consonances*, that most ravish the Eare, are by consent of all Nature, the *fift*, and the *Octave*; whereof the first riseth radically, from the proportion, betweene *two* and *three*. The other from the double *Intervalle*, betweene *One* and *Two*, or betweene *Two* and *Four*e &c. Now if we shall transport these proportions, from Audible to visible *Objects*; and apply them as they shall fall fittest (the nature of the Place considered) Namely in some *Windowes*, and *Doores*, the *Symmetrie* of *Two* to *Three*, in their Breadth and Length; In others the double as aforesaid; There will indubitably result from either, a gracefull and *harmonious* contentment, to the Eye.

Wotton made it clear that it was in this judgement of harmony that the architect was distinguished from the mere artisan:

Which speculation though it may appeare unto vulgar *Artizans*, perhaps too subtle, and too sublime, yet wee must remember, that *Vitruvius* himselfe doth determine many things in his profession; by *Musical* grounds, and much commendeth in an *Architect*, a *Philosophical* Spirit; that is, he would have him (as I conceive it) to be no superficiall, and floating *Artificer*; but a *Diver* into *Causes*, and into the *Mysteries* of *Proportion*.

(Wotton 1624: 53–5)

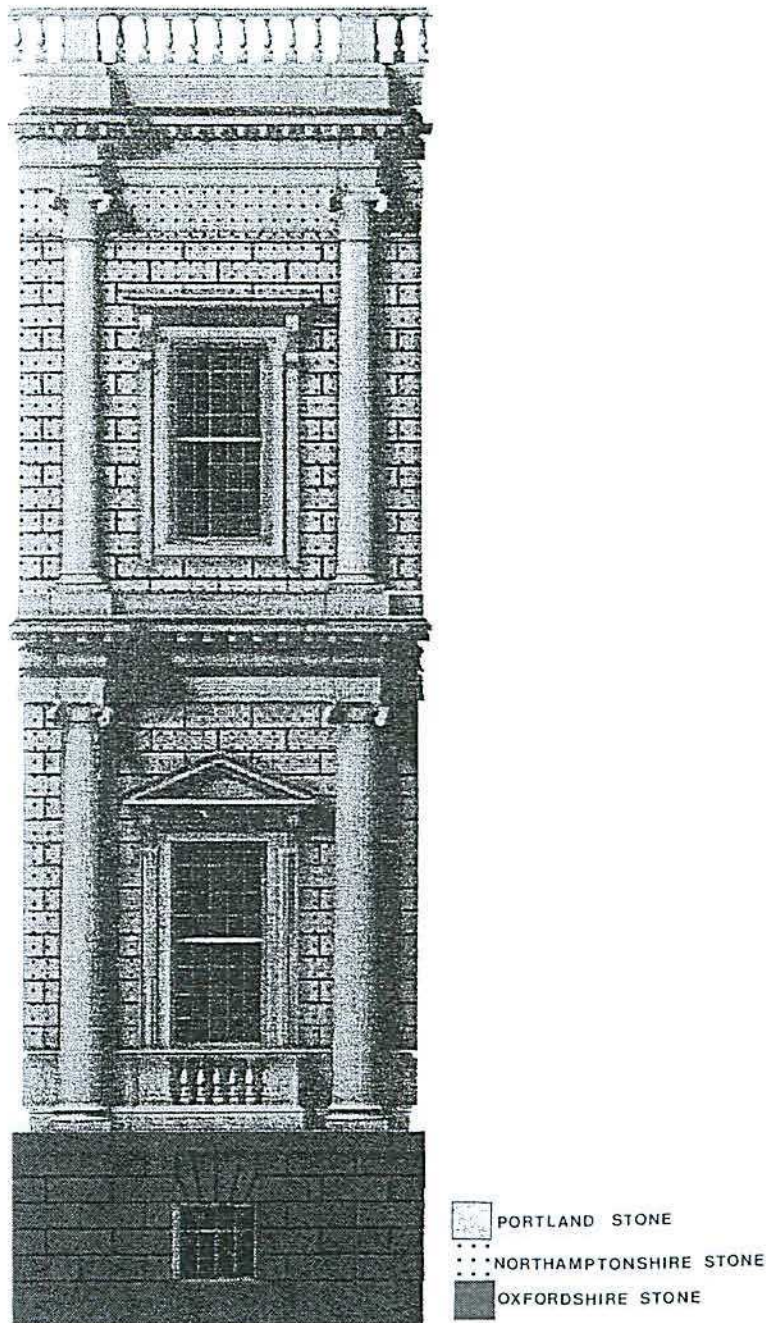


Figure 32 Bay of the Banqueting House, Whitehall, showing original stone colours.

