Sir Christopher Wren (1632-1723), St Paul's Cathedral, 1673-1711

Architect: Sir Christopher Wren (1632-1723**)**
Nationality: British
Work: St Paul's Cathedral
Date: 1673–1711. First church founded on this site in 604, medieval church re-built after Great Fire of London, 1666
Style: Classical English Baroque
Size: Nave 158 x 37m, dome 85m high
Materials: Portland stone, brick inner dome and cone, iron chains, timber framed outer dome, lead roof, glass windows, marble floors, wooden screens
Construction: Arcuated: classical semi-circular arches; loadbearing walls and piers; 'gothic' pointed inner cone, flying buttresses
Location: Ludgate Hill, highest point of City of London
Patron: Church of England
Scope of work: Identities in art and architecture, specified architect pre-1850

Digital image courtesy of Dr. Orhan Aral

1. ART HISTORICAL TERMS AND CONCEPTS

<u>Function</u>

- Dedicated to St Paul, ancient Catholic foundation, now Anglican church under Bishop of London holding religious services with liturgical processions requiring nave, high altar and choirs
- Rebuilt as a Protestant or Post-Reformation church, greater emphasis on access to the high altar and hearing the sermon
- For Wren the prime requirement was an 'auditory' church with an uncluttered interior where all the congregation could see and hear
- Richness of materials and carving communicate the wealth of the city and the nation as well as demonstrating piety

- Dome and towers identify presence, location and importance in the area and community
- Inspires awe by the scale of dome soaring to heaven, and heavenly light from windows
- Due to large scale of nave, used for major national commemorations with large congregations such as state funerals and royal weddings
- Contains monuments to significant individuals

Watch:
https://henitalks.com/talks/sandy-nairne-st-pauls-cathedral/ 6.45 minutes
https://smarthistory.org/stpauls/ 9.06 minutes

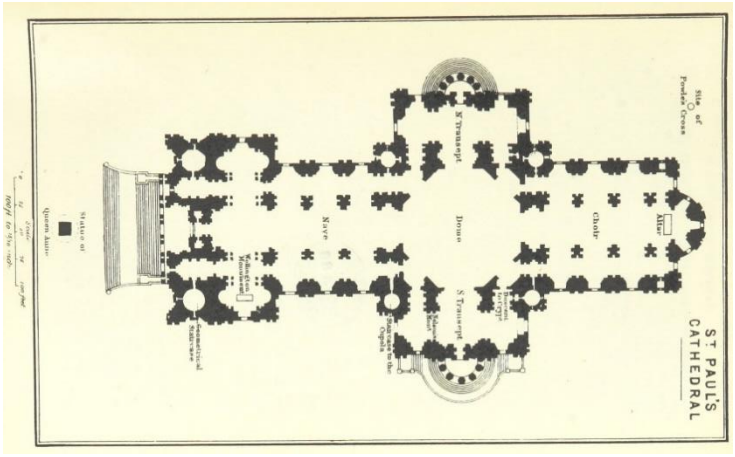
Dome

View from under dome back down nave. View from choir past crossing under dome to nave.

Formal Qualities

- Constructed by one architect in classical English Baroque, showing symmetry and order
- Cruciform, Latin cross plan with nave and transept, twin bell towers either side of central entrance
- Huge dome dominates London skyline
- Classical language of architecture with semi-circular Roman arches and vaults, Corinthian and composite columns and pilasters, triangular pediment of Greek temple form
- Flying buttresses, associated with Gothic construction - hidden behind screen walls
- Some pointed arch construction: inner pointed brick cone to triple layer dome
- Large scale stone building, inspiring awe; nave 158 x 37m and dome 85m high. Inspired by French architecture; Mansart churches in Paris
- Cool white stone, ornate realistic carving of foliage by Grinling Gibbons

Top right The Operation Banner Service held at St Paul's Cathedral, London, on the 10th September 2008. Digital image courtesy of Wikimedia
Centre The dome at St Paul's Cathedral, London. Digital image courtesy of Getty Images
Bottom left View from under dome back down nave. Digital image courtesy of Getty Images
Bottom right View from choir past crossing under dome to nave. Digital image courtesy of Old Town Tourist



Layout of St. Paul's Cathedral, from William Paterson, *Guide Book to England and Wales. With maps and plans* (Edinburgh, 1886) p. 69. Digital image courtesy of The British Library (Digital Store 10347.cc.10)

- **Annotate the image using terminology for classical architecture:**

Carved stone figures and finials give varied skyline and vertical emphasis

Symmetry: mirror image on either side of a central axis, e.g. two bell towers

Semi-circular dome topped by cross finial, drum with articulated peristyle, balustrade

Entablature of cornice, frieze and architrave; lower frieze plain, upper frieze with bracket; gives horizontal emphasis

Triangular pediment on paired freestanding fluted Composite columns (acanthus plus Ionic volutes), giving central emphasis

Proportioned and ordered.

