

The Hearth and The Home: How Fire Shaped Architecture

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Abstract

The Hearth and The Home: How fire shaped Architecture

by William Wilson

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The hearth has often been equated with the home, acting as the embodiment of family life for centuries. While there is a rich symbolic history of fire which has been deeply studied, fire in context to architecture has often been overlooked, perhaps due to its decreased visible presence in the 20th century. Owing to this, the work sets out to understand the relationship between fire and architecture, examined largely through the lens of British examples.

This work has explored the dynamic of architecture and fire through a historical context; therefore the primary method of research focused on library and archive exploration, drawing on texts that relate directly to the subject and more broad ranging works that provide context to the examples being investigated. This work is divided into three major chapters, organised as a chronological demonstration of the development process. Whilst these chapters primarily investigate the architectural form of the fire, they also provide insight into the broader culture aspects of the time, analysing fire's role in culture, politics, religion, etc. In doing so, this work provides a broad analysis of the question posed, allowing for an overarching understanding of the subject.

Due to the nature of this dissertation's exploration, both of the evolution of architecture over time and its insight into broader cultural matters, the work provides a unique and original examination of fire and architecture and produces evidence evaluating and determining their connection.

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Introduction

Fire is a beginning and an end, the power to forge centuries of growth lies in the hands of the very thing that can bring a city to ashes. Fire is fundamentally a chemical reaction, a rapid oxidation that produces heat and light. When fire was tamed it became the hearth, the fire of the home, which formed the foundation of human comfort for centuries. When the term 'take shelter' is used, it is so often accompanied with 'by the fire'. Without a fire at its heart, a building was for most of human history little more than a shelter. With a fire, a shelter can be a home.

This philosophy is of course only applicable in a climate which could reach cold temperatures, and therefore this work will only consider examples from countries where this concept can hold true. Particularly when considering the development of the hearth, the British example can be used to most clearly demonstrate the progression clearly and thus this work will largely focus on the narrative of the British fire and its influence on architecture, while particular examples from outside the United Kingdom may be used when relevant. Few countries have such a powerful relationship with fire as Britain does, arguably manifested by the harnessing of its energy, driving the rapid advancements of the industrial revolution.

Within Britain, the architectural language of the hearth is a uniquely prominent matter. The architectural historian Dr John Goodall states "Strange as it may seem to say, the history of the chimney in the English architectural tradition is very remarkable." (The Times, 2011). Citing the earliest known record of a decorated chimney anywhere in the world being found at Old Sarum, Wiltshire. He added "I know of no European parallels for those" (The Times, 2011). While the reason for Britain's preoccupation with fire is ultimately caused by a plethora of factors, it could be said that its unique fascination with the architectural form relates to the ability to be creative. With few continental European architects creating reproducible examples, British architects had no practical pattern books to follow from. As so much of British architecture has been influenced by other European nations, the ornament relating to fire provides an idiosyncratic example of a British architectural language.

The architecture of the hearth has often been overlooked, perhaps due to it being a mediator between the inside and out. The fireplace sits in a liminal space, sometimes taking the form of the interior woodwork, sometimes in the form of the exterior masonry. This work will explore the topic through three chapters, each investigating a different period of time, presented chronologically.

Methodology

The process of researching this dissertation involved predominantly secondary sources, with some use of primary sources where necessary. The methods of research primarily used are as follows:

1. Library research
 2. Fieldwork site visits
 3. Interviews
-
1. This work draws on large range of written texts, collating evidence from a number of architectural experts. The research featured a study of a broad ranging number of architectural books, but also literature from other fields of study to provide wider context. Documents examined include books, journal articles, magazines among other literary sources such as architectural treatises. These sources provided invaluable information to understand case studies from a historic or contemporary perspective.
 2. To gain greater perspective on the cases examined, the research involved visiting some examples first hand. By doing so, it was possible to better understand individual case studies within their context.
 3. In some cases, it was appropriate to gain first-hand information with an interview. By doing so, it was possible to gain greater insight into the specific subject and allow for greater consideration on the topic.

Literature Review

This work has drawn on ideas from a wide range of literature, but some pieces provided pivotal resources in key areas. These include:

William Chambers' 'Treatise on Civil Architecture' (1759), is a work detailing the architects principles and opinions of design, illustrated with examples of his architectural detailing. The work provides crucial insight into the period, giving an exceptional view into the Chambers' considerations on fire, providing highly theorised methods for handling the fireplace in the home.

'Pattern Language' (Alexander, Ishikawa and Silverstein, 1977), a theoretical work on how to build 'good' architecture, it provides a 20th century analysis of the treatment of the fireplace. This source proves an important example of the considerations given to fire in a period where the functional role of the hearth was diminishing rapidly.

Other sources which have influenced this work include works published by The Frank Lloyd Wright Foundation, which provided superlative information relating to the fireplaces of Frank Lloyd Wright. Further, the works of Nikolaus Pevsner, specifically the 'Buildings of England' series, provided good historical background information for the case studies examined. Sources not used for specific references but that still produced useful information for further research are listed on p.48 under 'Consulted Sources'

Aims and Objectives

Question:

To what extent has fire influenced the development of architecture?

Aims:

To assess the relationship between fire and architecture, particularly pertaining to the progression of fire within the British home.

To demonstrate and contextualise the social, political, and cultural importance of the architectural language of fire.

Objectives:

Determine the role of fire in the origins of architecture.

Investigate the ornament and detail relating to fire through historical sources.

Determine to what extent the hearth has been considered by architects and others in society.

Examine what role the fire has on the influence of architecture up to the present day.

Chapter 1: Ancient and Medieval

The Harnessing of Fire

It is estimated that our ancestors gained dominion over fire around 1.7 to 2 million years ago in the early Lower Palaeolithic period, beginning a monumental shift in the prospects of mankind (Karkanas et al, 2007). With the birth of fire came the ability to comfortably inhabit space, not just as shelter but as a way of life. With this, architecture was born and the symbiotic relationship of fire and man. Within Britain, fire's legacy can be found in some of the earliest built heritage.

At Skara Brae on Mainland in the Isles of Orkney off Scotland, a neolithic site thought to have been settled around 3180BC with the resilient inhabitants holding out until cooler and wetter weather in perhaps around 2500BC forced its abandonment, the fire is central to the story of survival (Balasse et al., 2019). The surviving 10 dwellings on the site, exposed when a storm in 1850 devastated the area and ripped off the tops of the earthen mounds, contain evident hearths located at the centre of the round structures (fig.1). The buildings are built within middens, a term for piles of waste material from domestic life (Ballantyne, 2012, p. 50). Bones, shells, stone shards, food waste and other materials enclosed by earth provide insulation for the dwelling. The central hearth beneath these domed middens provide logical heating, the fire expelling heat in every direction and allowed the harsh environments of the Scottish isles to be overcome by a self-sustaining culture.

In Capel Garmon, North Wales, a singular firedog (fig.2) was found near an iron age burial chamber in 1852 (Evans and Jones, 1856, pp.91-95). The firedog, also known as an andiron, was a raised bar that would function, often as a pair, to elevate logs so that air could circulate around them, a system that is still in use today in open fires. Firedogs such as this would have been located most likely in the centre of an ancient roundhouse, evidenced by its equal ornamentation on both ends, as in later periods firedogs would only be embellished on the side that faced out of an enclosed fireplace. This firedog, believed to date from the 1st century BC, would have belonged to a wealthy person, and was most likely buried as an offering. This represents an early example of a recurring theme, that fire is tied to status and belief, which will influence the development of the hearth.

