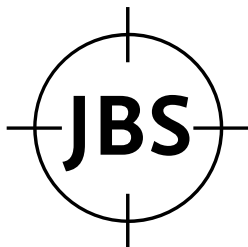


There's Nothing Here But Volcanoes

Materiality and the Design of Villains' Lairs in the James Bond Films

ALASTAIR T.M. MARSH

"There's nothing here but volcanoes" is Bond's radio report from his aerial reconnaissance over Japanese waters in *You Only Live Twice* (1967), before the arrival of attack helicopters raises the suspicion there might be more to this particular island than meets the eye. The villain's lair is an iconic part of the Bond films' visual identity and narrative structure. The special place of the villain's lair in the series' identity, and their tendency for the implausible, is the butt of numerous jokes in the Bond film parody *Austin Powers: International Man of Mystery* (1997). Lairs are often the backdrop to a decisive confrontation between Bond and the villain, with the search for – and infiltration of – the lair a narrative driver and source of jeopardy in the storyline (Millard 2018, 52). The showdown between Bond and the villain in their lair, and its ensuing destruction, is the climax of many Bond films (Greinacher 2011, 49). Lairs thus form a key part of the Bondian formula; retaining a degree of variety in villains' lairs throughout the series plays into the franchise's strategy of balancing repetition with variation (Chapman 2024, 12-13). Yet the lairs themselves, and their evolution with time, have not received the same degree of attention as other aspects of the Bondian formula,



THE INTERNATIONAL JOURNAL OF
James Bond Studies

Volume 8 • Issue 1 • Spring 2025

ISSN 2514-2178

DOI: 10.24877/jbs.130

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such as the gadgets (Fritzsche and Dürrbeck 2020; Millard 2018; Viol 2019) and the “Bond Girl” (Funnell 2018; Weathers 2024).

Bond villains’ lairs offer an opportunity to interpret the Bond films’ evolving responses to developments in architectural and material technologies, as well as how they reflect changing perceptions of architectural styles and social fears. The Bond films’ response to technological advances, as portrayed by their gadgetry, has reflected both real trends in technological capability and contemporary attitudes to technology (Millard 2018, 125-129). As is for gadgetry, the flow of ideas in relation to architecture in the Bond films is (to a certain extent) bi-directional - overtly Bondian architecture has been suggested to have influenced real world architecture (Fear 2000, 91-92). Just as the gadgets are the focal point of technology in the films, villains’ lairs are the focal point of architectural design and materiality. Beyond technology, the Bond films have reflected the changing fears of Western societies across different decades towards a range of perceived geopolitical threats and adversaries (Dodds 2005; Hochscherf 2013); the villain is the key embodiment of these fears. By extension, the design of villains’ lairs can offer an insight into how social perspectives have changed towards specific architectural styles and construction materials.

Lairs also offer a platform to examine how villains are characterised through the architectural design and materiality of the spaces they inhabit. The term “materiality” in this context refers to how materials are used for the principal components of a structure, whilst architecture refers to the overall style in which buildings are built. Exploration of the links between architecture, materiality and characterisation within the film series has so far been limited mostly to Bond himself. Monika Gehlawat (2009) frames the use of decaying spaces in *Casino Royale* (2006) as a way to emphasise the rebirth of the character as a more violent and brutal representation, whilst Sarah Thomas (2018) interprets the use of concrete spaces in *Casino Royale*, *Skyfall* (2012), and *Spectre* (2015) as a visual analogy of the “brutalism” of Craig’s Bond. Udo Greinacher describes the association between Modernist design and villains through the series and the underlying ideology this infers, whilst acknowledging that Bond lacks a clear association with any architectural style. However, the framing of villains in reference to their lairs is an unexplored dimension within a wider discourse about the portrayal of villains throughout the series, including in relation to nationality (Lawless 2014), physical disfigurements and disabilities (Chen et al. 2022), and sexual orientation (Spungen 2017).

A combination of narrative and hermeneutic analysis is used in this study, as was adopted in a similar way by Albrecht Fritzsche and Konrad Dürrbeck for

an analysis of gadgets in the film series. The aim of this study is to investigate villains' lairs with regards to their technological and social significance, and characterisation. Technological and social significance refers to how lair design has changed throughout the franchise as a consequence of the changing nature, and perception, of threats. And, how changes in lair design and materiality throughout the franchise have reflected technological innovations and changing societal attitudes towards buildings. Characterisation refers to how lair design has been used in the characterisation of the villains themselves, especially with regards to aspects of identity and morality.

