

Mark Howell-Meri

Acting Spaces and Carpenters' Tools: from the Fortune to the Theatre Royal, Bristol

Against the received wisdom, Mark Howell-Meri argues here for a continuing tradition between Elizabethan and Restoration (or 'long eighteenth-century') playhouses. He bases his argument in part on measurements which suggest the common use of traditional building methods and relationships between measurements and spaces based on *ad-quadratum* geometry, as shared by theatre builders across the centuries; but also on his own experience as a performance-practitioner specializing in an historiographical approach to making sense of eighteenth-century plays for today's audiences in surviving (or reconstructed) eighteenth-century spaces. He was the first director to restore a three-sided stage front to the Georgian Theatre (now Theatre Royal) in Richmond, Yorkshire, in 1987 with his hit production of Garrick's *Miss in her Teens* (1747), and other research productions have included Robert Dodsley's *The King and the Miller of Mansfield* (1737), Colman the Younger's *Inkle and Yarico* (1787), Inchbald's *The Midnight Hour* (1787), again at the Georgian Theatre in Richmond, and Lillo's *The London Merchant* (1731). He is now completing his doctoral thesis, 'Theatre and Liberty: Eighteenth-Century Play Production on the Three-Sided Stage'.

SOME of the comparisons discussed in this paper between the Fortune playhouse of 1600 and the Theatre Royal, Bristol, of 1766 may provoke controversy among theatre historians who share the received scholarly wisdom that the 'scenic' theatres built in England after 1660 are significantly different from the 'non-scenic' theatres built before 1642.¹ The first half of this article compares the dimensions and geometry of these two theatres. The second half compares their acting areas and performer-spectator relationships.

Performance-practitioner Iain Mackintosh first drew attention to the continuing existence of inclusive three-sided acting areas in British theatres from 1576 until the late nineteenth century:

The evidence is that those [British] theatres which have become the centre of artistic and intellectual life over the last four hundred years have . . . been small, uncomfortable, and densely packed. . . . The audience is placed on three sides of the acting area, with the great majority to the front.²

Mackintosh omitted any images or analysis of the Theatre Royal, Bristol, the oldest sur-

ving theatre in England still in use as a playhouse, to illustrate his thesis.³ This is the first attempt to consider the geometry or dimensions James Saunders, Garrick's master carpenter, might have used to plan the Theatre Royal, Bristol, with a three-sided stage. This is significant because of the way three-sided stages reveal new meanings in plays written during the long eighteenth-century. Recently, Joseph Donohue inadvertently spotted this:

Only recently, as the second theatres of the Royal Shakespeare Company, the Stratford, Ontario, Shakespeare Festival and numerous other multi-stage companies began adapting Wycherley's *The Country Wife* (1675), Gay, Pope, and Arbuthnot's *Three Hours after Marriage* (1717) and other 'lost' plays to the modest reaches of the Swan, the Young Vic, and other small-scale venues, has the gulf separating audiences of our day from the pleasures of *Marriage à la Mode* (1672), *The Clandestine Marriage* (1766) and hundreds of other neglected but still stageworthy works begun to be bridged.⁴

The productions Donohue cites above had in common not just the 'small-scale venues' in

which they were staged, but the distinctive quality shared by each of these venues: that their stages (or acting areas) are three-sided.

Saunders and 'Ad-Quadratum' Geometry

This paper aims to show that Garrick's master carpenter, James Saunders, appears to have planned the eighteenth-century Theatre Royal, Bristol, using the same traditional *ad-quadratum* geometry and the 16ft 6in measuring tool as Shakespeare's carpenter Peter Street used to plan the Fortune in 1600. The builder-architect William Wilkins employed the same traditional geometry and measuring tool to plan the Theatre Royal, Bury St Edmunds (1819), and the anonymous builder-architect (possibly George Coatsworth, the Richmond theatre's stage carpenter) appears to have used it earlier to plan the Georgian Theatre (now Theatre Royal) at Richmond (1788).⁵

My claim that Saunders possibly planned this theatre using *ad-quadratum* geometry and the 16ft 6in rod measure depends, not least, on a not unreasonable assumption that the wooden galleried auditorium has altered little in overall layout and feel since its opening in 1766. Kathleen Barker's *The Theatre Royal, Bristol, 1766-1966* remains (with only one or two important errors or typos I have been able to identify) the best authority on this, Barker having meticulously detailed every alteration and corroborated her interpretation of alterations with separate primary-source evidence. During the three or four years I regularly met Kathleen at Bristol just prior to her death, she told me she felt the main structure of the auditorium had changed very little since 1766. The exceptions were:

- In 1800 a third tier was added to create an upper gallery.⁶
- In 1881 the stage front was cut back by 8ft, and the original stage doors removed, leading to their eventual closure in 1948.⁷
- In 1972 came the complete replacement of the 1766 exterior stage walls, substituting for the raked nineteenth-century wooden stage and machinery one which was con-

crete and flat. This alteration confirmed with seeming finality the 1881 alteration which cut back the stage front to make Bristol a proscenium playhouse. It undermined the performers' ability to speak directly with the audience because, metaphorically, the audience remained in the familiar eighteenth-century environment struggling to make sense of a play whose performers were standing on a twentieth-century stage.⁸ This, and the 1881 alteration, seriously undermined the way the playhouse worked during productions.

The proprietors' minute books carefully record the 1800 and 1881 alterations; and, significantly, the fact that the auditorium remained little altered after its biggest structural change in 1800 is confirmed by *Felix Farley's Bristol Journal* of 4 October 1800, which specified:

The [auditorium] form was always admired by the best judges of that species of architecture – this form is still preserved.



The auditorium of the Theatre Royal, Bristol (showing the upper gallery and raised ceiling added in 1800). Photo courtesy of the Theatre Royal, Bristol.

In comparing Bristol with the Fortune it is necessary to examine its architecture and dimensions closely. I will use this detailed examination to show how the Theatre Royal, Bristol, worked as a three-sided acting space very like the Fortune, and how this might make, as Joseph Donohue noted in 2003, plays from the long eighteenth century more relevant and meaningful to audiences who see them.