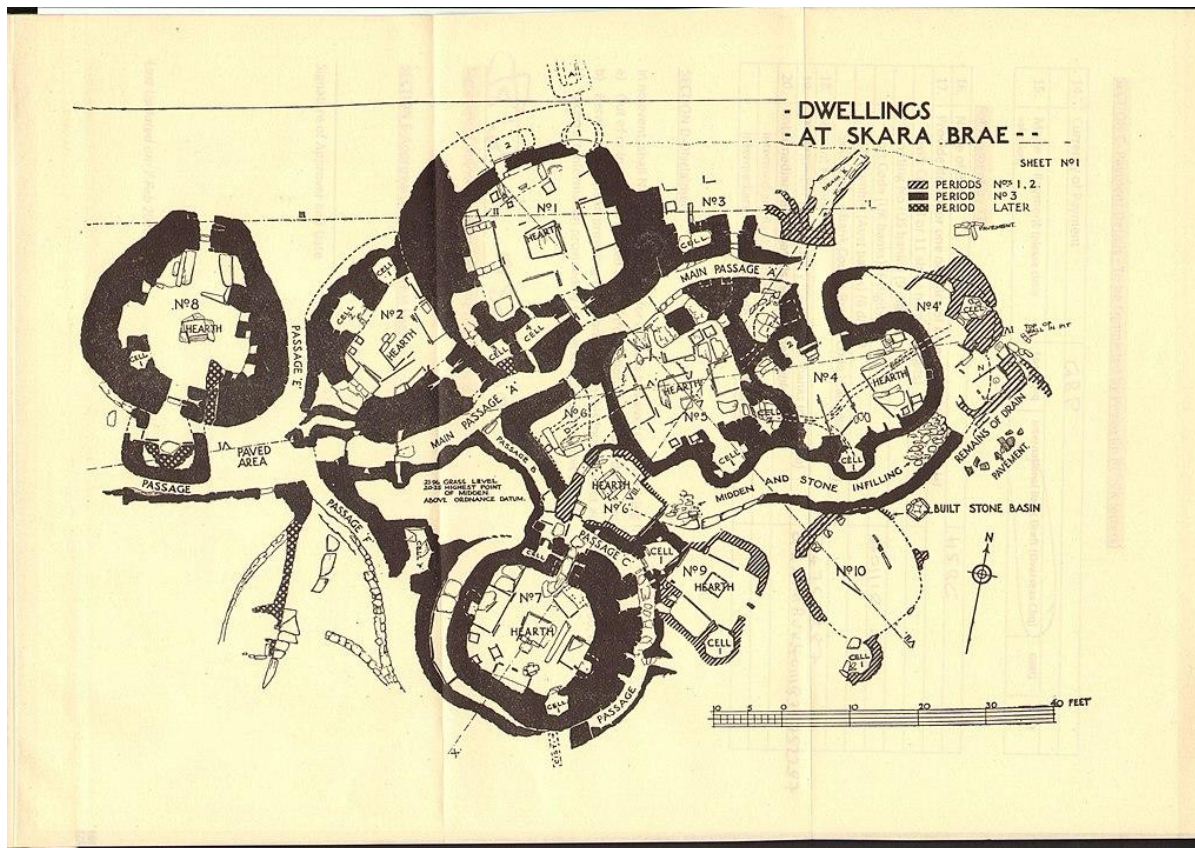


Fig.1 – A map depicting the Skara Brae site, displaying the central hearths. (Childe, 1955, p.34, illus.)



Fig. 2 – The Capel Garmon Fire Dog showing elaborate ironwork. (National Museum Wales, n.d.)

Roman Order

The 1st Century BC Roman architect Vitruvius set a standard for design in his ten books on architecture, which form the backbone of architectural literature. In his second book, concerned with the materiality of the time, Vitruvius outlines his understanding of the birth of architecture, contending that fire is at its heart. Vitruvius suggests that early man, upon finding a natural fire wrought by a storm, kept the flames alive and discovered the pleasure of warmth, bringing a community of languageless people together to gather around it. “Therefore it was the discovery of fire that originally gave rise to the coming together of men, to the deliberative assembly and to social intercourse” (Vitruvius, 1960, p.39). His implication is that warmth and community gave our ancestors the ability to build, “They began in that first assembly to construct shelters” (Vitruvius, 1960, p.39).

To the romans, the home fire had great symbolic meaning, highlighted by Vesta, goddess of the hearth, the home and the family. One of the last goddesses to be celebrated despite the rise of Christianity, she highlights how entwined ideas of family and home are with the hearth and how architecture goes hand in hand with the use of fire. The remnants of the temple dedicated to Vesta in Rome remain (fig.3), not coincidentally a circular building, known as a tholos, in imitation of early roman round huts. All of Vesta’s temples were round as opposed to the conventional rectangular plan, and the entrances faced eastward to the rising sun (Gorski and Packer, 2015, pp. 313-334).

Roman influence stretched through all of Europe and beyond, and roman engineering brought radical changes to how fire could be harnessed. The earliest form of underfloor heating, warmed by flames, were developed by the romans to circulate hot air under a floor (fig.4) (Curl and Wilson, 2015), often raised on pilae stacks, and through channels in the walls. Remnants of these systems, called hypocausts, can be seen in the UK at sites such as Bath, Chester and on Hadrian’s Wall. In St Albans, Essex, a hypocaust beneath a presumed Roman Villa of circa 200AD allowed a comfortable existence for the mediterranean occupants of a new and cold land. By heating the walls and floors externally, the romans removed the need to ventilate smoke from buildings with hypocausts and consequently created more efficient buildings without air gaps for the egress of smoke.



Fig.3 - The reconstituted remnants of the temple of Vesta in the Rome. (Wknight94, 2008)



Fig. 4 – A damaged portion of the St Albans hypocaust, revealing the channels beneath the floor. (St Albans Museum, 2025)

Anglo Saxon Period

In the days of the Anglo Saxons, a culture built on community and the concepts of coexistence, fire represented the continuation of their way of life. The Anglo Saxon kingdoms, defined by a devotion to religion, would find Christian familiarity in their home fire, finding comfort in the story of the burning bush with the flame of God present. Pagan ideas of fire as a deity were replaced with fire as an act of god, both in the constructive warmth of the fire and its ability to destroy. We can derive the importance of the hearth to the home in Anglo Saxon England from the word hearth itself, a corruption of the Old English 'heorð', simultaneously meaning household (Weald & Downland Living Museum, 2024). The implication is that these words were interchangeable and that without a hearth you could not feasibly have a home.

The lack of chimneys during this period meant that architecture was far from airtight, with large gaps in eaves or loose roof coverings that allowed for the egress of smoke. Later in the medieval period, buildings still using central hearths may have been ventilated via louvred roof lanterns, made of timber, which helped to reduce draft but still had the issues of some accumulation in the main living space. These could be closed via a cord when the smoke had been subdued to help retain the heat. In either a rectangular or round house, the hearth would have been the centre point of the room, creating a strong focal point (Harding, 2023).