BLIMPS TO BUNKERS: DEFINING BOND VILLAINS' LAIRS AND THREATS

The term "villain" is used here to refer to the principal antagonist in each film. This excludes secondary or accessory antagonists, "henchmen" and "henchwomen" such as Oddjob, Jaws, and Xenia Onatopp. The term "lair" does not have an agreed definition – for example, Chad Oppenheim and Andrea Gollin (2019) use "lair" simply to refer to a variety of film villains' domestic homes. For the purpose of this article, a Bond villain's lair is defined by three conditions: it is the villain's base of operations; a place which they have long-term control over; and, a place where they are defeated or foiled.

The first condition is used to distinguish a location which has plot prominence in terms of delivering or co-ordinating the principal threat in the plot, rather than just a residence or other kind of facility. For example, the ice hotel in *Die Another Day* (2002) is a memorable location; but it is neither pivotal in terms of delivering the ultimate threat from the villain Colonel Moon/Gustav Graves, nor is it his primary base of operations. The second condition is to distinguish between locations which are designed or chosen by the villain and shaped in their own image, and locations that are hijacked or temporarily occupied. For example, Fort Knox in *Goldfinger* (1964) and the nuclear submarine in *The World is Not Enough* (1999) are both examples of temporary occupation of a place used to deliver the villain's threat. The third condition is used to acknowledge the key plot role of lairs in climactic showdowns with villains. For example, in *The Spy Who Loved Me* (1977), the pivotal threat from the villain (i.e. nuclear missiles) is neutralised in the Liparus supertanker, whereas the climactic confrontation with Karl Stromberg himself occurs in Atlantis (his residence and submersible research station). The lair and its inevitable destruction is framed by André Millard as a product of two key influences on Ian Fleming's writing: the narrative of the raid, from his involvement in irregular warfare during the Second World War;

and, the narrative of the quest, from the influence of classic adventure stories like *Treasure Island* (1883) (2018, 92-96). In the context of Bond's licensed violence in defending British interests, the lair takes on a moral character of itself, aligned with the villain and hence deserving destruction.

The rationale for the three conditions of this definition is to emphasise the lair's pivotal role in the storyline, and hence functional association with the threat and character association with the villain themselves. As a result, some films have been categorised as not having a lair. Each film has been assigned a maximum of one lair – this is to enable a semi-quantitative comparison of trends across the franchise's timeline in as representative a way as possible. Whilst subjective to a degree when there is more than one candidate for a lair within a film, this approach gives an appropriate structure for analysis. Only the EON-produced films were considered in this analysis, due to their long-term continuity in production personnel. To enable quantitative observation of trends, similar to that followed by Michelle Chen et al., a categorisation of lairs and threats is presented. This is followed by a description of lair design and materials in the film series. Lair categories have been categorised along two key characteristics of mobility and visible location:

- static or mobile
- (for static lairs) underground or above ground

All lairs are subsequently allocated into the categories of: underground facility, overground facility, transport, residence, and science fiction. The categories are based on characteristics of mobility, visible location, function, and feasibility of construction at the time of a film's release (see *Table 1*).

Table 1: Categories of lairs and their descriptions

Lair category	Category description
Underground facility	Static structure that is predominantly under ground
Overground facility	Static structure that is predominantly above ground
Transport	A mobile lair that functions as a mode of transport
Residence	A lair that functions as the adversary's permanent residence, with no additional function regarding threat
Science fiction	A structure that would have been unlikely or unfeasible to construct at the time of release

Each lair was also assessed by its primary construction materials (see *Table 2*); that is, the material(s) used for the majority of a lair's load-bearing structure and façade.

Table 2: Summary of categorisation for lairs and threats, for the films featuring a villain's lair

Film title	Year of release	Lair description	Static / mobile	Above ground / under ground	Lair category	Primary construction materials	Threat category
<i>Dr. No</i>	1962	Underground nuclear power station	Static	Underground	Underground facility	Reinforced concrete and stone	Space weapon
<i>Thunderball</i>	1965	Yacht	Mobile	n/a	Transport	Aluminium alloy	Nuclear weapon
<i>You Only Live Twice</i>	1967	Underground rocket launch complex	Static	Underground	Underground facility	Reinforced concrete and stone	Space weapon
<i>On Her Majesty's Secret Service</i>	1969	Mountaintop research facility	Static	Overground	Overground facility	Steel and timber	Biological weapon
<i>Diamonds Are Forever</i>	1971	Offshore oil rig	Static	Overground	Overground facility	Steel	Space weapon
<i>Live and Let Die</i>	1973	Underground drugs factory	Static	Underground	Underground facility	Reinforced concrete and stone	Drug trade
<i>The Man with the Golden Gun</i>	1974	Island-based underground solar power station	Static	Overground	Underground facility	Reinforced concrete and stone	Other technology
<i>The Spy Who Loved Me</i>	1977	Submersible marine base	Static	Underground	Science fiction	Steel	Nuclear weapon
<i>Moonraker</i>	1979	Space station	Mobile	n/a	Science fiction	Aluminium, titanium, steel, kevlar	Biological weapon
<i>For Your Eyes Only</i>	1981	Monastery	Static	Overground	Residence	Stone or brick masonry	Code-breaking machine
<i>Octopussy</i>	1983	Historical palace	Static	Overground	Residence	Stone or brick masonry	Nuclear weapon
<i>A View to a Kill</i>	1985	Airship	Mobile	n/a	Transport	Polymer composites and polymers	Environmental destruction
<i>The Living Daylights</i>	1987	Historical villa	Static	Overground	Residence	Brick or stone masonry	Arms dealing
<i>License To Kill</i>	1989	Underground drug factory	Static	Underground	Underground facility	Reinforced concrete and stone	Drug trade
<i>Goldeneye</i>	1995	Underground satellite control centre	Static	Underground	Underground facility	Reinforced concrete and steel	Space weapon