To clarify comparisons between the Fortune and the later Theatre Royal, Bristol, I will use the terms 'stage doors' and 'stage' (used during the seventeenth and eighteenth centuries) in place of 'proscenium doors' and 'forestage', terms invented by twentieth-century theatre historians which inadvertently draw attention to the proscenium arch and the scenic upstage areas of theatres dating from the long eighteenth century. The original terminology better enables readers to trace the continuity of the three-sided acting area. Twentieth-century terminology (together with 'thrust' and 'apron stage' or 'platform') misleads readers to see the acting area at the Theatre Royal, Bristol, as separate from the scenic part of the stage, whereas contemporaries regarded them simply as a single stage. (For the same reason, I am using the eighteenth-century name 'Theatre Royal, Bristol', in place of the twentieth-century name 'Bristol Old Vic', because the latter associates it with the London Old Vic – a grand proscenium-arch nineteenth-century playhouse which feels very different from the smaller, spatially intimate Theatre Royal, Bristol.)

Relationship with Garrick's Drury Lane

Saunders took the theatre where he worked as stage carpenter for Garrick – the Theatre Royal, Drury Lane – as his model.⁹ Surprisingly, the first volume of the manuscript 'Proprietor's Minutes at Theatre Order and Dividend Book' (1764–1815) only records inspecting drawings by Saunders. The fact that no other primary source survives to show that Thomas Paty made any drawings supports the view that this playhouse was probably designed using traditional building

methods with drawings made by a master carpenter. The Minutes that name Paty as 'architect' refer to his work in designing the theatre's decorative plaster, not to his design of the theatre building. And the minutes for 4 November 1764 record:

A very ingenious carpenter, Mr. James Saunders, carpenter of [Drury Lane playhouse and] . . . The proprietors have collected such hints as they flatter themselves will be a means of saving some hundreds in building ye intended house in Bristol.¹⁰

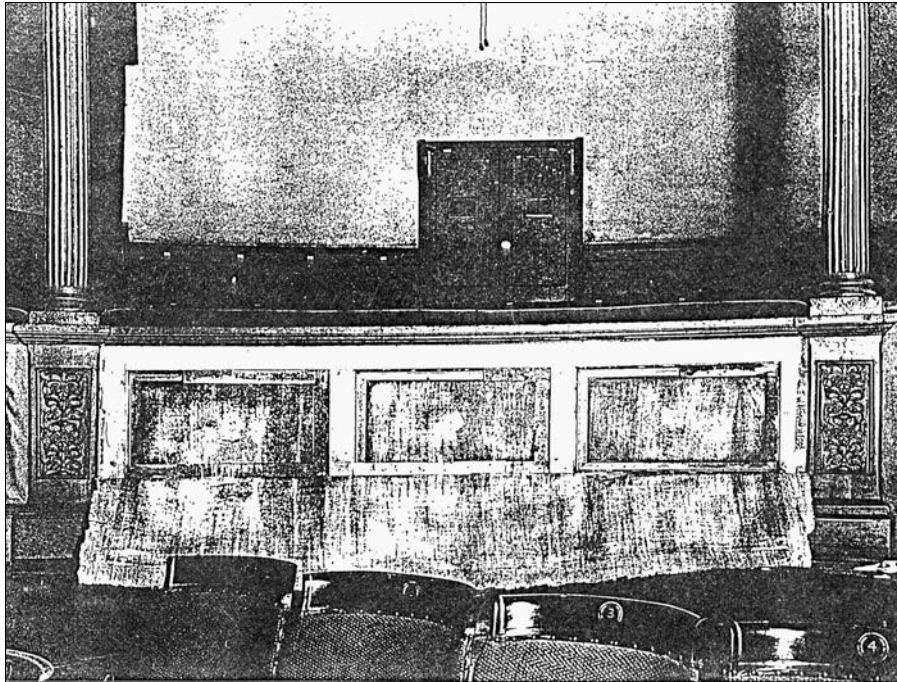
A month later in November, the proprietors met to inspect:

an Elevation Ground Plan and Section of a Theatre Drawn by Mr. Saunders Carpenter of Drury Lane Play House. Resolved to Execute the Playhouse agreeable to the Above mentioned Plan . . .

The Theatre Royal, Bristol, is the oldest theatre in England still used as a playhouse. Like its historian, Bristolian Kathleen Barker, I am confident that the original appearance of the eighteenth-century auditorium remains largely intact and that its measurements can be used as circumstantial evidence to reveal the design geometry Saunders used when he planned it.

Surprisingly, no article has appeared on the theatre in a scholarly journal since Barker passed away in 1993. The reasons for this oversight appear to stem from Dr Richard Southern's acceptance that E. Hamilton Bell correctly assigned to Drury Lane the anonymous, undated, sectional drawing with unnumbered scale with the title 'A Play house' scribbled possibly by a librarian. By contrast, the architectural historian John Summerson dismissed Bell's assignment as 'doubtful'. The drawing, torn twice across as if its artist set it aside, has also been dismissed by Graham Barlow in his PhD dissertation of 1984.¹¹

The surviving Theatre Royal, Bristol, probably provides a better image of Garrick's Drury Lane than any other surviving theatre. The dimensions of the original exterior walls can be traced in J. Ralph Edwards's survey drawing of 1942, in the possession of the



Photograph taken c. 1948 revealing original box fronts at Bristol. (University of Bristol Theatre Collection, Richard Southern Accession, Box 41: RS/041/0051)

theatre trustees. The accuracy of Edwards's survey has been confirmed by Andrzej Blonksi Architects, London, who in 2002 commissioned a new digital survey for conservation and restoration work at the theatre which will include new bench seats.