Ornate carving of narrative scenes and floral garlands

Upper storey of bell towers with tabernacle windows (with pediment, framed by half columns)

Ground level – five-bay portico with giant order (across two storeys) of paired freestanding fluted Corinthian columns (acanthus leaf capitals)

Columns with base, shaft, capital

Double height entrance projects, giving variety, flanked by bell towers with paired plain pilasters

Digital image courtesy of Dr. Orhan Aral

Wide steps to central entrance on raised podium, heavily rusticated (stone joints are incised to give scale and impression of strength)

- **Which of the following characteristics of the Baroque style of architecture does St Paul's include?**

- Movement, both lateral and orthogonal - dynamism and restlessness.
- Concave and convex treatment of façades and walls.
- Complexity of spatial arrangements and of the treatment of wall surfaces.
- Classical elements manipulated for greater expressive and emotional effect.
- Richness and opulence of materials.
- A sense of mass and of unity.
- Engagement of the viewer to enhance the visual and emotional experience - through awe, involvement and bombarding the senses.

Style: Sir Christopher Wren's *St Paul's Cathedral*, Baroque characteristics:

- West façade is a two-storey classical portico with a giant order and two side towers.
- West façade has six paired columns on the ground floor and four smaller pairs above, which create a visual progression and movement to the triangular pediment above.
- Dramatic play of solids and voids.
- Relatively rich decoration, notably at lower level where frieze of garlands above the windows connects with the Corinthian capitals to create a continuous band.
- Side towers have the drama, movement and plasticity of the Italian Baroque - and may owe something to Borromini's *Sant'Agnese* in Piazza Navona, Rome, but also evolved out of his City churches. Boldly projecting pairs of columns on the second level above the roof line.
- High colonnaded drum above the crossing which rests on eight enormous pillars.
- Drum supports one dome in stone (seen from the interior) and a brick cone to support the lantern and the lead-covered exterior dome.
- Exterior dome bears comparison with *St Peter's* in Rome, and the French Baroque domes of the *Val-de-Grâce*, *Les Invalides* and the *Sorbonne* in Paris.
- Its form owes something to Bramante's *Tempietto* - an open peristyle around a circular cella rising to a dome. Between every fourth intercolumniation are niches screening buttresses - gives a slower rhythm to the quick pace of the peristyle.
- It is two buildings in one - a functional interior and an exterior that shelters, supports and gives majestic addition to the skyline.
- The interior and exterior are thus unrelated - sense of discovery by the spectator.
- At St Paul's the symmetry and harmony of the Renaissance fuse with the elegance and animation of the Baroque and the product is imposing without being overpowering.
- Compared to the Italian Baroque, Wren's Baroque was restrained and restricted.

View from the south east. Digital image courtesy of Marcos Robles

2. CULTURAL, SOCIAL, TECHNOLOGICAL AND POLITICAL FACTORS

1632 Christopher Wren born
1642 Start of English Civil War between Royalists and Parliamentarians
1649 Regicide – the execution of King Charles I
1651 End of Civil War and start of the Protectorate under Oliver Cromwell
1660 Charles II offered an indemnity for civil war crimes against the crown from his exile in the Netherlandsand Parliament votes for the Restoration
1665-6 Wren visits Paris and contacts mathematicians and architects
1666 The Great Fire of London started in a baker's shop in Pudding Lane, destroying two-thirds of the city. Charles II and James, Duke of York personally directed the fire-fighting
1669 Wren appointed Surveyor-General of the King's Works
1687 Coal tax extended to fund the building of St Paul's

Left John Gipkyn, *Dr King Preaching At Old St Paul's Before James*, art print. Digital image courtesy of Bridgeman Images