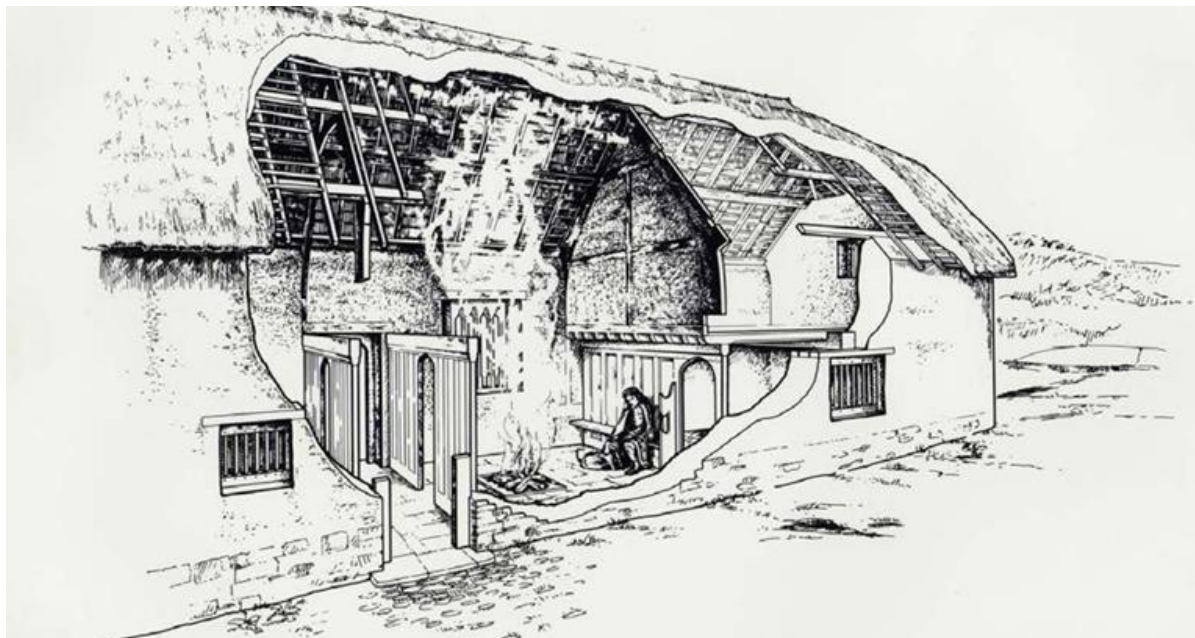


Fig. 5 – An illustration depicting an open hearth in a medial home. (Ford, 2022, p.4)

Early Medieval Period

The medieval world typified by contrasting images of roaring fires and conversely abject cold, saw fire put into its place in a way we have come to accept as typical. Chimneys became an obvious solution to the problem of venting smoke, a necessary advancement as towns began to develop and become denser meaning a second floor was desirable which would obstruct a central hall fire. While the traditional central hearth remained common for the working classes, the owners of large houses and castles were able to afford multiple fires, allowing for heating rooms individually. This became fashionable at a time when the wealthiest began to remove themselves from communal sleeping, which would remain common for hundreds of years (Zaria Gorvett, 2024).

It is believed that during the Norman period, some of the first regulations around fire were considered. The word curfew, a corruption of the French “couvre feu” directly translates to ‘cover fire’ (Warshall, 1999, p36.). Curfews were usually signalled by a bell in the towns to prevent the residents from leaving fires burning overnight, potentially for an element of safety but predominantly as a method of subjugation. Dense Anglo Saxon towns, made up of dwellings of timber and straw with central hearths (Le Goff, 1990), pose an obvious risk from untended fires. The temptation to sleep in a building warmed by fire had to be regulated. This is an early example of a concept that will recur into the present day, that fire within buildings requires strict regulation, and that it is often the allure of the comfort provided which blinds people to the danger.

The Norman Conquest of England, beginning in 1066, brought rapid advancements to the country from continental Europe, notably modern castle building. Norman castles were designed to accommodate men at arms and knights, but often they would provide rooms for the landed Norman families to reside in when visiting. These rooms were part of the great chamber, or “solar”, of the castle, a type of apartment usually located in the castle keep (Gotch, 1928, p.25).

The keep of Hedingham Castle, suspected to date from around 1130, is a stalwart singular remainder of a much greater castle begun in the late 11th century. The upper floors of the castle keep are believed to have functioned as a solar, made likely by the finely detailed fire surround of strong Norman design (fig.6), featuring a typical Romanesque arch with chevron detailing, supported on columns with cushion capitals. The fire is decorated in the form of a doorway or window and centred in the room, the beginning of what would become a standard format for the form of decoration given to fireplaces for the next 800 years of British history.

The mechanics of the fires at Hedingham are a predecessor to the modern chimney, attempting to fully exhaust the smoke via a flue directly to the outside. The flue is formed as a tapering channel from the surround to a small hole in the exterior wall, diagonally up from the fire (Gotch, 1928, p.13) (fig.6) This, if imagined to work correctly, would provide far greater comfort to the lordly family residing in the chamber due to the reduced smoke when compared to a central hearth which relied on windows to ventilate the room.

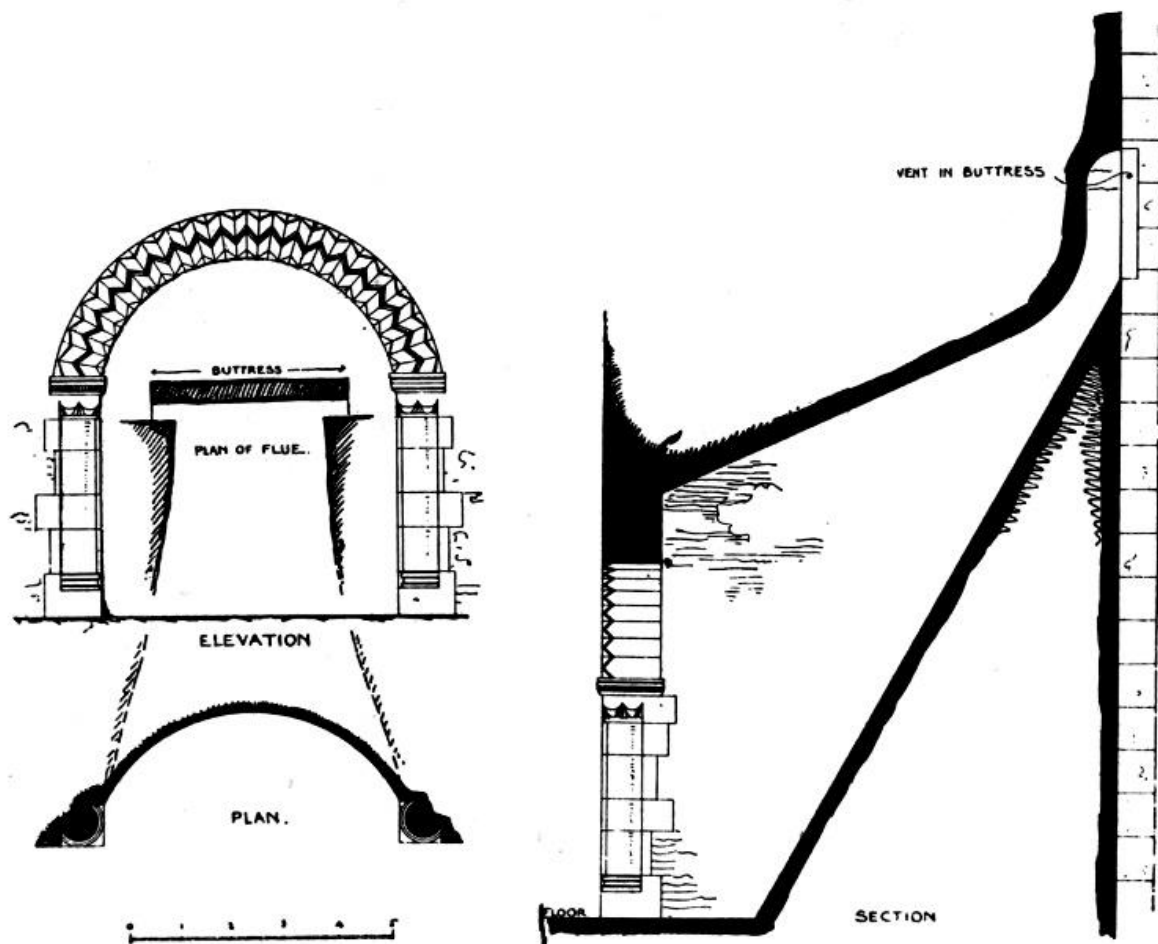


Fig. 6 – Illustration showing the elevation and section of the fireplace at Hedingham. (Gotch, 1928, p.13)

In the 13th century, Henry III of England set about the modernisation of his estates, issuing numerous orders for the improvement of comfort. In order to glaze the windows of his properties, which would hitherto have simply had wooden shutters that were closed at night,

goes hand in hand with the orders to build fireplaces. This indicates that flues had developed to working well enough that they could be the sole form of smoke exhaust, and rooms could be made comfortably draught free.