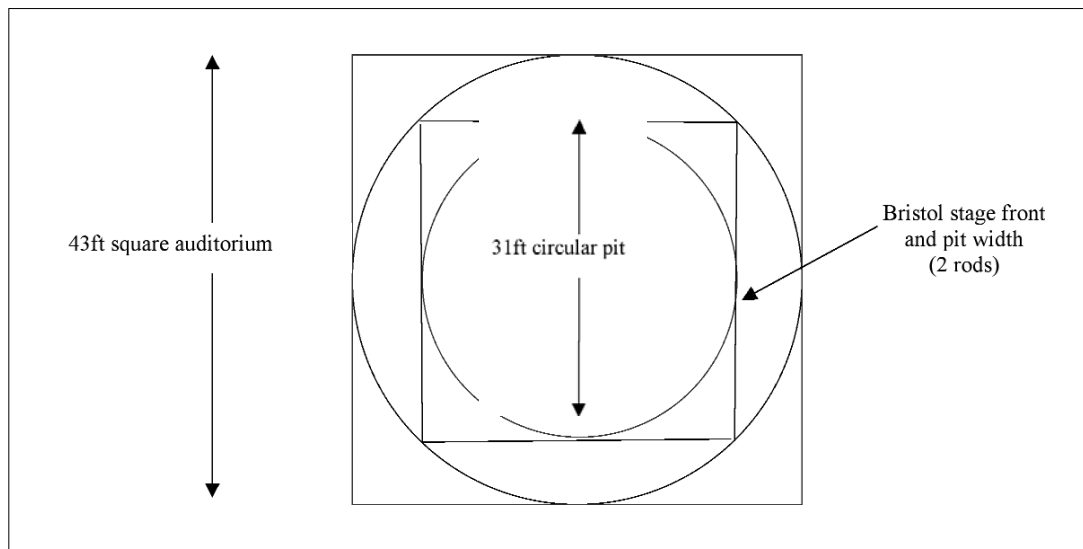
However, Edwards's drawing remains more useful to theatre historians because, unlike the Blonksi-commissioned computer-aided design survey, it shows the theatre's original exterior walls, some of which were demolished in 1972 to build the new concrete stage. The exterior walls measure 100ft long and 50ft wide (or roughly 6 rods long by 3 rods wide), excluding the lean-to dressing rooms probably added to the north end of the building in the 1830s.¹²

In 1766, the Theatre Royal, Bristol, stood in a broad yard accessed via a passageway built through the ground floor of three houses in King Street, just like Drury Lane. Also like Garrick's playhouse, the new theatre at King Street, Bristol, would have been surrounded on three sides by passageways measuring between 5ft and 10ft wide.

Standing in Bristol's wooden auditorium today, the surviving neoclassical reeded circular box columns aesthetically match the perfectly circular neoclassical pit. Moreover,

their carved reeding echoes the similarly reeded Corinthian pilasters depicted in the well-known illustration showing Garrick on stage at the Theatre Royal, Drury Lane, in 1769, just three years after Bristol opened. This evidence all suggests the original 1766 neoclassical box columns still stand in the Bristol wooden auditorium; and this is supported by a black-and-white image showing what appears to be the original 1766 panelling revealed beneath layers of nineteenth-century plaster overlay in a photograph that Southern commissioned c. 1948 and published here for the first time.¹³

This classical Palladian panelling matches the straight lines in the reeded columns which stood on the Drury Lane stage of 1769, suggesting that when it opened the Theatre Royal, Bristol, had the appearance of a revived Roman amphitheatre, central to the Palladian revival; so as a rebuilt Roman amphitheatre, the Theatre Royal, Bristol, would have been at the height of fashion during the mid-eighteenth century, when the paintings by Pannini and Giovanni Paolo showing the ruins of Rome and Rome rebuilt were popular with the English Grand Tourists of the merchant community, who built many new theatres.¹⁴



Ad-quadratum layout of pit and auditorium at the Theatre Royal, Bristol, 1766.

My argument that Bristol's Palladian box columns do date from 1766 is reinforced by the recent restoration of eighteenth-century décor to the Theatre Royal, Bury, and the theatre at Richmond, giving the impression that both are open to the sky, like classical Roman amphitheatres. The Bristol panelling matches that at Richmond. This all provides further proof that a good deal more of the Bristol auditorium dates from 1766 than has previously been thought. It also supports my argument that all three of these surviving playhouses were designed according to the theatre-planning principles of classical architecture outlined by Vitruvius, Serlio, and Palladio.

The dimensions of exterior walls, boxes, pits, galleries, and stage of the Theatre Royal, Bristol, appear to derive from the one- (16ft 6in), two- (31ft) and three-rod (49ft 6in) squares related proportionally to one another through circles drawn circum-centrally within them. Literally translated, the Latin term *ad-quadratum* means 'from the square'.¹⁵ And the square is the most traditional instrument found in any carpenter's toolbox. Mathematically, the widths of each square are related to the diameter of each circle by the square root of two. The diameter of the Theatre Royal, Bristol's circular pit measures 33ft. This measurement relates *ad-quadratum*

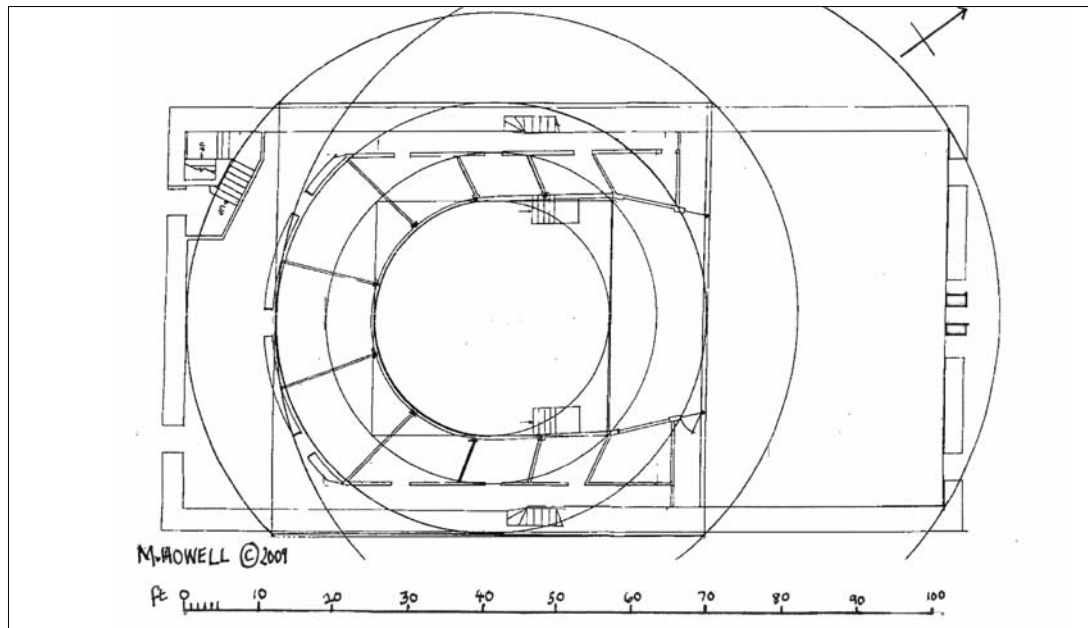
to the 43ft width of its auditorium ($31 \times \sqrt{2} = 43$) measured between the rear walls of its side boxes.