Right John Michael Wright, *King Charles II*, circa. 1660-1665, 126.4 x 101 cm. Digital image courtesy of National Portrait Gallery, London (NPG 531)

Extension: https://www.sal.org.uk/collections/explore-our-collections/collections-highlights/diptych-of-old-st-pauls/

Sir Christopher Wren (1632-1723) was both an architect and a scientist who not only rebuilt St Paul's Cathedral but also many other City churches. He was born the son of a vicar who became Dean of Windsor; his uncle, the Bishop of Ely, was imprisoned in the Tower of London for 18 years for Royalist sympathies. Wren's other works include the Sheldonian Theatre, Oxford (1664-9), Trinity College Library, Cambridge (1674-84), Chelsea Hospital and Greenwich Hospital (from 1696). He was Professor of Astronomy at Oxford and President of the Royal Society.

Sir Godfrey Kneller, *Sir Christopher Wren*, 1711, 124.5 x 100.3 cm. Digital image courtesy of National Portrait Gallery, London (NPG 113)

The tower of Old St Paul's was in danger of collapse. By 1666, Wren had produced a design for a colonnaded drum, dome and lantern to replace the tower. Days after the design was agreed the Great Fire of London severely damaged the medieval church. Initially, the plan was to rebuild east of the crossing maintaining the old nave. A coal tax paid for the new building.

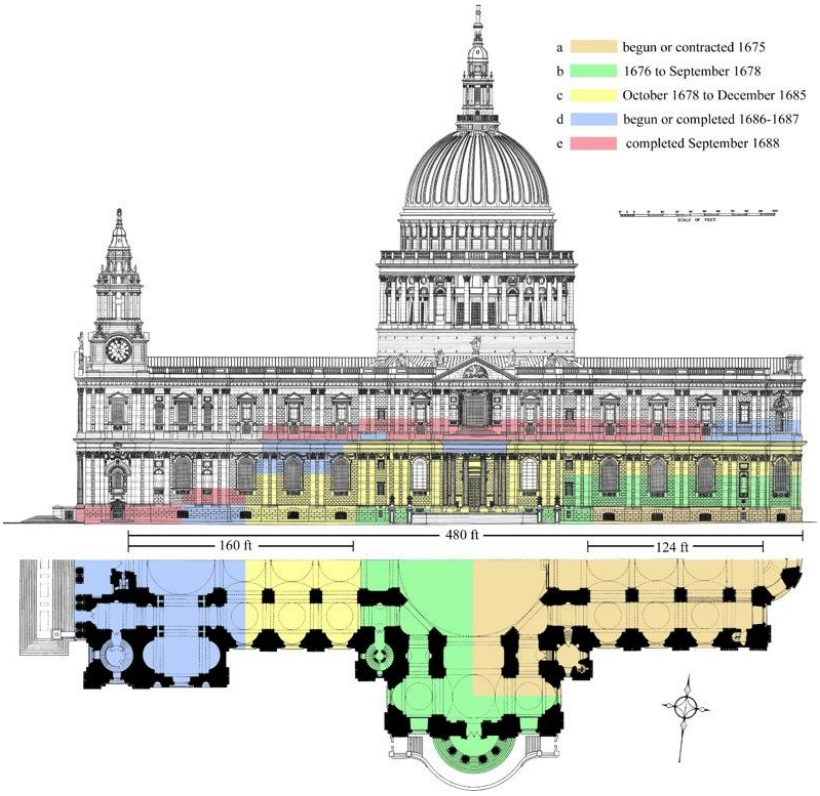
The Greek Model design had four straight and four concave facades. An amendment to this was the Great Model design with an extended western portico. The objection to this centralised design was that it was not directional with a nave leading to a choir. The Warrant design of 1675 had a wooden spire on top of the dome, which was subsequently dropped.

The dome's hemispherical form echoes Bramante, its structure that of Mansart who Wren met in Paris in 1666; the two-storeyed western façade owes something to Perrault's façade for the Louvre (1665-80), certain elevations echo Inigo Jones' Banqueting House (1622); the decoration, much of it by Grinling Gibbons, was influenced by buildings Wren had seen in Paris.


The more Baroque elements such as the curved porticoes on the transepts and the western towers show the influence of Pietro da Cortona and Borromini respectively. St Paul's had one architect and one expert mason, and was built in 35 years in the episcopate of one bishop.