In the 14th century, many fires sat beneath a large fire canopy or hood, projecting into the room and usually sat upon corbels (Sühr and Stradling, 2022, p.4). These hoods, sometimes made of wood and plaster but generally surviving in stone, allowed for smoke to be captured. The chimney flue could run through a shallow channel in the wall, without having to set the fire deep into the thick castle walls, and so not compromising the defensive properties of the castle. Towards the 15th century, this arrangement became less common and such fires were often replaced with better ventilated fireplaces, partially made possible by the reduction in need for defensive wall construction.



Fig. 7 – Corbeled fireplace with projecting hood at Ham Court, Oxfordshire. (Stradling, 2022, p.5)

Late Medieval and Tudor

By the late 15th century, fireplaces were often structurally built into the wall in large houses, with only detailing and ornament projecting into the room. Smoke hoods became less common and nearly all new chimney stacks on the exterior of buildings projected out from the wall. This adaption came predominantly from the change in building style, manor houses were no longer strictly defensive and were becoming more comfortable, with the exterior of properties gaining ornament and a sense of proportion and style and wall construction becoming slimmer. While the majority of dwellings remained of stone or timber, some new properties for the elite were being built in brick, a material that allowed for cheaper details, as brick could be easily shaped before firing or cut afterwards, and a new form of architectural expression (Lynch, n.d.).

The size of a hearth seemingly mattered less than how richly it was decorated, and fire surrounds took on the role of cementing the noble families place in the world. Little Moreton Hall in Cheshire has its origins in 1504, a typically grand medieval style house built for local landowner William Moreton (Greenall, 2024). While the house is traditional in style, the building was constructed with modern brick chimneys running through the structure. In Figure 8, the diapered brick chimney is a clear architectural counterpoint, presenting a similar expression as the small projecting bay to the left. While the timber frame has become crooked over time, the brick chimneys have remained upright and straight, providing a structural anchor in the buildings (fig.9).



Fig. 8 – The front façade of Little Moreton Hall, Cheshire. (Personal Collection, 2024)

The fireplaces at Little Moreton highlight the increased ornamentation found in 16th century surrounds. The fireplace pictured in Figure 9, from a room on the uppermost floor leading off the long gallery, shows the extent to which the room has subsided but also the architectural merit of the surround and overmantel. Likely from the late 16th century, the design features caryatids of Justice and Mercy flanking the combined coat of arms of the Moreton and Macclesfield families, who had married in 1329 (Treuhertz and Peter De Figueiredo, 1988, pp.119–122).



*Fig. 9 - Fireplace Little Moreton Hall, Cheshire.
(Personal Collection, 2024)*

Coat of arms mounted upon the chimneypiece were common in this period, and the trend for displaying the family lineage on the fireplace would continue through the use of iron firebacks. Cast iron firebacks are believed to have originated in around 1500, and were moulded in sand printed with carved wooden panels (Antique Firebacks, 2020). The iron plate would protect the chimney structure and radiates heat outwards that would have otherwise been lost up the flue. The first examples were simple patterns, but they soon came to be commonly adorned with a crest or set of initials, indicating who the owner of the hearth was. Crests of the monarch

or political and religious scenes were often depicted, demonstrating that the hearth was the representation of the family and its status, much in the same ways as the Anglo Saxon period. The decoration and location of fireplaces in this time indicates the beginning of period where the fire would become the centrepiece of the room, an attractive focal point where the homeowner and guests were encouraged to gather around.

In this period, the chimney became cemented as a status symbol, the more ornate or architectural the greater the wealth of the owner. There is no better showcase of this than at Hampton Court Palace, built between 1514 and 1525 for Thomas Wolsey. As Archbishop of York and soon to be Lord Chancellor of England, Wolsey set out to design the finest house in England and chose blazing brick to do so. The chimney stacks of Hampton Court Palace are some of the finest and most numerous in the world, numbering 241 (Patowary, 2016). The stacks mostly feature geometrics designs, some mimicking the brick diapering found on the exterior walls of the palace, and punctuate the skyline, providing a vertical architectural expression. On viewing the Great Gatehouse of the palace (fig.10), it is evident that the chimneys mimic the form of the flanking towers, extending above them and framing the space between.



Fig. 10 – The Great Gatehouse of Hampton Court Palace. (Traveljunction, 2014)

In the late Tudor period, a newfound wealth in the country allowed some of the richest families to set about building fine new houses, designed to show off their status and taste. These houses, known as 'Prodigy Houses', were often designed with royal visits in mind and so were built to the most architecturally impressive standard possible. Most of these great houses were built in the second half of the 16th century. One such example is Burghley House, one of the finest homes built in this period. Begun in 1555, the structure was built by William Cecil who held many great offices of state in the reign of Elizabeth I (Husselby, 1996) and the house is still occupied by his descendants today. The roofline at Burghley is of near unrivalled ornamentation, a fusion of architectural styles, the sets of Tuscan columns upon the roof alongside obelisks, ogee domes, balustrades and urns etc. make for an idiosyncratic design that the architectural historian Nikolaus Pevsner referred to as "unforgettable" (Pevsner, 2002, p.218) in his 'Bedfordshire and the County of Huntingdon and Peterborough'. Dr John Goodall referred to the chimneys as "like walking in an architectural forest" (The Times, 2011). The chimney stacks seen in Figure 11 are some of the purest displays of architectural design, incorporating sets of Tuscan columns supporting, and tied by, a classical entablature composed of an architrave, plain frieze and cornice, some with more medieval castellated chimney pots above. This is a foremost example of a house that relies heavily on its adorned roofline, and particularly its chimneys, to provide architectural character.



Fig. 11 – Burghley House chimneys. (Montacute Pavillion, 2014)

Chapter 2: Fire and Form

Rights of Fire

In the 17th century, Britain experienced a rapidly changing identity and culture, and consequently architecture moved at a similar pace. For the first half of the century, the development was relatively consistent and developing trends were seen mostly in the larger houses in the country. With heightened tensions and the prospects of war, which finally broke out in the form of the First English Civil War in 1642, development in Britain had stagnated. After years of strife and the restoration of the monarchy, the Great Fire of London tore through the medieval city in 1666, destroying much of the timber framed housing. It is believed that 13,200 houses, 87 churches and 44 livery company halls were lost to the fire (Porter, 2011, pp.87–88), a fire caused by an unattended oven, and it became clear that fireplaces and buildings would need reconsideration. In this, the hearth drove its own development. Shortly after, the Rebuilding of the City of London Act 1666 was passed, proposing new buildings were to be constructed of stone or brick to be fireproof. It set a limit on the number of floors in a dwelling and instructed that trades which involved fires should not operate on the principal streets of the city (UK Parliament , 2019).