From Vitruvius to the Fortune

There is no mystery here: these were traditional methods for planning any building, and can be found described in best-selling eighteenth-century books on carpentry,¹⁶ such as the standard building manuals by Batty Langley, William Salmon, E. Hoppus, and Benjamin Cole published and reprinted throughout the century, and accounting for the standard Palladian appearances of Georgian cities like Bath and Bristol.¹⁷

The *ad-quadratum* geometrical plan showing successive circles related to one another circum-centrally through successive squares marks the positions of the galleries, boxes and stages of James Sanders's Theatre Royal, Bristol.

The Theatre Royal, Bristol, pit is plotted on a 31ft diameter circle which is related *ad-quadratum* by root two to the 43ft square plotting the rear walls of its side boxes. This 43ft dimension is related *ad-triangulum* to the 55ft exterior width of the Theatre Royal, Bristol. John Orrell traced this *ad-quadratum* geometry for setting out theatres to the plans of Vitruvius, Serlio and Palladio.¹⁸ In the



Ad-quadratum geometry James Saunders possibly used to plan the Theatre Royal, Bristol, 1766.

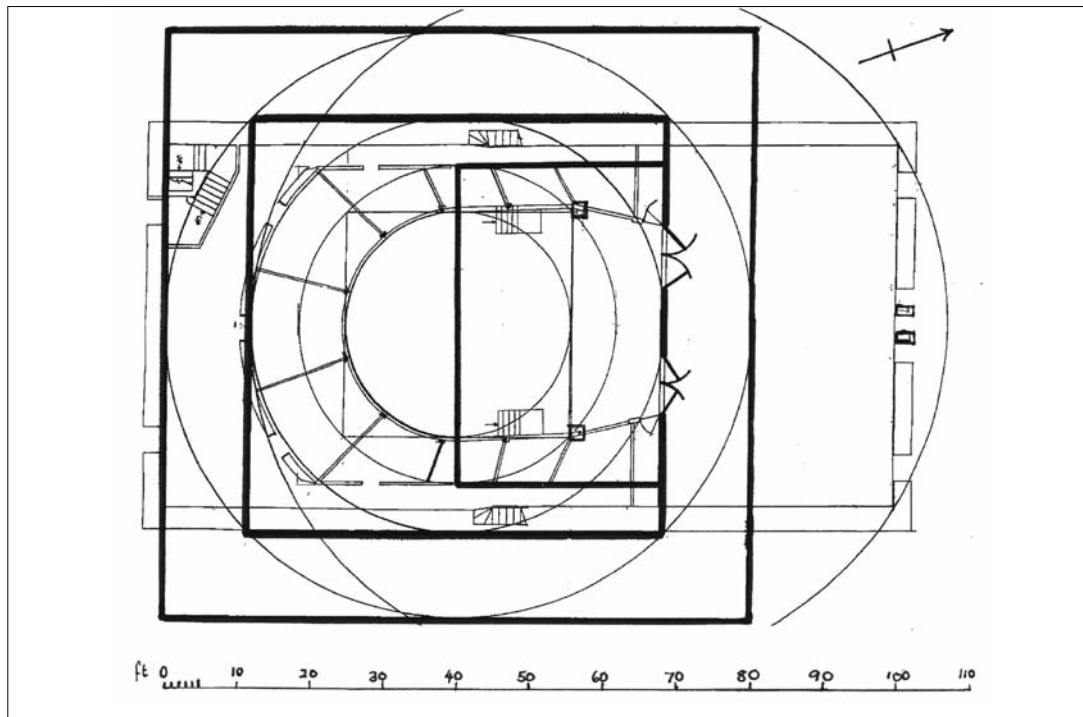
bibliography to his *Mechanick Exercises* (1664, and reprinted throughout the eighteenth century), Joseph Moxon lists the architectural treatises of Vitruvius, Serlio, and Palladio as those he expected eighteenth-century master builders to read. Of all these, writes Moxon, Vitruvius 'is the chief: for from this Book the rest are generally followed.'

A surprising coincidence arises from comparing the Bristol theatre dimensions found in J. Ralph Edwards's 1942 survey with the dimensions of the Fortune theatre built by master carpenter Peter Street in 1600. The dimensions of the Fortune can be found in the well-known builder's contract Street agreed with Philip Henslowe.¹⁹ Overlaying the plan of the Fortune Theatre on Edwards's 1942 survey drawing of the Theatre Royal, Bristol, suggests that Saunders, like Street, used the same 16ft 6in measuring tool and the same *ad-quadratum* geometry as builders and surveyors during the later period. My analysis of the comparable dimensions and geometry of these two theatres has also encouraged me to speculate tentatively that the surviving Corinthian pilasters – albeit simply decorative attachments to the old stage boxes – marking the Theatre Royal's original stage position might coincide with

the unknown positions of the Corinthian stage columns which supported the Fortune Theatre's stage 'shadowe' or heavens.²⁰

Circumstantial evidence that eighteenth-century builders' manuals show familiarity with root-2 proportions for setting out *ad-quadratum* proportioned buildings modelled on those shown by Vitruvius, Palladio, and Serlio is supported by the specific dimensions and proportions found in the Theatre Royal, Bristol. Saunders appears to have used the three core dimensions Peter Street used to lay out the Fortune Theatre on the ground: 80ft, 55ft and 43ft.