Left and centre, Mansart and Lemercier, Val-de-Grace, 1645-67. Right, Pietro da Cortona, Santa Maria della Pace, 1656



St Paul's Cathedral. South elevation and half-plan as built, showing the main phases of construction from 1675 to 1688[1]

'It used to be thought that Wren finalised the whole design up to the roofline of the Cathedral before work began on the foundations in June 1675, but recent research on the activities of Wren's draughtsmen in relation to the main phases of construction has established that he revised the design stage by stage as work moved from one part of the building to the next. In the first phase, up to 1685, Wren planned the Cathedral with equal-length nave and choir arms and single-storey aisle walls. Soon after the accession of James II in 1685, when the Cathedral's funding was increased, he enlarged the west end and added upper aisle walls (known as 'screen walls') to create an all-round two-storey elevation beneath a more richly modelled dome, wider and higher than the one he had designed at the start of work. The 'Revised design' of c.1685–87 (as it is now known) was partly inspired by what Wren then knew, from drawings and engravings, of Jules Hardouin-Mansart's domed church of Les Invalides in Paris, begun in 1677.'

[1] Gordon Higgott, 'The Design in the First Phase: 1675-85', St Paul's Cathedral, 2013 <https://www.stpauls.co.uk/history-collections/the-collections/architectural-archive/wren-office-drawings/2-the-design-in-the-first-phase-167585> accessed 4 January 2019.

3. DEVELOPMENTS IN MATERIALS, TECHNIQUES AND PROCESSES

Watch: https://www.youtube.com/watch?v=_iTAKttcc-8 St Paul's Stonemason and details

The structure of St Paul's is due to Wren's skills as a mathematician and a practical architect, and his dome equals those of Brunelleschi and Michelangelo in its technical innovation. In 1632 Galileo published his *Dialogue concerning Two New Sciences* which identified the scientific basis of the strength of materials; and inspired by Newton's *Laws of Motion* Wren systematically investigated forces.

St Paul's has an arcuated structure based on the hemispherical arch which requires serious abutment from load-bearing walls. For this reason, it has a crypt (basement) that unusually extends under the entire building so that the foundations for the massive piers are secure in London's relatively weak clay soil.

The most notable feature is the dome, carried on pendentives on eight piers and eight arches spanning the naves and aisles. It has a triple-layer construction. The inner lower dome visible from the crossing, and raised on a tall drum, is made of brick. An intermediate brick cone supports the stone lantern, ball and cross, and is part of a double-shelled dome; the outer dome is a timber structure sheathed in lead. These are based on catenary curves rather than hemispheres. Thirty-two radiating buttresses extend from the drum each ending with three-quarter columns creating a peristyle. Above the peristyle or colonnade is a balustrade at a level known as the Stone Gallery.

On the exterior, screen walls to the north and south obscure single storey aisles and flying buttresses (usually associated with Gothic) which receive the extra thrust of the vaults. While the triangular pediment on the west façade conceals the pitched roof.

Rubble from Old St Paul's was used to build the new cathedral, but most of the stone was best quality white-grey Portland limestone from Dorset which is relatively easy to cut and carve and is associated with English architecture. Brick was used for the dome to make it lighter. The Portland stone allows for sharp detailed carving of classical capitals, frieze designs and the statues of St Paul (central), St John and St Peter on the pediment.

St Paul's Cathedral was not only an engineering triumph it was the first to be completed under the direction and within the lifetime of one architect.

4. WAYS IT HAS BEEN USED AND INTERPRETED BY PAST AND PRESENT SOCIETIES

See: https://www.stpauls.co.uk/history-collections/history/cathedral-history-timeline

Wren's St Paul's Cathedral was primarily conceived as the manifestation of a new style – Classical English Baroque, as outlined by Nikolaus Pevsner:

'a blend of the classical and Baroque … The dome of St Paul's, one of the most perfect in the world, is classical indeed … [with] a reposeful outline … a colonnade round the drum … the alternation of bays where columns flank niches with bays where they stand in front of loggias introduces an element of unclassical variety. The lantern … is … bizarre … And as for the façade of St Paul's, begun in 1685, it is, with the coupled columns … and the two fantastic towers … a decidedly Baroque composition. … The dome is as wide as nave and aisles together … It adds splendour and surprise to the whole composition. The diagonally placed piers are hollowed out into colossal niches. Niches

also set the outer walls of the aisles and choir aisles into an undulating motion. … Wren's style … is a Baroque version of classicism.'[2]