Like anything requiring labour and material, architecture has always been intrinsically linked to wealth and status. Money has had the greatest influence of all factors on architecture and design. As in previous periods, the number of fireplaces and chimneys remained a showcase of the wealth for the homeowner, however this became affirmed when in 1662 an official hearth tax was carried through parliament by Sir Courtenay Pole, thus gaining the pejorative sobriquet 'Sir Chimney Pole', introduced to make up a shortfall in funds to run the royal household (Hughes and White, 1991). Taxing each hearth allowed for a reasonably fair wealth tax, the wealthier having more hearths than the poorer, with the least well-off in society, owning houses under 20 shillings per year, being exempt. Tax was levied on buildings rather than people, as the hearth marked a physical and symbolic representation of the home and was easier to record than individual people. This unpopular tax was repealed in England 1689, but many records remain which highlight the quantity of working fires in many great houses, such as the 70 fireplaces at the previously mentioned Burghley House.

Similarly during this period and into the 18th century in England, a number of parliamentary boroughs existed in which the right to vote was bestowed upon householders with a hearth large enough to boil a cauldron or 'pot', hence proving they were wealthy enough to sustain themselves (Porritt, 1909, p.31). Such constituencies were known as 'Potwallopers' and usually provided a larger number of voters than most boroughs as the majority of homeowners

could complete the action. Conditions to the voting were often added, i.e. the householder was unable to be subject to poor relief to vote. Examples of towns where this occurred include Reading, Southwark and Cirencester among many others. In such boroughs, as with tax, the fireplace represented your right and place in society.

William Chambers and the Georgian Fire

In the 17th and 18th century, principles brought back from Rome and Greece by the wealthy on “grand tours” shifted British design entirely. This change, generally referred to as Georgian style, although predating the actual Georgian period (1714-1837), followed the designs initially of Andrea Palladio, the 16th century Italian architect who repopularised the works and style of the Roman Vitruvius. The difficulty for the British architect working in this manner was that fireplaces were not as necessary in the hotter Roman and Greek climates and consequently fewer examples existed to mimic. This allowed British architects a freedom to design chimneypieces without having to follow examples from pattern books, which was common for most other forms of architectural ornamentation when working in strict classical styles.

The 18th century provided a new wealth for the landed and merchant class of Britain, with wealth seeping in through the empire and thus new houses began to spring up at a rapid rate. A generation of architects came along in this period, many publishing books on their concepts of good design. In 1759, the architect William Chambers published his “Treatise on Civil Architecture” stating the lack of precedent for good fireplaces, but praising the works of Inigo Jones and William Kent while spurning French and Italian efforts to achieve a beautiful and practical fire. In his book, Chambers (1759) states formulaic theories for the size of a chimneypiece compared to the room it is in, stating that a room 20 to 24 sqf. should have a fire around “four; to four and a half foot broad” and in small rooms no less than 3 feet and in large no more than 6 feet. In great rooms, it is better to have two fires than one greater than 6 feet to enable the chimneypiece to remain in proportion with the other architectural ornament in the rooms, such as windows and doors.

Chambers gives many other consideration on the location of the hearth, suggesting that it is best to keep them off of walls with windows as so to not overcrowd a wall with all of the rooms ornament, but also to prevent the wall from becoming too weak with apertures and to ensure the chimney must not be dealt with on a primary facade, such as breaking an unadorned parapet. As with most Georgians, symmetry was essential to Chambers and so he advises for fires to be located centrally on a wall where possible, unless in service rooms where space is at a premium and so should be in corners. Chambers denounced the projecting chimney

breast, suggesting that the room should be made square by transforming the recesses into cupboards.

Beyond pure mathematical principal, Chambers believed a fire should be immediately visible from the entrance of the room, believing that people will mostly likely be gathered nearest to the fire, and so it provides an obvious welcome to the person entering. If the fire was around a corner, so would be the occupants of the room, creating a closed atmosphere in a room. This psychological concept will be outlined more strongly in much later periods, particularly the 20th century, but demonstrates the unchanging position that a hearth is central to human life, and that the fire is a universal symbol of welcome and the coming together of people, as Vitruvius had philosophised.

In style, William Chambers emphasised that fires for bedrooms and drawing may be delicate, but for halls and other public rooms they should be more robust, of strong architectural forms, such as in Figure 12. Aside from standard architectural ornament, urns, vases etc., Chambers directs for the use of “Symbols of Religion, Commerce, War, Arts and Letters”, (Chambers, 1759, p.79) once more highlighting the significance of the message a fireplace gave. The symbols, often drawn on those from ancient periods, allowed for the wealthy homeowner to represent their values and status.



Fig. 12 – Chimneypiece by William Chambers, removed from Gower House, London. (V&A Museum, 2003)

Robert Adam

In the 18th century the fireplace became fashionable, providing the only household name in fireplace design, Robert Adam. Born in Kirkcaldy, Fife in 1728, the son of prominent Scottish architect William Adam., Robert Adam would become the foremost neoclassical architect of his time, synonymous with 18th century architecture and its ornamentation. Known as the 'Adam Style', his design would become a standard in classical architecture through Britain and its empire, and are still reproduced today (Dore, 2001).

While the architecture of Robert Adam may all be celebrated, his exterior detailing and interior handling being second to none, the chimneypiece is often considered the architectural highlight of many rooms. Even in the most restrained interiors, the chimneypiece was a way to provide architectural detail. With increasing ornament, the fireplace had cemented itself as the focal point of the room, providing an attractive point for the room to be arranged around and creating interest in seasons when the fire is not lit. The Georgian Group, drawing on ideas in 'Ackermann's Regency Furniture and Interiors' (Ackermann and Agius, 1984), promotes the theory that this improved the wellbeing of the family by bringing them together in a manner that encourages conversation.

"Ackerman held that the resultant, heightened prominence of the fireplace in the principal rooms of the house was a peculiarly British solution; the corresponding effect, he asserted, was a healthier household and a healthier nation, with the fireplace 'the rallying point or conversational centre' of each home." (The Georgian Group, 2018)

18th century style fires remained common into the 20th century and the image of the traditional fireplace is often associated with an 18th century example. Even in the 21st century, Adams fire surrounds are installed in houses, despite no other neoclassical ornament, for better or worse.

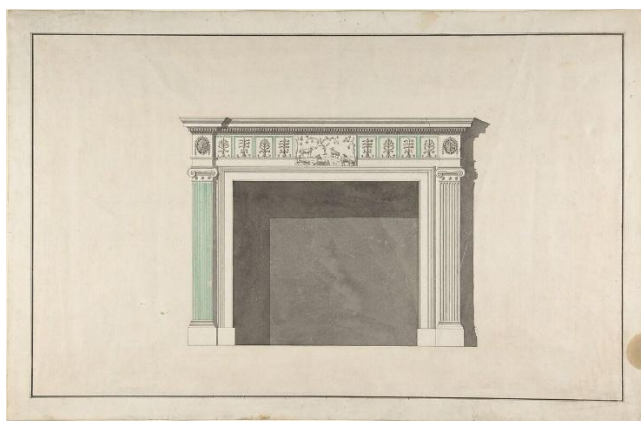


Fig. 13 – Chimneypiece design attributed to Robert Adam. (The Met, 2025)

Victorian Smoke

In the reign of Queen Victoria, 1837-1901, fashions changed at a greater pace due to a rapidly increasing population and the advent of mass production. The growth of a large middle class and a period of stability in the United Kingdom granted licence for architects to take on varied commissions. The fireplace became common in most rooms of the house during the Victorian period, with slender coal burning cast iron chimneypieces and grates becoming popular and mass produced. In popular culture, fire is symbolic of the Victorian age and its architectural legacy.