The late John Orrell has summarized how these dimensions could have been derived from the three-rod line – a measuring tool carpenters since the sixteenth century traditionally used for surveying land and setting out buildings on site using *ad-quadratum* geometry.²¹ And Axel Burrough shows how the Theatre Royal, Bury St Edmunds, built in 1819, employs the same geometry and dimensions.²² The Fortune measured 80ft square externally. An 80ft diameter circle drawn over Ralph Edwards's 1942 survey drawing unites the Theatre Royal, Bristol's south entrance wall *ad-quadratum* to the 55ft square plotting its exterior width.



Plan of Theatre Royal, Bristol, overlaid by plan of the Fortune, showing conjectural positions of the Fortune's stage doors and columns.

The Fortune yard measured 55ft square. The Theatre Royal, Bristol, measures 55ft externally on the Edwards survey. The stage of the Fortune measured 43ft wide – also the exact distance between the rear walls of the side boxes at Bristol, measured across the auditorium on the Edwards survey. The circle plotting the Bristol pit is 31ft in diameter, which relates *ad-quadratum* to 43ft. The fact that other historic English theatres include these dimensions and geometrical layout suggests this is not simply coincidental, but arises from common use of the *ad-quadratum* geometrical layout by theatre builders and carpenters.²³ The discovery of the Rose theatre by the Museum of London archaeological team in 1989 shows the Rose theatre(s) also contained dimensions comparable with those at Bristol:

The 1587 [three-sided] stage was 16ft 5 inches [nearly 1 rod] deep, with a maximum width of 36 feet 9 inches, tapering to 26ft 10 inches at the front. Overall the acting area was 490.05 square feet.²⁴

The distance from the ground floor gallery

front to the stage front was 29ft 6inches.²⁵ All these dimensions support the comparison with Bristol – whose stage front stands 31ft from the front boxes; and whose downstage acting area measures roughly 31ft by 11–15ft, or 341–465 square feet.

Helping to Recreate the Fortune?

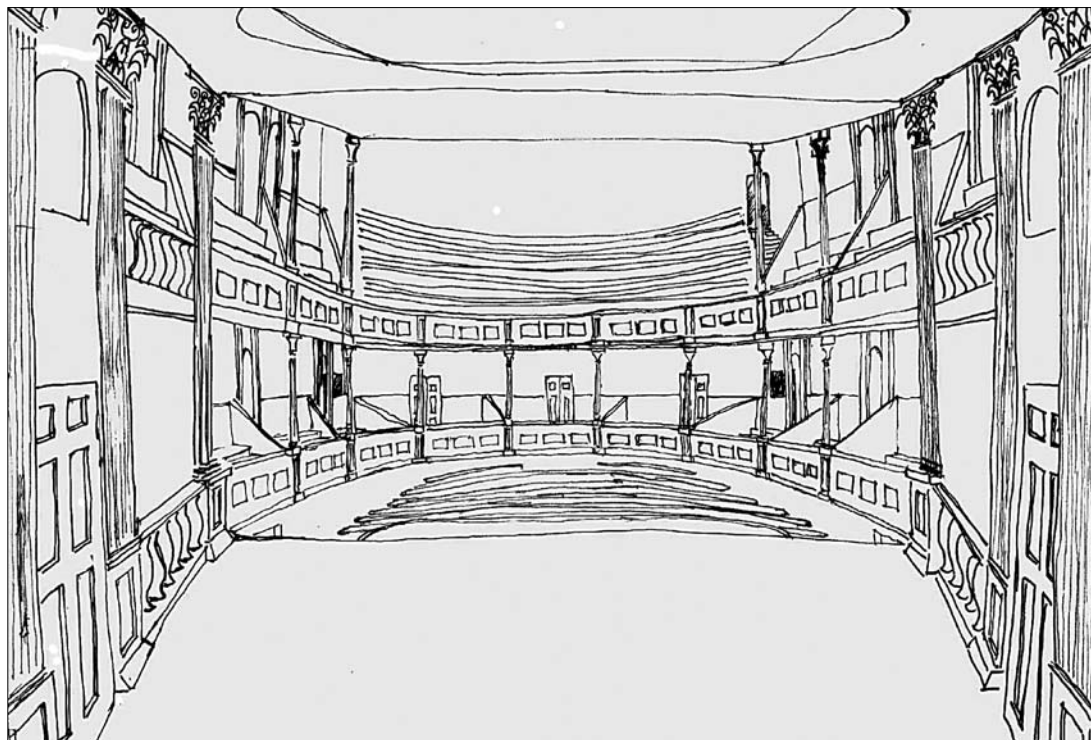
Overlaying the Fortune theatre plan on the plan of the Theatre Royal, Bristol, prompts other areas of speculation. Perhaps the most intriguing is that the overlay might reveal the original position of the stage columns and doors at the Fortune. Strikingly, the Theatre Royal, Bristol, retains four eighteenth-century Corinthian stage plaster pilasters which, in appearance, compare well with the stage columns of the Swan playhouse shown in the well-known sketch Aarend van Buchel copied from the original drawn by his friend Johannes de Witt c. 1596 (about three years before Street signed the Fortune contract).

Unlike the stage columns of Shakespearean theatres – which appear to have structurally supported the stage ‘heavens’ or ‘shadowe’ – the Bristol stage columns are simple plaster pilasters decorating the sides of structural columns which support the ceiling above the stage front. Coincidentally, the position of the two Corinthian pilasters that once stood on Bristol’s stage front stand 28ft apart – exactly the same distance between the Corinthian columns standing on stage at the New Globe.²⁶ I want to emphasize that this is no more than a coincidence. It is not the purpose of this article to enter the heated scholarly debate about the position of structural Corinthian columns at Shakespeare’s Globe or the Fortune. The New Globe architects and scholars spent months, if not years agonizing over alternative sites for the stage columns.