It was also an exercise in adapting Catholic traditions to the Church of England, as Margaret Whinney summarises: 'Wren was building, in the age of the Late Baroque, for a Protestant community, and a conservative clergy, who wished to preserve the Latin cross plan which they had inherited from the Middle Ages. Money was short, materials came in slowly and, at the beginning of the work at least, Wren lacked experience as an architect. He gained it by ceaselessly adapting himself to circumstances and using his mathematical genius to overcome difficulties.'[3]

It became the resting place of national British heroes such as Lord Nelson in the nineteenth century. To find out about other monuments go to: https://www.stpauls.co.uk/arthur-wellesley-1st-duke-of-wellington-1769-1852

By the end of World War II after the Blitz St Paul's had become not only an iconic symbol of London's resistance, rising above the surrounding devastation, but a symbol of patriotic national pride. This reputation continued as it was used for the funeral of English heroes, such as Churchill in 1965; and royal events such as the marriage of Prince Charles and Princess Diana in 1981. However, since 1842 the British population has had to pay to visit its own national monument.

Grade I Listed Building:
Buildings that are considered historically or architectural significant to British national heritage are 'listed' by a statutory body with legal powers to protect them.
See: https://historicengland.org.uk/listing/what-is-designation/
https://historicengland.org.uk/listing/the-list/list-entry/1079157
Grade: I. List Entry Number: 1079157. Date first listed: 04-Jan-1950
Statutory Address: Cathedral Church of St Paul, St Paul's Churchyard EC4

Recently art historians have begun to discuss issues of national identity alongside gender and architecture. Wren himself had strong nationalist views on French architecture, especially that of Versailles, which he considered inferior to English architecture as it was too decorative and hence too feminine. As Christy Anderson wrote:
'… Wren criticizes the lavish interiors at Versailles as being filled with the small details, the 'Filigrand, and little Knacks', that are the purview of women, and by implication belong to an 'inferior feminine' category of architectural decoration. … Wren argues for a national character in architecture, one

[2] Nikolaus Pevsner, *An Outline of European Architecture* (Harmondsworth: Penguin, [1943] 1985), p. 324-326.
[3] Margaret Whinney, *Wren* (London: Thames & Hudson, 1971), pp.131/132.

which would not be swayed by fashion on either the interior or exterior. …For Wren, the condemnation of French architecture as feminine allowed him to highlight English architecture and national character as masculine and scientific.' [4]

Today, St Paul's Cathedral welcomes tourists and worshippers, has exhibition spaces, runs tours, has a cafe, cloakrooms for visitors and associated choir school and even houses contemporary art installations.

- Read this description of *Martyrs and Mary* by Bill Viola https://www.stpauls.co.uk/martyrs-and-mary-by-bill-viola
- Watch this video about Martyrs *(Earth, Air, Fire, Water)* by Bill Viola https://www.youtube.com/watch?v=kYay_DDL3eA
- Does Bill Viola's installation enhance the Cathedral's main function?


Bill Viola and Kira Perov, *Martyrs, Earth/Air/Fire/Water,* 2014, polyptych video installation on four vertical plasma screens, 140 x 338 x 10cm, 7.15 minutes, no sound, Tate, on long term loan to St Paul's Cathedral.