<i>Tomorrow Never Dies</i>	1997	Cargo ship	Mobile	n/a	Transport	Steel	Data manipulation and control
<i>Die Another Day</i>	2002	Transporter Aircraft	Mobile	n/a	Transport	Polymer composites, titanium alloy, aluminium alloy	Space weapon
<i>Quantum of Solace</i>	2008	Hotel complex	Static	Overground	Overground facility	Reinforced concrete	Environmental destruction
<i>Skyfall</i>	2012	Data centre within abandoned buildings	Static	Overground	Overground facility	Reinforced concrete	Data manipulation and control
<i>Spectre</i>	2015	Data centre desert campus	Static	Overground	Overground facility	Steel and glass	Data manipulation and control
<i>No Time to Die</i>	2021	Chemical plant in former missile silos	Static	Underground	Underground facility	Reinforced concrete	Biological weapon

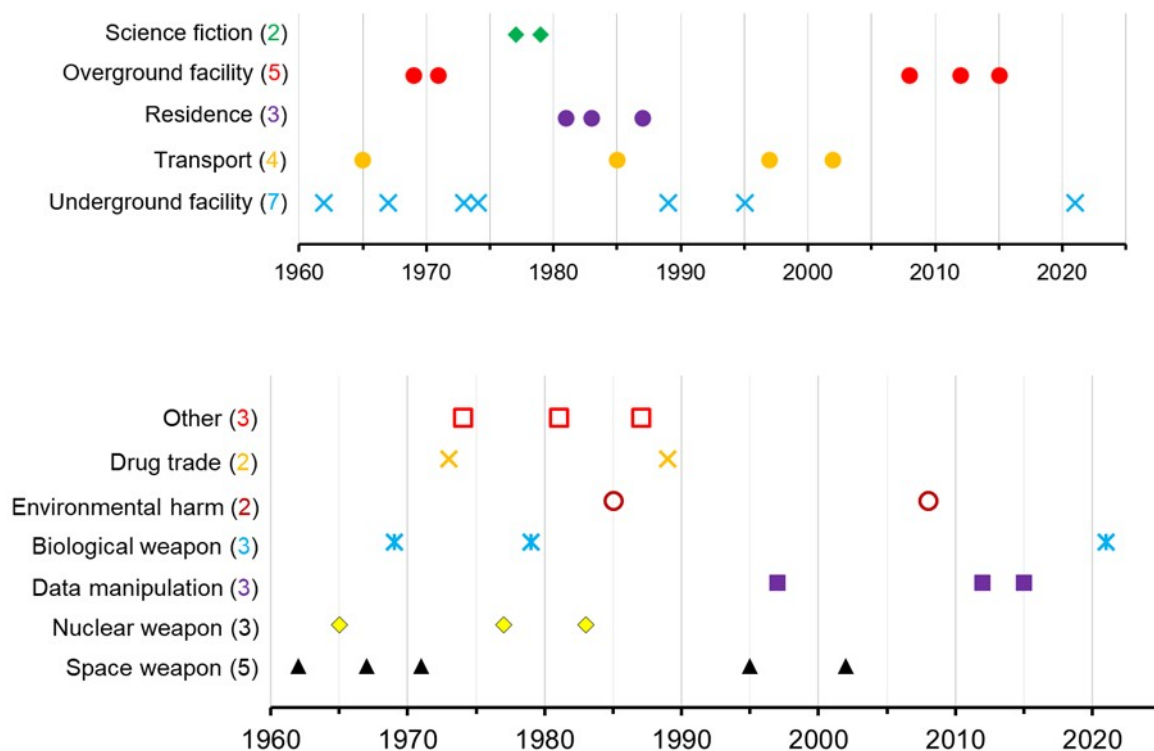
A key aspect of this analysis is the question of “actual materiality” versus “implied materiality”. When a real location was used for filming, details of that location were used to determine the likely construction type. For locations staged on a set or generated partially using special effects, a judgement was made about likely construction materials based on: the appearance of the structure, likely loading requirements for the application, and the materials used in similar real-world structures. This required a degree of subjective interpretation given that set designs are not constructed in the same way, or using the same materials, as the structures they seek to portray. For example, Ken Adam, the Bond films’ most famous set designer, was a trained architect yet was not always bound by realism in his designs. Nonetheless, analysis of construction material is required to assess the extent of architectural innovation.