The second area of speculation that arises from overlaying the Fortune plan over Edwards’s survey drawing arises from what appears to be a coincidence in the position of Bristol’s two stage doors with the possible position of two stage doors at the Fortune.

The line that probably marked the Fortune tiring-house wall crosses directly through the upstage side of the probable position of Bristol’s two stage doors. The position and number of stage doors in Shakespearean tiring houses has, like the position of the Corinthian stage columns which supported the ‘shadowe’ or ‘heavens’, long provoked heated debate amongst theatre historians; so it is important that I re-emphasize here that my speculation about the possible position of stage doors at the Fortune arises only from the fact that the two playhouses contain identical dimensions – 80ft, 55ft and 43ft – which appear to derive from each carpenter-architect applying the same geometry.

If Street and Saunders used the same geometry and measuring tools to position the rest of each playhouse they built, it seems not unreasonable to assume that they might have used the same means to position the stage doors and columns (be they free-standing or non-structural decorative pilasters). Speculating that the 1600 Fortune theatre also contained two doors (like those shown in the renowned Swan theatre sketch of c. 1596),



Theatre Royal Bristol as it may have appeared in 1766. © Mark A. Howell-Meri.

then each Fortune door could have measured 43ft divided by 5, which is slightly more than 8ft 7ins wide (just an inch or two more than half a rod). This space for each set of doors should be divided again by 2, to give a door width of 4ft 3.5ins wide (or just over a quarter of a rod wide).²⁷

Accepting this for the moment, the speculative position of the Fortune's stage-door hinges would coincidentally match the position of those at the Theatre Royal, Bristol. This conjecture is not simply retrospective or anachronistic, but based on the way stage carpenters possibly set out the plan of each building using the *ad-quadratum* geometry builders had been using since the sixteenth and seventeenth centuries.

As performers and directors re-learn how to work the three-sided stages recently restored at the Theatre Royal, Bury St Edmunds (1819), and the Theatre Royal at Richmond (1788) as effectively as performers at the New Globe, the Swan, and the Young Vic use theirs, I am confident theatre historians will also discover new meanings in the successful revival of plays from the long eighteenth and early nineteenth centuries. The restoration of the much older three-sided stage at the Theatre Royal, Bristol, would certainly help this.

Research in Practice

New practice-based research by Bridget Escolme and a separate professional production of *The Rivals* by Rachel Kavanaugh at the Theatre Royal, Bristol, in 2002 also support a comparison between the performer-spectator relationships in the Fortune with those at Bristol. Dr Escolme's identification of what she calls a direct-address 'conversation' common in plays written for the theatres of Shakespeare's time (including the Fortune) can be compared with the discovery by the director Rachel Kavanaugh that the concept of holding a continuous open 'conversation' directly with spectators remained key to the success of her Bristol production of *The Rivals* in June 2004.²⁸

During rehearsals Kavanaugh and her performers called this 'tea for three', agreeing

that performers should speak simultaneously with spectators. Kavanaugh knew that 'when these plays were first done they were done with the house lights on, so to speak, so that the characters who directly address the audience quite a lot would have been able to make direct eye contact with them'. Using this knowledge, in rehearsal she

wanted to explore this idea of the characters sharing their thoughts with the audience – not just in asides but within the scenes. We used to call it 'tea for three' in rehearsals. So [*gesturing and looking to her right hand side*] I'd be having a conversation with *you* and [*gesturing and looking directly at the audience*] I'd also be having a conversation with *you* at the same time – just include my friends over there [*gesturing again towards the audience*] as well. . . . Some of them took to it absolutely naturally. I mean Selina [Cadell] has done a lot of work in this period of writing and was a great help and . . . example to a lot of the other actors about how to effortlessly include the audience. So it's not like winking and nudging and doing big asides: it's just saying, 'You're here and we know you're here and a we're doing this play for you.' [*Her emphases.*]

This can be seen to work so well in the DVD copy of Kavanaugh's production that I am surprised she did not restore the Theatre Royal's original three-sided stage, which would have better facilitated the opportunity for direct conversation she identified with her cast.

Bridget Escolme's discoveries about the performer-spectator relationships in early seventeenth-century theatres like the Fortune compare well with Rachel Kavanaugh's discoveries about the performer-spectator relationship demanded by *The Rivals*, one of the most popular plays of the late eighteenth century. And both discoveries support my argument that the Theatre Royal, Bristol, contains traditional dimensions, geometry and performer-spectator relationships comparable with those of the Fortune.

J. Ralph Edwards's 1942 survey plan shows that the Theatre Royal, Bristol's stage front extended 12ft (from the upstage side of the proscenium doors) into the auditorium when it opened in 1766, while the Fortune's stage front extended 27ft 6in (from the tiring house wall) into its auditorium. However,

these three-sided acting areas allowed the performers comparable relationships with their auditoria: the Bristol front boxes stood 31ft from the stage front while the Fortune front gallery stood a comparable 27½ feet from its stage front. The Bristol stage front measured only 31ft wide. With spectators seated on each side of the Fortune's tiring-house doors, its acting area could have been reduced to 31ft. The experience of performing in each of these different theatres was in at least some respects comparable, especially when one compares the 'conversations' Escolme discovered in seventeenth-century play productions with the 'tea for three' conversations in Kavanaugh's production of *The Rivals*.