National Symbol: continuity of technological power

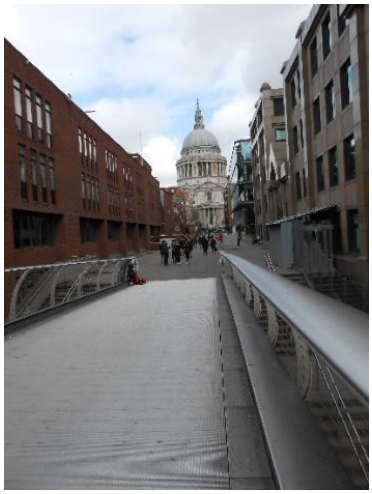

https://www.fosterandpartners.com/projects/millennium-bridge/

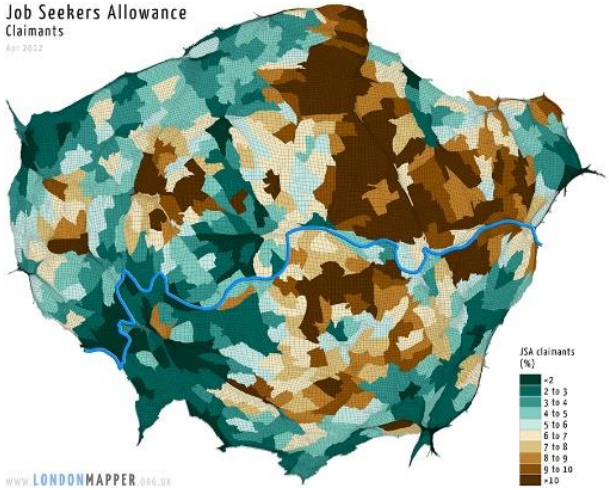
- Public space and access route between Tate Modern and St Paul's to mark the year 2000, links the prosperous City with more deprived borough of Southwark
- City prosperity provides opportunities for wealth and attracts business and workers
- Aligned with the transept of St Paul's as the dominant building in the City
- Views of St Paul's Dome are protected in planning law – 'sightlines'
- Technologically advanced design challenge celebrates British ingenuity and skill

[4] Christy Anderson, 'Masculinity and English Architectural Classicism', *Gender and Art,* ed. Gill Perry (New Haven: Yale University Press with the Open University, 1999), pp.146-152.

- Projects an image of London as progressive and advanced?

National Symbol: religious and moral values
Inequality: View from bridge south west towards Tate Modern, and north towards St Paul's. Note street begging. https://www.citymatters.london/police-initiative-reduces-begging-square-mile/
2012 Map showing unemployment/Job Seekers Allowance claimants
http://london.worldmapper.org/maps/work/w-2012-jsaclaimants/





St Paul's and Paternoster Square/Stock Exchange protests:

View from St Paul's Cathedral: Eric Parry Architects, London Stock Exchange, 10 Paternoster Square, 2003. Christopher Wren, Temple Bar, 1672, ceremonial City entrance, reconstructed, pedestrian barriers added to restrict access. https://paternostersquare.info/about/

- Commercial office development for Mitsubishi Estate Co., approved by Corporation of London urban planners, providing extension of public space next to St Paul's
- 2011 Occupy London, social democracy protest movement targeted the London Stock Exchange as a key financial institution, occupying Paternoster Square, 15 October 2011 until eviction on 28 February 2012
- Owners Mitsubishi Estates granted an injunction to prevent access. Sign: *'Paternoster Square is private land. Any licence to the public to enter or cross this land is revoked forthwith.'*[5]

[5] https://www.theguardian.com/commentisfree/libertycentral/2012/jan/18/occupy-london-war-public-space

- Public square as Privately Owned Public Space (POPS) or 'pseudo-space', with restrictions on behaviour, e.g. taking photographs, protesting, rough sleeping
- Protesters moved to public space outside St Paul's with an encampment of 200 tents
- The Cathedral initially welcomed protesters but then closed, citing health and safety concerns and disruption of worship, losing £20,000 a day in tourist income
- The Church and the Corporation of London took the protesters to the High Court which issued an eviction order. The Canon of St Pauls, Rev Giles Fraser, resigned: 'In a world where there is such a gap between rich and poor, the voice of protest needs continually to be heard. The church must not be seen to side with the 1% rather than the 99%.'[6]

FURTHER READING AND LINKS

A range of passages from critical texts are available on the AHiS website, including:
Banister Fletcher, *A History of Architecture on the Comparative Method* (London: Athlone Press, [1896] 1967)

Suggested questions re identity (each 6 marks as half of a 12-mark comparison question)**:**

Which specific features communicate the identity of the architect?

Which specific features communicate national identity? *(may be an overlap)*

Explore how identity is expressed in one building.

Explore the role of the patron in one religious building.

Explore how materials and techniques contribute to the representation of identity in one building.

Consider the cathedral as expressive of religion, nationality and gender and try to find three points for each element of identity, each with specific evidence from the building, as well as three useful quotations as preparation for a full 25-mark essay.

[6] https://www.theguardian.com/uk/2012/jan/18/occupy-london-protesters-appeal-eviction