Industrial chimneys, or flue-gas stacks, are a common site throughout the industrial centres of Britain and beyond. (fig.14). Designed largely to increase the draw on a fire with the added benefit of shedding the smoke generated from industrial furnaces or the smoke boxes of steam engines, these chimneys were towering representations of the livelihoods of their town's inhabitants. Such towers had existed in Britain from the 17th century (Douet, 1988, p.8), although they were much shorter than the imposing Victorian flues that could reach 300ft or more. Industrial stacks architecturally varied and initially reflected the local vernacular and were often of stone, but by the 19th century, many towers were being constructed of brick and were built in either a circular, square or octagonal plan (Guedes et al., 2019). By the 1860s, the industrial chimney had often become an enormous advertisement of a company's virility, decorated in the latest architectural styles and often emblazoned with the businesses name.

One of the largest of these chimneys that remains is that of the India Mill in Darwen, Lancashire, reaching 289ft but originally 300ft (Pearson, 2015) (fig.14). The chimney was completed in the 1860s, designed by the Manchester architect Ernest Bates (Manchester Victorian Architects, 2025). The tower was an engineering marvel and is constructed of predominantly red brick, with heavy decoration in blue and yellow brick. A series of ledges are ornamented individually, with classical urns decorating one of the highest bands. The tower is in the manner of an Italianate campanile and stands proud above the other traditional chimneys of the surrounding town (Historic England, 2025).

Stacks such as these are symbols of an industrial culture and a way of life, and the remaining survivors are the stark reminders of the cultural legacy fire has had through architecture and industry.

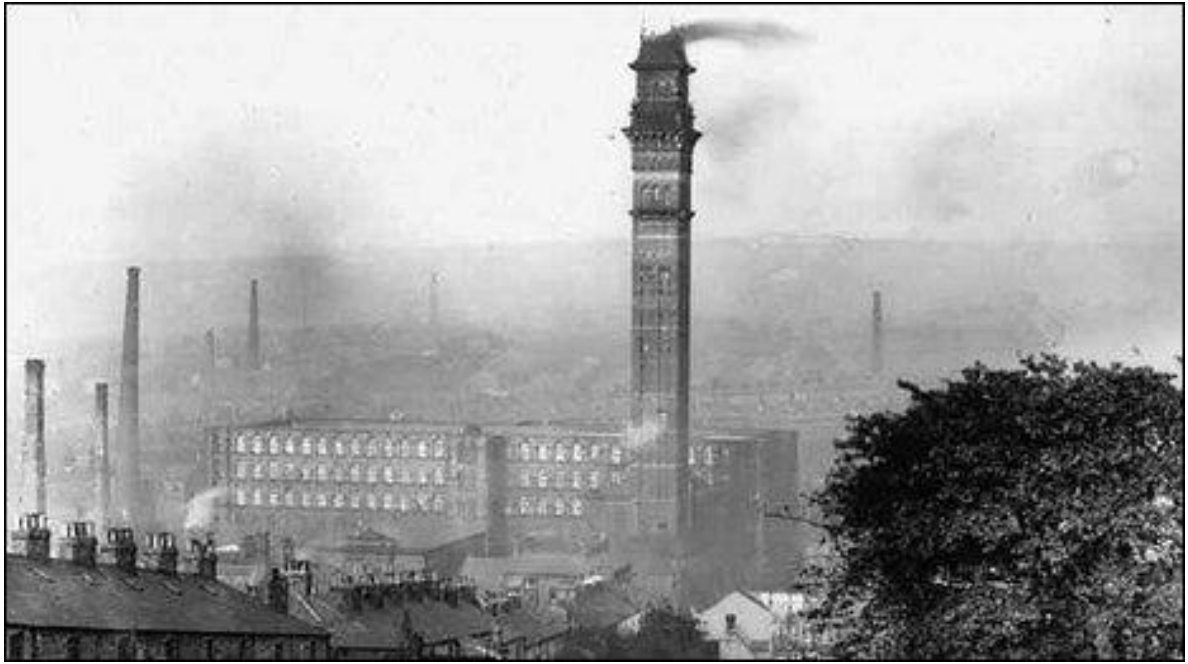


Fig. 14 – India Mill, Lancashire (BBC, 2009)

The Family Fire

The image of the Victorian home is undoubtedly tied to fire, whether it is the crenelation like chimneys of the Victorian terrace or the grand roaring hearth of the stately home, the fireplace was the focal point of Victorian home life. Many of the images of domestic life in Victorian Britain come from its vast literary output, and no greater representation of this is in the works of Dickens. For Dickens, the fire was a symbol of morality (Buckland, 2009) and thus paints his villain scrooge with a wickedness by stating he kept “a very low fire indeed” (Buckland, 2009). The hearth becomes not a symbol for wealth and grandeur but for virtue. As the hearth was the representation of the family and the household, Dickens personifies Scrooge as “hard and sharp as flint, from which no steel had ever struck out generous fire,” (Buckland, 2009).

Beyond fiction, the fireplace was a familial meeting point in the house. The poorer families who may just have managed the expense of a singular fire would find themselves congregated around this homely warmth in the evening, where tales could be told from generation to generation. The hearth was still the representation of the family lineage, and as an architectural form it had gained a cast iron insert, fashionably decorated, often with a strong and large mantel on which you may find relics of the family. In a period that defined itself for its morality, if often hypocritical, the hearth was a definition of goodness, where fireside stories were told.

Playing With Fire

Having mastered the function of the fireplace by this period, Victorian architects set about disrupting this perfection in unique and impressive ways. Now that everyone had a fireplace, the decoration began to vary more greatly, catering to independent tastes.

In Kensington, London, the famed associate painter of the Pre-Raphaelites, Frederic Leighton, 1st Baron Leighton, had set about building a house entirely to his own taste, with aesthetic and oriental stylings. The architect George Aitchinson provided the exterior architecture for Leightons house (Droth, 2011, p.339), a project that would last from 1866 to 1895, and represent a considerably simpler effect than the interiors, which are the highlight of the house. In the drawing room, the fireplace is an outstanding marvel of Victorian ingenuity, displayed in an unusually quiet way that may go unnoticed. The fireplace (fig.15) sits beneath the window, with a sliding window shutter concealed in the wall functioning as an overmantel mirror in the evenings. The result was achieved through the use of a slim diagonal flue connection to a chimney to the left of the window. Most likely an often-overlooked feature due to its minimal ornamentation, the chimneypiece symbolically ties the exterior to the interior, decorated in the Aesthetic taste with reeds and long grass, a representation of the outdoors, incised into the white marble (Leighton House and Sambourne House, 2021). It is easy to see that on a cold day those sat by the fire would feel it burn all the warmer when viewing the bitter outdoors directly above the flames. In this, Leighton would be one of the first to realize a dream for a consistent focal point in a room, a place for people to gather in all seasons.

The hand forged ethos of the Arts and Crafts period is imbued with the presence of fire, a movement that prioritised the works of artisans over the rapidly industrialising Victorian mass manufactured products. Fire wrought the ironwork and stained glass the period is famed for, while the hearth represented the homely way of life the promoters of this movement yearned for. At William Morris' acclaimed Red House, designed in partnership with the architect Philip Webb, Morris intended to create a truly 'Arts and Crafts' home, and with this the hearths became prominent in the house's composition. In most rooms, brick fireplaces act as a visual focal point. In the second floor living room the hearth stands proud (fig.16), with motifs of a medieval hooded fireplaces and formed of precise brickwork, surmounted with Morris' apt Latin motto, 'Ars Longa, Vita Brevis' – 'Life is short, art is forever' (Maccarthy, 1995, pp.158–159) reflecting on the eternity of the hearth, the burning torch which sustains human artistry.