Notes and References

1. These include: Peter Thomson, *English Theatre 1660–1900* (Cambridge: Cambridge University Press, 2006), p. 3: 'What can be reasonably called the 'modern' theatre began in England in 1660 . . .', and p. 11–12: 'The novelty of actresses was the second publicity coup for the new theatres. The first was changeable scenery. When designing their playhouses, Killigrew and Davenant could have followed the architectural model of the great Elizabethan and Jacobean open-air amphitheatres. . . . Instead they both chose to work in small indoor playhouses.' The same focus on the upstage area of playhouses is to be found in Richard Southern's chapter, 'Theatres and Scenery' – signifying scenery as the chief quality that distinguished the Restoration Theatre from 'open stage' theatres before 1642 – in *Revels History 1660–1750* (Methuen, 1976), p. 84: 'It is perhaps significant to note that neither [Davenant nor Killigrew] turned to one of the surviving Elizabethan Playhouses; that era was ended.' Southern's thesis appears to derive from W. J. Lawrence's late nineteenth-century publications. Others who maintain this thesis include Jean Benedetti, *The Art of the Actor: the Essential History of Acting from Classical Times* (Methuen, 2005), p. 47: 'With the Restoration, England had to reinvent its theatre . . .'; and Simon Trussler, *Cambridge Illustrated History of British Theatre* (1994, rpt. 2000), p. 119–121, who uses Richard Leacroft's mid-twentieth-century diagrammatic reconstructions which derive, in turn, from the research of Richard Southern.

2. Iain Mackintosh, *Actors, Audiences, and Architecture* (London; New York: Routledge, second ed., 1998), p. 25.

3. Mackintosh mentions Bristol only on pages 33, 39, and 100.

4. Donohue, *The Cambridge History of British Theatre*, Vol. 2: 1660–1895, ed. Peter Thomson (Cambridge: Cambridge University Press, 2003), p. 4.

5. Axel Burrough, 'Theatre of Proportion', *Architectural Review*, CLXXXIV (September 1988), p. 75–81; and Mark Howell-Meri, 'The Theatre at Richmond, Yorkshire: New Evidence and Conjectures', *Theatre Notebook*

XLI, No. 1 (1992), p. 30–40. The term *ad-quadratum* was introduced to theatre historians by John Orrell in *The Quest for Shakespeare's Globe* (London: Cambridge University Press 1983), p. 115–16.

6. *Bristol, 1766–1966: Two Centuries of Stage History* (Society for Theatre Research, 1974), p. 65.

7. Barker, p. 168 and 217. The only error I have been able to discover in Barker's carefully listed alterations lies in her description of the stage being cut back by '5ft' in 1881. This may be a typing or publication error, because the stage was cut back by 8ft. This is evidenced by the crude base to the downstage Corinthian pilasters, which once stood on the stage front.

8. See Barker, p. 65–6 and 168; and José Manser, 'Theatrical Renaissance in Bristol', *Design* (1972), p. 25–9, available online at <www.vads.ahds.ac.uk/diad/article.php?title=288&year=1972&article=d.288.30>.

9. Barker, p. 10, writes: 'I am convinced we should attribute to Saunderson [sic] the design of the Theatre Royal, Bristol.' Saunders appears as a character in Garrick's play first performed just one year after the Theatre Royal, Bristol, opened – *A Peep Behind the Curtain; or, the New Rehearsal* (1767) – where he is found struggling to make some flying mechanical cows work for the fanciful author of a new pantomime.

10. Barker, p. 8. 'Proprietor's Minutes at Theatre Order and Dividend Book', Vol. I (1764–1815), 25 October 1764 and 6 November 1764, Bristol Records Office 8978/1/a (National Archives Archon Code: 2).

11. Hamilton Bell, 'Contributions to the History of the English Playhouse . . .', *Architectural Record*, XXXIII (1913), p. 359–68. Bell's attribution of this drawing to Drury Lane rests on his key assumption that it shows a theatre measuring 112ft long, a match to the site of Drury Lane. However, Bell's interpretation of the unnumbered scale shows that this drawing cannot be of Drury Lane. John Summerson, *Architecture in Britain, 1530–1830* (Harmondsworth: Penguin, 1953), p. 156, calls Bell's drawing 'doubtful'. Reliable maps from the period show that the Theatre Royal, Drury Lane, of 1674 stood in a yard surrounded on three sides by passageways measuring between 5ft and 10ft wide. Thus, the exterior walls of Drury Lane probably measured no more than 100ft long and only 50ft wide – the same dimensions as the Theatre Royal, Edinburgh, of 1769, which took Bristol as its model (Edinburgh Reference Library, q YPN 265 R). See also Graham Barlow, 'From Tennis Court to Opera House', PhD. diss., University of Glasgow, 1983, p. 99.

12. Barker's Plate 5 shows two pyramid roofs surmounting these dressing rooms, while the original 1766 main roof of the Theatre Royal is supported by the rear stage wall of the original theatre. This supports my view that these dressing rooms were added to the original 1766 structure and that Bristol was built – like the Theatre Royal, Edinburgh – with dressing rooms on stage. This is supported by the 1768 plan of the Theatre Royal, Edinburgh, which was modelled on Bristol and measured 100ft long by 50ft wide externally. See 'Proposed New Theatre Royal. Description of the building which is to be sited in New Streets behind the Orphan Hospital to the East side of New Bridge. Illustrated by a plan' (1768), Scottish Record Office, GD 44/Sec 43/Bundle 14.

13. Bristol University Theatre Collection, Richard Southern Accession, Box 41. The photograph should have appeared as Plate 26 in Southern's *The Georgian Playhouse* (London: Pleiades, 1948). The one printed as

Plate 26 does not match the title: 'Georgian decoration revealed under Victorian ornament.' Southern's notes attached to the photograph state: 'The box front was originally made in three panels each very deeply channelled round the edge. The deep channelling has been filled up [i.e., covered over] with rough pieces of wood nailed in order to present a flush surface. . . . Wherever a piece of filling was removed a perfectly preserved moulding of excellently gilded Georgian work was revealed. This may have been the theatre's colour when it opened in 1766, but the earliest primary source evidence I could find which supports this is *Felix Farley's Bristol Journal* for 4 October 1800 reporting new paint-work: "The decorations and ornaments are in the best style and simplicity – the house is stone colour, and the panels of the boxes a tender green with gold mouldings and cornice.'" This is confirmed in Barker, p. 66.

14. See <www.faculty.de.gcsu.edu/~rviau/ids/Artworks/italian.html>. G. P. Pannini painted *Roman Ruins and Sculpture* (Louvre) and *Picture Gallery with Views of Modern Rome* in 1758. He also painted the Pantheon in Rome, a version of which was first planned for Oxford Street in London in 1769 and completed by 1772. It was later used as an opera house and, later still, a theatre for entertainments, but, thanks to the 1737 Stage Licensing Act enforcement, never for plays. See: F. H. W. Sheppard, ed., *Survey of London, XXXI* (London: English Heritage Publication, 1963), p. 268–83, accessible online at <www.british-history.ac.uk/report.aspx?compid=41477#s2>.