At the end of his treatise, Wotton alluded to the talismanic power of harmonic proportions when defining the Vitruvian concept 'Eurythmia', or proportion (I.ii.3), as 'that agreeable *Harmony*, betwene the breadth, length, and height of all the Roomes of the *Fabrique*, which suddenly where it is taketh every *Beholder*, by the secret power of *Proportion*'.⁴⁰ Alberti's treatise had been cited for the first time in England by Dee in his section in the 'Preface' on the numerical and geometric basis to architecture, which described Alberti's notion of 'lineamenta'.⁴¹ This was a Platonic conception which for Dee implied the framing of building elements with underlying lines of perfect numerical length (and was thus comparable to Serlio's 'linee occulte'). Dee translated a section of Alberti's first chapter of the first book thus:

The whole Feate of Architecture in buildyng, consisteth in Lineamentes, and in Framyng. And the whole power and skill of Lineamentes, tendeth to this: that the right and absolute way may be had, of coaptyng and joyning Lines and angles: by which, the face of the buildyng or frame, may be comprehended and concluded. And it is the property of Lineamentes, to prescribe unto buildynges, and every part of them, an apt place, & certaine number: a worthy maner, and semely order: that, so, y^e whole forme and figure of the buildyng, may rest in the very Lineamentes. . . . We thanke you Master *Baptist*, that you have so aptly brought your Arte, and phrase therof, to have some Mathematicall perfection: by certaine order, number, forme, figure, and *Symmetrie* mentall: all naturall & sensible stuffe set a part.

(Dee 1570: diiij)

Both Dee and Wotton were amongst the first to study Alberti's concept of architectural proportion in England, before or contemporary with the work of Inigo Jones.

Indeed Jones's own most coherent studies on proportion evident from the books comprising his library are his annotations to the Pythagorean scheme outlined by Alberti. These annotations provide an important, and neglected, insight into Jones's understanding of Pythagorean harmony. In his copy of Alberti⁴² Jones made notes in the margin regarding the concept of perfect numbers, for example, that 'also of 5 comes admiraball things as – mens handes', 'God delits in y^e number 7 and why', 'of od numbers 9 is sellibrated y^e sfeares of heavne', and '6 a most parfait number being mead hool of all his parts'.⁴³ On the following page Alberti's discussion of the harmony between music and architecture is noted, 'the same numbers that plees the eare plees the eie', 'Rule of the finimento takes from musitanes & from the most worthy thinges of nature' and, comparing Alberti with Vitruvius, 'he leaves Vitruvius his ways in musicke'. Jones proceeded to note the musical ratios. Under the heading 'what Harmoni is' Jones translated Alberti's harmonic sequence by listing: 'Diapenthe – fifth or sisquialtera', 'Diatesseron fourth or sisquetertia', 'Diapason eyght or dupla', 'Diapason diapente, tuelfe or Treble', 'Disdiapason

a fiftenth or quadrupla', 'to this the tone which is also caled sesquioctave'. Jones also translated Alberti's conclusion that where only two dimensions are concerned, as in laying out a forum or open space, architects should use these numbers in pairs: 'Thes numbers ar yoused to desine y^e Piazza and Plases . . . for leangth and breadth', and that they are used in threes in halls where heights have to harmonise to plans: 'And also thes numbers ar taken by 3 and 3 whear thear is leangth breadth and heayght'.⁴⁴ In the following chapter Jones noted Alberti's applications of these to form geometric plan 'areas', 'the least of plants is y^e square', 'the next is a squar and a half', 'and y^e squar and to thirds', 'to midling plants sits y^e dubble squar which is y^e besst'⁴⁵ concluding 'how on shuld youse thes numbers in the heyghte of roomes'.⁴⁶ The plan of the Banqueting House was itself 'best' since it was obviously a double square. In his copy of Scamozzi Jones also annotated the network of lines, or 'linee occulte', proportioning the palace plans. These annotations on Pythagorean harmony provide the context for a modular analysis of Jones's Banqueting House façade. Any such analysis of the early façade of St Paul's is problematic because of the freehand nature of the drawing, but it can certainly be attempted in the case of the surviving Banqueting House façade where, as Robert Tavernor has observed, 'Jones used a module derived from the column diameter of the orders. . . . Even the size of the rusticated blocks is governed by the module'.⁴⁷