Fig. 15 – Leighton House fireplace. (Selectglaze, 2025)



Fig. 16 – Red House fireplace with Latin inscription. (Betsky, 2024)

Chapter 3: The Modern, Decline and Legacy

The Beginning of the End

There are few architects that have dealt so directly with fire than the eminent and celebrated Frank Lloyd Wright. Wright suffered greatly from the destructive nature of the element, Wrights home and studio Taliesin being burnt down tragically in 1914 during a murder spree and in 1925 due to faulty wiring, among other incidents. So wracked by the difficulties fire had brought him, he is known to have said “all my life I have been plagued by fire.” (Hendrickson, 2019). Despite this, he was able to create some of the finest handling of the hearth, drawing on traditional forms but forging each fireplace as an individual work of art. It is suggested that Frank Lloyd Wright viewed the fireplace as the real heart of his living homes, including a fireplace at the centre of all his domestic commissions (Sikora, 2023).

Wright's fireplaces have been described as elemental, and non-more so than the fireplace at the Hollyhock House, LA of 1921 (fig.17) Here, the fireplace represents the combination of the 4 elements, the fire of course, the air for the draught, the stone masonry as earth and a small moat to the front holding the water. The fireplace is situated beneath an art glass roof light, connecting the route of the smoke to the outdoors for the inhabitants of the house. Situated within the middle of the home, the fireplace takes reference from a medieval form, even decorated with an ornamented cast overmantel panel in a highly fashionable architectural form, how those of the Elizabethan period were. This could easily be considered as the apogee of the fireplace, a functional and richly symbolic artistic form, providing the centre point of the home.

At the architect's magnum opus, Falling Water, Wright creates a fireplace that represents the earthy utility of the original cooking hearths (fig.18). Wright believed that the hearth was the heart of the home, thus at falling water the physical hearth is formed of in situ boulders that had once been a place where the client, Kaufman, had relaxed by the side of the waterfall (Sikora, 2023). Architecturally simple, the surround reflects the tectonics of the building, with projecting strata of stone creating texture and form.

The fireplace is ornamented with a traditional cauldron and crane, however designed in a 'Wrightian' way and finished in the architects classic 'Cherokee Red'. When working on the project, Wright declared “The warming kettle will fit into the wall here. It will swing into the fire, boiling the water. Steam will permeate the atmosphere. You'll hear the hiss” (Sikora, 2023), identifying that for Wright the fire was almost a performance, an engaging event in the centre of the home and an act of stagecraft.



Fig. 17 – The Hollyhock House fireplace, of monumental form. (White, n.d.)



Fig. 18 - Fallingwater's Fireplace (Fallingwater, 2016)

While the modernist architects of the 20th century embraced central heating as a more efficient method of warming a house, it was still possible to see remnants of a language of fire in domestic buildings. Even in dwellings as radically modern as Villa Savoye in Poissy, France, the architect Le Corbusier impersonated the similar punctuated roofline created by chimneys, ostensibly to create an outdoor space on the roof of the building (fig.19). In fact., the form is directly attributable to that of the latest in technology, coal fired ocean liners that were the height of modernity (Maganga, 2022). The curved walls atop the Villa Savoye mimic the funnels of the coal fired ships crossing the Atlantic, the house and ships belonging to Le Corbusier's 'machine age'. Despite the central heating, the living room is still fitted with a fireplace, in a perfectly modernist form with exposed cylindrical flue dropping into the room, as though a furnace for Corbusier's 'machine'.



Fig. 19 - A view from the interior of Villa Savoye (Personal Collection, 2023)



Fig. 20 - The architecture of the cruise ship. (Bain News Service, 1913)

Cultural Change

In the Second World War, fire was weaponized on a level never seen before. Incendiary bombs would ignite cities by setting houses ablaze and created some of the greatest devastation of the war. In December 1940, the city of London sustained heavy bombing, including an estimated 100,000 incendiary bombs (Holdsworth, 2015). Many buildings were lost to the blaze including several Wren churches. Likewise, the city of Swansea in South Wales suffered greatly, experiencing a bombing campaign between the 19th and 21st of February 1941, which saw an estimated 1,273 high explosive bombs and 56,000 incendiary bombs dropped on the city. This attacks lead to the loss of 230 life's and over 6,500 homeless (Lewis, 2024, p.131). By the end of the war Swansea had experienced 40 air raids and much of the city had been lost. Fire had brought the two cities to cinders and destroyed a vast quantity of their architectural legacies. The post war era marked a huge change for households, and the family dynamic would change along with the diminished role of the hearth.



Fig. 21 – A building in the city centre of Swansea burning after an air raid in 1941. (Swansea Museum, 2022)

In the 1950s, the gas fires which had existed from the very end of the 19th century began to rapidly replace coal fires in many homes in the UK, expedited by the Clean Air Act of 1956. Further advancements were moving forward in the 1970s and 80s and by this time central heating had become the future of household warmth, with a diminishing focus on the fireplace. Since the 1930s televisions had begun to populate the British home, and by the 1960s, 75% of homes in the country had a television (Goodhart, 2020). By this point, the TV had replaced the fire as the visual hub for the family in the evening. In some grander residences, the fire may have remained prominent but for much of the country the arrangement of the living space was now in favour of the tv. The days of fireside tales had passed for the most part and rooms became inward looking, the tv being buried in a dark corner of the lounges of Britain.

Modern domestic kitchens began to take the form we know today in the very early 20th century (Carpenter, 2021, pp.3-4) in the UK, and would become a major room in the house in the post World War 2 era. Running parallel to this was the change in cooking equipment, the cast iron range was being replaced with modern gas ovens. For the majority of households, the family way of life had diverged, and the members had become fractured. The houses that had once featured an open fire as the nucleus of the family home were now warmed straight through, as members of the family settled in their own rooms.

In the modern day, in many families throughout Britain, the kitchen has become the centre of the house, the kitchen table or island representing the all purpose space of the family. This has replaced the hearth as the source for familial warmth, where children can do homework or play while there parents make dinner, or for grandparents whiling away the hours with a newspaper and radio, the kitchen is the new heart of the house in modern Britain.

The Psychology of Fire

In 1995, the Scottish artist and garden designer founded the cancer charity that would Take her name, Maggie's, with her landscape designer husband Charles Jencks. These centres became places to comfortably support patients suffering with cancer, offering advice and other beneficial services. Each centre is architectural different, but many are installed with fireplaces. The fireplaces are intended to create a sense of comfort that reminds the visitors of a home environment. Patients of the centre referenced how much time they spent sat by the fireplace, finding it 'homely' and making it easier to have a conversation (Rankin and

Fraser, 2011). When Richard Rogers set out with his practice, Rogers Stirk Harbour + Partners, to design what would become Maggie's West London at Charring Cross Hospital, the fireplace proved an important topic to consider. Rogers discovered that the fireplaces that had been previously incorporated into Maggie's centres had been gas, and the team at Maggie's noted their concern. In contrast to this, Rogers insured that a wood burning stove was installed in the kitchen (Rogers and Harbour, 2010).

Viewing a controlled fire has long been considered to be psychologically beneficial to health, and has been associated with lowering blood pressure. A controlled fire often gives a relaxing effect to the brain, and is associated with a reduction in stress. The ever changing flames of a fire provide a focus point, helping distract the mind from other matters (Perea, 2022). A wood fire is a sensory experience, providing a pleasant smell of burning wood, the sound of timber crackling, the feeling of warmth and a consistent visual attraction.

In 1977, the book 'A Pattern Language; Towns, Buildings, Construction' was published and was a treatise produced primarily by academics at the Center for Environmental Structure in Berkeley, California. To this date one of the best selling architectural books, the work was aimed at layman and professionals alike, designed to focus on a less academically refined process that reflects a traditional language of building that had been torn up in the 20th century.