15. Paul Frankl, *The Gothic: Literary Sources and Interpretations through Eight Centuries* (Princeton: Princeton University Press, 1960), p. 65–6.

16. Batty Langley, *The Measurer's Jewel* (1742), p. 8 and 13, includes the rod in his 'Addition of square measures by which Works [sic] are measured', though on p. 15 he emphasizes that these can be rounded up or down. John Woodcock, in *Measuring Completed* (1738), also includes a reference to the 16ft 6in rod.

17. The *ad-quadratum* plan can be found in the centre of a page of geometrical diagrams in William Salmon, *Palladio Londinensis* (1738). Batty Langley, *The Measurer's Jewel* (1747), p. 135, as 'Proposition VIII', instructs builders how 'To find ye side of a Geom: Square inscribed in a circle & the diameter of its circumscribing Circle' and explains the mathematical formula to substitute the *ad-quadratum* diagram. E. Hoppus and Benjamin Cole, *Gentleman's and Builder's Repository* (1737) includes the diagram on p. 71. 'La Nouvelle Salle de Comedie', illustrated as Plates 43 and 44 in Diderot's supplement to *Theatre Architecture and Stage Machines* (Paris, 1776–7), is set out *ad-quadratum*.

18. John Orrell, *The Human Stage* (Cambridge University Press, 1988), p. 135–6, 149 (for Serlio's theatre plan), and 140–1 (for Palladio's plan).

19. Andrew Gurr, *The Shakespearean Stage 1574–1642*. (Cambridge: Cambridge University Press, 3rd ed., 1994), p. 137–8. John Orrell's articles on the Fortune include 'The Architecture of the Fortune Playhouse', *Shakespeare Survey*, XLVII (Cambridge University Press, 1994); 'Building the Fortune', *Shakespeare Quarterly*, XLIV (1993), p. 130–1; and 'Peter Street at the Fortune and the Globe', *Shakespeare Survey*, XXXIII (1980), p. 139–51.

20. Emphatically *this is no more than speculation*. I am aware that the passions of theatre historians can be unusually provoked by this issue, not least because the position of the reconstructed stage columns at the New Globe remains unresolved. The speculation about the Fortune theatre's stage columns is no more than that.

John Orrell's argument, in 'The Architecture of the Fortune Playhouse', *op. cit.*, that the Fortune contract specifies 'square' columns surmounted by 'satyrs', does not entirely undermine my argument about the coincidence of column positions at Bristol and the Fortune. As C. Walter Hodges's reconstruction, showing his version of the Fortune in *The Globe Restored* (London: Oxford University Press, 1968), Appendix A, Drawing 5, shows, the Fortune's square columns might have supported the galleries, while its stage columns might well have been round Corinthian columns like those at Bristol.

21. See Orrell, *Quest for Shakespeare's Globe*, p. 115–16.

22. See Note 5 above.

23. Mark A. Howell, 'The Theatre at Jacob's Well Bristol', in *Scenes from Provincial Stages* (Society for Theatre Research, 1994). Tables A and B list the known dimensions of Regular Theatres, Long Rooms, and Theatres Royal built during the eighteenth century. The site of the Theatre at Jacob's Well in 1729 was 43ft wide and the surviving exterior walls of the 1767 Bath Theatre Royal – now in use as the Bath Freemason's Temple – are 43ft internally. Other Theatres Royal measuring 55ft wide included Edinburgh (1768) and Newcastle (1788). The Bristol pit width of 31ft is exactly twice the pit width of 15ft 6in at Richmond (1788), indicating a strong rod-based proportional link between the two.

24. Christine Eccles, *The Rose Theatre* (New York: Routledge, 1990), p. 140–1

25. *Ibid.*, p. 92.

26. Richard Southern, 'The Lost Remains at King's Lynn', in *The Revels History of Drama in English*, VI (London: Methuen, 1975), p. 65, shows that the eighteenth-century theatre at King's Lynn had similar Corinthian pilasters to those at Bristol. The King's Lynn columns decorated the structural wooden frame supporting its stage roof and formed its stage doors and stage boxes.

27. William J. Lawrence's essay, 'Proscenium Doors: an Elizabethan Heritage', in *The Elizabethan Playhouse and Other Studies* (1912, reprinted by Kessinger Legacy Reprints, 2003), first traced the origin of stage doors in playhouses from the long eighteenth-century to the tiring house doors of the Elizabethan playhouse.

28. B. Escolme, *Talking to the Audience: Shakespeare, Performance, Self* (London: Routledge, 2005), p. 55, and interview with Rachel Kavanaugh, director of *The Rivals* at the Bristol Old Vic (DVD recording, 9–10 June 2005, Heritage Theatre Video Productions, 2004). Dane Farnsworth Smith and M. L. Lawhon first discussed the importance of the great extent of direct address (far beyond printed 'asides') in eighteenth-century plays, but they were concerned only with those plays where the characters discuss the theatre or acting. Smith and Lawhon called these plays 'self-conscious'. As the RSC performers on the stage of the Swan Theatre and the performers on the stage of the New Globe have all inadvertently discovered, interacting with audiences is an inevitable consequence of the three-sided acting area. This interaction is intimate, adding meaning to the production, in strong contrast to the demonstrative interaction to which some proscenium or end-stages can incline performers. See Dane Farnsworth Smith, *Plays about the Theatre in England from the Rehearsal in 1671 to the Licensing Act in 1737; or The Self-Conscious Stage and its Burlesque and Satirical Reflections in the Age of Criticism* (New York: Oxford University Press, 1936); and Dane Farnsworth Smith with M. L. Lawhon, *Plays about the Theatre in England 1737–1800; or the Self-Conscious Stage from Foote to Sheridan* (Bucknell University Press, 1979).