Of the two preliminary façade designs (c. 1619),⁴⁸ the first was much longer than the completed building (in measuring 119 feet, 6 inches) and has side wings whilst the second was closer to the finished building. Taken together, these show Jones regularising the façade, working towards the double cube and its expression on the front. A survey of the façade⁴⁹ (Figure 33) in conjunction with drawings by Colen Campbell and later John Soane recording the façade before refacing⁵⁰ shows that each column bay has a 6:9 ratio:⁵¹ the Ionic column is nine modules high, based on its width (the shaft itself is eight modules,⁵² which is replicated by the thinner, and thus squatter, Composite shaft above), whilst six of these modules form the width between the column centres. These centre points are clearly marked on Jones's design drawings.⁵³ Both the lower and upper windows, including their tabernacles, are related to this and follow Wotton's advice in being proportioned 2:3 or 'Sesquialtera' – the outer frames are 3.5 modules wide and 5.25 modules high, as they were on the earlier design.⁵⁴ This Ionic storey (the column plus its entablature) is the same height as the upper, Composite storey, thereby reproducing externally the perfect, stable 1:1 ratio of the internal cubes.⁵⁵ The square windows in the rusticated basement are a more visible reflection of this ratio. In this way the exterior ornament is proportioned using the harmonic ratios tending towards the 1:1 ratio implicit in Plato's stable form and source for all number, the cube. It was pointed out that the applied Orders are themselves an external face to one side of this form. Incidentally, the ground level was originally two courses lower, resulting in a rusticated basement 16 feet in height.⁵⁶ Sixteen was Vitruvius' most perfect number in combining six – the

foot is one-sixth of a man's height – and ten – the number of our fingers (III.i.8).⁵⁷ However, this use of a perfect number appears in isolation on the façade, as Tavernor points out,⁵⁸ for in his work Jones seems primarily concerned with ratios governed by geometric figures. These ratios are neither in themselves necessarily comprised of perfect, whole numbers nor do they dictate whole number measurements. Indeed, echoing Alberti's distinction between musical, geometric, and harmonic outlines for buildings,⁵⁹ Dee had made such a distinction between numerical and geometric purity in noting: 'Neither *Number*, nor *Magnitude*, have any Materialitie. First, we will consider of *Number*, and of the Science *Mathematicall*, to it appropriate, called *Arithmetike*: and afterward of *Magnitude*, and his Science, called *Geometrie*'.⁶⁰ The former was subsequently related by Dee to the concept of proportion, 'In lyke sorte, the necessary, wonderfull and Secret doctrine of Proportion, and proportionalitye hath purchased unto it selfe a peculier maner of handlyng and workyng: and so may seme an other forme of *Arithmetike*'.⁶¹

George Marcelline's Neoplatonic eulogy *The Triumphs of King James the First* (1610), with its dedication to Jones's then patron, Prince Henry, identified a numerical perfection and cubic stability in James's heraldic union totalling eight charges:

Eight is like the *Cube*, which signifieth firmnesse or stability, in that it turneth his face to all, and turning downe from above, commeth underneath, yet is it evermore firmly seated, and in one and the same forme. It is also a solid body, which hath his dimensions and properties, by reason of his foure direct or right Angles, for better seating and making himselfe firme: which rendring it so marvailously proper and mysticall, doth thereby the better represent him unto us, who by his power hath reestablished & reconfirmed the estate of mankind.

(Marcelline 1610: 32–3)

It has been seen that this heraldic Pythagorean numerology was interpreted by Marcelline with reference to the Protestant scheme of apocalyptic history, with the Stuart New Jerusalem as its triumphant conclusion. As confirmation of James's role in the fulfilment of this, according to Marcelline his position as the 107th king of Scotland 'hath this respect, that it is composed of two perfect numbers. Of an hundred, which is tenne times tenne, wherein God is marvailously pleased'.⁶² Here the number ten was itself 'the perfection, resting place, and accomplishment of all other numbers'.⁶³ Hence with its length a multiple of ten, perhaps in the spirit of this Court mythology Jones's double-cube room represented a permanent portent of the cubic New Jerusalem of biblical prophecy.