The book provides a retaliatory attack on the loss of the fireplace, referring to the TV as a "feeble substitute" (Alexander, Ishikawa and Silverstein, 1977, p.839) for a living fire, which the books names as an "emotional touchstone" (Alexander, Ishikawa and Silverstein, 1977, p.839). The text takes influence from other works, such as 'The Psychoanalysis of Fire' by Gaston Bachelard, where the fireplace is romanticised as a place for consideration and inflection, a source for 'reverie'. It also tells the story of a mother whose children confined to the home in the heart of winter, were only calmed in their relentless boredom by the fireplace when it was lit in the afternoon, providing a 'hypnotic' presence.

The book sets out four major principles of the location of the fireplace. Firstly, the fireplace should be located in the major common area of the home, in an effort to bring people together and as a natural place where it is likely to be used. It references the poor placement of modern fireplaces that are merely for show as a luxury, and that a fireplace should be located in a logical location for people to gather. Secondly, the fireplace should be in a visual location that it can be seen from the rooms entrance, to draw people into the space. This reflects on the theory proposed by William Chambers earlier in this essay, that is the idea that a fire draws a person into the room. Thirdly, the area in front of the fire should be hospitable to people, an area with seating that is immediately accessible so that there is an invitation to pause and

reflect by the fire for a period comfortably. Finally, the fire will not always be lit so the rooms arrangement must provide a similar fascination even when the fire is lit, such as a window. This draws back on the form of Lord Leightons Kensington fireplace referenced previously, an ingenious solution to the changing seasons. The sentiments of these combined principles are summarised as;

“Build the fire in a common space-perhaps in the kitchen-where it provides a natural focus for talk and dreams and thought. Adjust the location until it knits together the social spaces and rooms around it, giving them each a glimpse of the fire; and make a window or some other focus to sustain the place during the times when the fire is out.” (Alexander, Ishikawa and Silverstein, 1977, p.842)

While an influential piece of work, the treatise on fire has only really been taken forward in some of the higher end or independent architectural projects, while the vast majority of houses, particularly in the UK, have continued in their volume-built disregard for theory.

Survival

Despite the diminishing functionality of the fireplace, the chimney has remained a significant staple of the British home. Many modern houses may not feature any form of fireplace internally, but the roofs of the buildings may still be adorned with a chimneystack. The chimney stack has engrained itself into the architectural form of the UK house, such that a roof without a chimney may seem bare or even cheaper, the chimney perhaps representing a sign of quality in construction. While some chimneys may be entirely ornamental forms, ‘stuck’ to the roof of buildings as a completely decorative and functionally devoid addition, a poor legacy of a venerable part of building history. Yet in many cases, the chimney has continued to be purposeful, some modern architects choosing to use the chimney as a vent for modern services that still produce harmful gasses. The chimney can still serve to purify the space around a home, perhaps even on a psychological level.

In a period where architecture is generally unornamented, the raw forms of structure create the visual attraction. The British architect John Pardey uses the chimney stack to form “an anchor” (2025) for his house commissions, much as Frank Lloyd Wright had done. Just as he describes Wright as using the chimney to “counterpoint his horizontal massing” (2025), the same effect can be seen in Pardey’s own work, such as in his design for a house in North London (fig.22) Pardey makes the chimney modern and highlights the eternal language of the fire, even when used as a sculptural and symbolic form rather than a purely necessary form of heating.

In Figures 22 and 23, Pardey demonstrates the language of the hearth as a monolith, expressed in the same architectural language on the interior and exterior. In this, the form provides a pure and strong device, anchoring the house around it. The design proves the eternity of the hearth, its ability to beautifully adapt with the architectural character of the home.



Fig. 22 – A house by the architect John Pardey with a strong chimney. (Chivers, 2025.)



Fig. 23 – The interior of the house featured in Fig.22. (Chivers, 2025.)

Conclusion

The general question posed in the introduction of this essay was 'To what extent has fire influenced the development of architecture?'. In Chapter One, the early origins of architecture were examined, investigating the works of Vitruvius and how the roman architect had determined fire to be the beginning of architecture due to it bringing early humans together. The first chapter also examined the progression of fire in homes within Britain and proved how important it was as an architectural symbol of wealth, particularly in great houses such as the chimneys at Burghley and Hampton Court. In these examples there was found a clear architectural language in the chimneys, providing some of the most dominant ornamentation in the respective buildings. At Ham Court and Little Moreton, a clear display of architectural form was investigated, providing insight into the design of chimneypieces. Little Moreton displayed an extravagant display of architectural elements, and through its chimney highlighted the extent to which a chimney is a key structural part of the building, not having yielded to the intensive warping of the timber frame. Through all the examples in this chapter, it was firmly established that fire had influenced both theory and form in architecture.

In the second chapter, concerned with the period roughly between 1600 and 1900 and maintaining an examination of architecture in Britain, considerations were given to the broader role of fire in society in an attempt to discover why the hearth may have been important beyond its generation of heat. Hearth tax and pot walloping established how integrated into status fire had become in the 17th century, and how the hearth had become the architectural feature that was most homogenous with the home. Unsurprisingly Robert Adam became an example for the Georgian fire, to impress the legacy that fire has had on the history of architecture, one of the few well-known architects and most likely best known as a name associated with fireplaces. Unexpectedly, the architect William Chambers provided vital evidence to prove that the fire in the home was not only a concept for practical consideration, such as structure and safety, but also for psychological analysis. The establishment of his belief in the fire being visible from outside of the room it is situated in proved a crucial example of theory, beyond that of the usual purely mathematical opinions associated with 18th century architecture. The dominant legacy of smoke in Britain through its industrial chimneys was not a revelation, but inspected a non domestic aspect of fire which undoubtedly had one of the greatest psychological impacts on the those who lived under the 300ft brick flues and owed their wage, yet often dismal living conditions to them. Ending the chapter with the wealthy homes of Lord Leighton and William Morris announced an unsure end to the 19th century, one of modern ingenuity and another of a return to medievalism complete with a Latin inscription, testament to the romantic symbolism of the hearth, the fire that had allowed art to blaze.

The final chapter broadened out beyond Britain, so as not to discount the unequivocal influence the titans of architecture, Frank Lloyd Wright and Le Corbusier. Wright marked the apogee of the hearth, demonstrating how the architect was imbued with both an understanding of form and theory. Wrights' fireplaces proved how crucial to architecture a hearth can be, especially when reflecting upon the fire of Fallingwater being built upon unmolested sentimental boulders left in their place, undeniably the hearth proving the heart of the home. A topic for consideration in its own right, the brief explanation of the destructive legacy of fire, perhaps most poignantly in the Second World War, compounded on centuries of fires incinerating legacy, prominently exemplified the Great Fire of London. Finally, John Pardey proved testament to the beauty of the language of fire and how it is still relevant today, embodying the principals of Wrights architectural treatment of the chimney.

These three chapters chart a chronological assessment of various aspects of the relationship of fire and architecture, consequently bringing together a broad scope of research into a compact analysis, providing insight into the subject as a whole. By doing this, this work has provided proof that fire is at the heart of the history of architecture, and despite the necessity for an open fire having diminished in the last century, the language of fire has become engrained on our architectural conscience, while the convenience of the modern world has left the household bereft of a living heart in their homes. This work proves the timeless legacy of fire, and how brightly its architectural flame has burnt.

While the content of this dissertation provides an overview and new insight into an understudied subject, the work only provides a specific overview of the overarching question. In the course of researching this topic, there were many unexpected connections between fire and architecture. Each chapter is worthy of further analysis, with a great many possible case studies discovered during the research process. Further research on the future of 'the hearth and the home' would be a suitable follow up to the content presented here and would be a subject worthy of investigation. The work presented here offers an eclectic view based on a largely British context, but further study on examples from around the world would provide key information on the global relationship between fire and architecture.



Fig. 24 – The legacy of countless lives lived in a Glasgow tenement. (Watt, 1972.)

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