Indeed, according to La Boderie and Villalpando, Solomon's temple had itself embodied Pythagorean harmonic ratios in expressing Solomon's comprehension of God's ordering of the world through number. In similarly

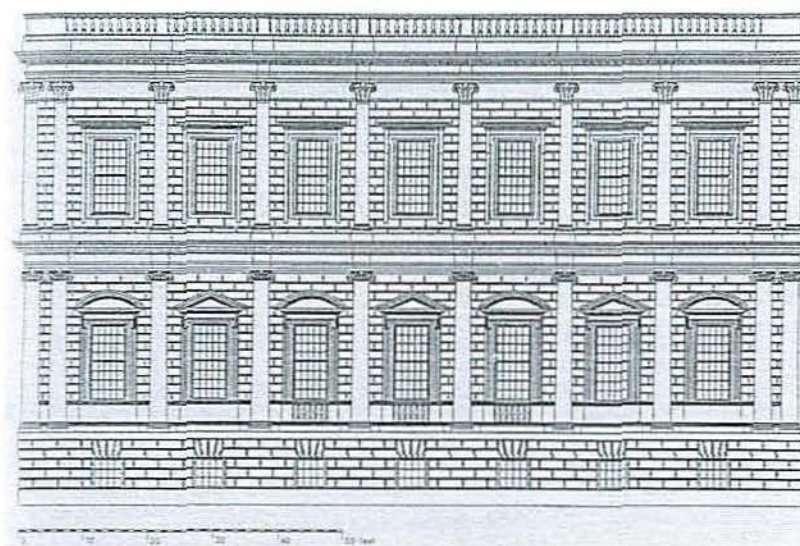


Figure 33 Survey drawing of the Banqueting House façade.

ordering Jones's Vitruvian architecture, these harmonic proportions can in themselves be seen to have represented to the city at large the image of Stuart monarchy as the guarantor of natural justice and wise rule, and thereby implicitly confirmed the monarch's role as the British Solomon, subsequently explicitly proclaimed on the ceiling of the Banqueting House itself. On the cubic quality of James's eight heraldic charges Marcelline added that

none can goe any further then this, when a number or figure is come unto his Triple-dimension of length, bredth, and depth. According to the *Pythagorians*, it is the number of *Justice*, because that first of all it resulteth it selfe into numbers of paire-like-parity, deviding equally al things.

(Marcelline 1610: 31)

Dee had also explained the virtue of proportion in design through its relationship to the concept of justice, for 'neither the Auncient Romaine lawes, without good knowledge of *Numbers art*, can be perceived: Nor (Justice in infinite Cases) without due proportion, (narrowly considered), is hable to be executed', whilst with reference to Plato he added that wisdom itself 'be atteyned, by good Skill of *Numbers*'.⁶⁴ As has been seen, it was through his identification of musical proportions in the plan of Stonehenge that Jones proclaimed the antiquity of the monument. Thus, compatible with the emblematic theme of the Orders, their proportions can be seen as a further expression of the 'Albion and Jerusalem' ideal.

The poetry and music of the Stuart masques can now be understood to have made audible the geometric relationships and proportions of their setting, traced beyond Jones's architectural backdrops into the disposition of the Orders framing the double cube of the masquing hall itself. Indeed, it was noted that in Jonson's *Time Vindicated* (1623) an image of the Banqueting House façade formed the opening backdrop (see Figure 15). This was pictured as a prelude to what the stage directions refer to as 'loud music' (line 274), accompanying Saturn, Venus, and a chorus of votaries, who on the appearance of the masquers in turn recited: 'Their very number, how it takes! / What harmony their presence makes! / How they inflame the place!' (lines 320–3). The later masque by Aurelian Townshend, *Albion's Triumph* (1632), closed with a vision of the Platonic harmony of heaven and earth centred on Whitehall:

a landscipt in which was a prospect of the King's palace of Whitehall and part of the city of London seen afar off, and presently the whole heaven opened, and in a bright cloud were seen sitting five persons representing Innocency, Justice, Religion, Affection to the Country, and Concord, being all companions of Peace.

(lines 338–43)

When understood thus, not as an image or mere shadow of Platonic *Ideas* but as their realisation, the Banqueting House aimed to elevate to this ideal realm not just the masque but the whole range of Court ceremonies enacted within its walls. Further, from the Banqueting House façade we get an impression of how, if they had been built, the monumental circular court and cubic halls of Charles's Whitehall Palace would have been compartmented, using Pythagorean harmonic ratios in the tradition of the Italian 'Pythagorean Palaces'.

INIGO JONES'S DISHARMONIOUS GEOMETRIC TEMPLE OF MUSIC

Ben Jonson's presentation in 1610 of the alchemist as an illusionist trickster echoes through his famous later mockery of Jones, both forming part of his wider attack on Renaissance magic.⁶⁵ For example, in the disguise of a military cook in *Neptune's Triumph* (1624) Jones is presented by Jonson as knowing

The influence of the stars upon his meats;
And all their seasons, tempers, qualities . . .
He's as nature in a pot! 'bove all the chemists,
Or bare-breeched brethren of the Rosy-Cross!
He is an architect.

(lines 78–83)

Here Jonson would indeed seem to present Jones as akin to Dee in his comprehension of nature.⁶⁶ In the tradition of the Renaissance magus Jones was, after all, a master of illusion.

The sponsorship of illusory magical arts such as perspective and automata led to the triumph of the masque spectacle and its setting, the rectangular hall with its proscenium arch derived from Serlio, over the ancient Vitruvian form of theatre which had celebrated the actor's role. This was a triumph of Jones over Jonson and represented a reason, perhaps, for Shakespeare's silence in his final years after *The Tempest* (1612), a play which had itself ended with Prospero's inexplicable despondency in lamenting 'the baseless fabric of this vision' (IV, i, 151). It follows that the famous argument between Jonson and Jones, focused as it was on a battle between word and picture, ancient and modern theatre, was a direct product of the Dee version of the Vitruvian subjects in their reliance on mechanics which formed the architect's, not the poet's, native inheritance. Jonson saw himself as an inheritor of the ancient theatre, an image of which headed the frontispiece to the 1616 edition of his plays.⁶⁷ Jones, however, defined the masque as 'nothing else but pictures with light and motion'.⁶⁸ In this Platonic view, words encapsulated only the name of a thing, not its essence. A symptom, perhaps, of this shift in emphasis from word to emblem during the Renaissance was the relative relegation of the ancient theatre plan to the realm of imagination, used, for example, in silent mnemonic systems and by Jones at Stonehenge. Thus removed from its original context, this wider application of Vitruvius' theatre plan implies a consequent loss of original meaning, allowing Jones to imagine Stonehenge's theatre plan as a universal 'Architectonicall Scheme' suggestive of a temple, without explicitly acknowledging its theatrical source – and its general application, perhaps, elsewhere in his work. This inauthenticity is in line with the degree of superficiality implicit in refacing an existing building, as a form of stage set.

The last of Jonson's masques for royalty, *Love's Welcome at Bolsover*, was performed in 1634 and took, as the title suggests, the cult of love as its theme. This work formed the last of Jonson's attacks on Jones, who was characterised in the figure of 'Cornell Vitruvius', or, more obviously still, 'Iniguo Vitruvius'. Here the architect entertained the king and queen with the 'Dance of Mechanickes' (line 36),

[*They begun to Dance.*]

Well done, my Musicall, Arithmetickall, Geometricall Gamesters! or rather my true Mathematicall Boyes! It is carried, in number, weight, and measure, as if the Aires were all Haramonic, and the Figures a well-tim'd Proportion!

(lines 67–70)

Here again 'number, weight, and measure', in echoing standard Platonic doctrine, originated from Solomon's comment in the book of Wisdom. Indeed,

St Paul's and Whitehall Palace would seem to have embodied just such an all-consuming 'Geometrical' design, a Solomonic geometry in which 'the Figures a well-tim'd Proportion'. In this dance Jonson implicated Jones in the general Renaissance trend whereby the mystical and numerological grounds for the use of geometry in building gave way to geometry's more functional, dictatorial role.⁶⁹ This might be seen reflected in the scheme at Stonehenge, Whitehall, and St Paul's, governed less by individual perfect numbers than by an overall geometry (much like the functional fortification designs Jones studied). Here, in common with the architecture of a later, more rational age, the 'antique' column was subservient to an all-consuming geometry, rather than the column itself being the module which generated the building outline.

Jonson's presentation of geometry and proportion in *Love's Welcome* represents not only the terms in which Jones's work was attacked, but was by implication a caricature of the Caroline masque itself in its expression of Charles's mythology of Platonic love through geometric symbolism. However, only three years earlier when inaugurating this mythology in the last co-operative venture with Jones, the masque *Love's Triumph through Callipolis* (1631), Jonson had celebrated the perfect balance of geometry and proportion as represented by the royal couple. For in reflecting Ficino's commentary on the *Symposium*,⁷⁰ Jonson employed a circular metaphor for the love which surrounded the queen,

- CHORUS. For Love without his object soon is gone;
Love must have answering love to look upon.
AMPHITRITE. To you, best judge, then, of perfection!
EUPHEMUS. The queen of what is wonder in the place!
AMPHITRITE. Pure object of heroic love alone!
EUPHEMUS. The centre of proportion,
AMPHITRITE. Sweetness,
EUPHEMUS. Grace!
AMPHITRITE. Deign to receive all lines of love in one.
EUPHEMUS. And by reflecting of them fill this space,
CHORUS. Till it a circle of those glories prove
Fit to be sought by beauty, found by Love.
(lines 118–29)

When read against Jonson's references to the use of geometry in masques in the later celebration of Platonic love at Bolsover, we can see the extent to which his artistic world had become unbalanced.

Indeed, in the *Bolsover* masque Jones was directly attacked by Jonson for designing disharmonious Pythagorean temples, through an allusion to the legendary discovery by Pythagoras of universal harmony resounding from the hammer beats of a smith. The basis of antique theatre design in Pythagorean harmony was here presented as being abused by Jones through

his construction in masque of a temple to a new, mechanical music: 'O Captaine *Smith*! our Hammer-armed *Vulcan*! with your three Sledges, you are our Musique, you come a little too tardie; but wee remit that, to your polt-foot, we know you are lame' (lines 49–52). Jonson presented the architect's modern Pythagoras as a disabled shadow of his legendary ancestor. Robert Fludd's contemporary 'Temple of Music', an emblem within his artificial memory theatre, illustrated Pythagoras in the act of eavesdropping on the smith at work. Now placed on a silent stage, Fludd's Pythagoras can be seen as a mirror image of what Jonson attacked, with the work of both Jones and Fludd an outcome of the death of Pythagorean harmony which by contrast had reverberated within the poet's ancient theatre. Jonson's rebuke to Jones centred on the architect as a parody of the craftsman of old, with his workforce apparently traditional in nature but now dancing to a new, mechanical tune. Here Jones's all-consuming geometrical designs are presented by Jonson as a corruption of the traditional work of the king's Surveyor, and thus less the development of past practices (as they were understood in the previous chapter) than a herald of the more rational age. Hence, once again, Jones can be seen as both traditional and innovative.

With work on St Paul's having begun a year before the performance of *Love's Welcome*, in the conclusion to this masque Jonson presents Jones organising the modern building team: 'Master *Maul*, our Free-Mason; *Squire Summer*, our Carpenter, and *Twybil* his Man; stand you foure, there, i' the second ranke, worke upon that ground . . . in the name of your *Iniquo Vitruvius*. Hay for the Lilly, for, and the blended Rose' (lines 56–76). The rose and lily here obviously referred to the king and queen, the red rose of England united with the white lily of France, with overtones of the standard alchemical union of the white queen with the red king.⁷¹ Whilst the rose is suggestive of Rosicrucian imagery, this floral heraldry had been linked to Hermetic mythology in Jonson's *The Fortunate Isles and their Union* (1625) where the 'old musicians', Arion, Amphion, and Apollo 'sing the present prophecy that goes / Of joining the bright lily and the rose' (lines 425–6). However, given the object of satire in *Love's Welcome* and Jonson's dislike of practical magic, a further Hermetic pun may also have been intended against Jones's 'name' referred to just prior to this floral union, for the lily in combination with the rose was a traditional emblem for the magus, especially in the Tarot pack.⁷² Jonson finally demoted Jones from Neoplatonic engineer and architect to a mere conjuror of theatrical shows, reminiscent of his trickster magicians in the *Alchemist*.

As the first permanent Court theatre Jones's masquing hall was designed to house the revelation of transitory visions of Platonic perfection, the physical embodiment of which was, however, realised through the architecture itself. In due course this relationship was made most explicit in the emblematic ceiling, Rubens's apotheosis of James I. Neoplatonic philosophy of the kind which influenced Inigo Jones is now obviously consigned to history, as

unreal and invisible as the Court masques which were once both inspired by, and expressed, its cosmology. Such Stuart pretensions to a magical control of nature were, of course, a delusion. However, standing today in the room in which these Court festivals took place, its coherence in orchestrating antique elements embodying harmonic proportions, symmetrically arranged to form a geometric whole,⁷⁵ is surely a testimony to the imaginative power of such intellectual magic and the beauty to which it aspired.