Given the prominence of lairs in delivering a villain’s threats, a critical analysis of lairs also requires an assessment of the threats themselves. The term “threat” is used to refer to the mechanism by which the villain is attempting to carry out their intended harms. Threats have been grouped into the following categories, with remaining threats grouped into an “Other” category (n=3):

- Space weapons
- Nuclear weapons
- Biological and chemical weapons
- Data manipulation and control
- Environmental destruction
- Drug trading
- Other (inc. code-breaking machine, arms dealing, and other technology)

The wide range of lair categories in the Bond films arises both from the evolving nature of villains' threats and the producers' efforts to prevent the series going stale or falling behind rival film franchises. For each film, Table 2 states: the categories of lair, the villain's threat, and the construction material(s) of the lair. From the 25 films assessed, the majority (n=21) do feature a lair (as defined in this article); the majority of lairs are static (n=16), rather than mobile (n=5); and, of the lairs which are static, a slight majority are above ground (n=9), rather than below ground (n=7). Some lair categories appear frequently throughout the series (i.e. underground facility, overground facility, and transport), whilst others appear less frequently and in narrower time ranges (i.e. residence, science fiction) (see *Figure 1*).

Figure 1: Lairs and threats grouped into categories and plotted by the year of a film's release.



Whilst lairs are often fanciful in their design and aesthetics, they are generally adapted to the logistical requirements of each villain's threat. When the physical footprint of a threat is small, the threat is often carried and delivered by a mobile vessel – for example, nuclear missiles in the Disco Volante yacht in *Thunderball* (1965), biological weapons capsules in the space station in *Moonraker* (1979), and

the nuclear warhead in the submarine in *The World is Not Enough*. Or, a mobile lair is used to remotely control or co-ordinate the threat from elsewhere – such as controlling the Icarus satellite weapon from a transporter plane in *Die Another Day*, or fleeing the collapsing mines in a blimp in *A View to a Kill* (1985). In both cases there is a clear logistical, plot-based rationale for a lair to be mobile. In films where the threat requires a large volume of physical infrastructure, an underground static lair is usually used. Christoph Lindner remarks that “[l]arge-scale international crime requires an equally large scale base of operations” (2009, 82); but the physical footprint also depends on the engineering and infrastructure requirements of the criminal threat. At one extreme, there are the space weapons in *Dr. No* (1962), *You Only Live Twice*, and *Goldeneye* (1995). As portrayed in the films, the physical footprint of the ground facilities needed to control these weapons is so large that the weapons have to be hidden underground to avoid discovery. The large quantities of liquid oxygen required for the rocket launches ultimately leads Bond to Blofeld’s volcano lair in *You Only Live Twice*. Likewise, the large physical footprint of drugs manufacturing facilities provides the rationale for situating the villains’ lairs underground in *Live and Let Die* (1973) and *License to Kill* (1989). The diversity in types of lairs and their multi-functionality challenges Greinacher’s assertion that Bond versus the villain represents a conflict between “technological gadget versus the architectural setting”, and “traditionally designed architectural spaces”, in particular (57). Given that lair choice can broadly be considered as a rational adaptation to a villain’s threat, it is expected that evolution of lair design can be explained to some degree from the evolution of villains’ threats.

THE LAIR AS BELLWETHER OF TECHNOLOGY, DESIGN, AND SOCIAL FEARS

In this section, I explore the extent to which lairs reflect (or even anticipate) developments in architecture and design, materiality, and technology; and, reflect Western societies’ attitudes to these developments.

Whilst technological evolution in vehicles from the 1960s to the 2020s is demonstrated very clearly in terms of Bond’s cars and other transport-related gadgets, the technological innovation in villains’ mobile lairs has mostly lagged behind. The lairs in the “transport” category generally did not push the boundaries of technology for their time: a yacht with detachable catamaran (*Thunderball*); a blimp (*A View to a Kill*), a tanker ship (*Tomorrow Never Dies* [1997]), and a transporter aircraft (*Die Another Day*). In the climactic scene of *Die Another Day*, the villain Colonel Moon/Gustav Graves controls a satellite-based laser weapon, and wears a weaponised exo-skeleton – both are advanced technologies for the

release date of 2002. Yet the lair in which this scene takes place appears to be a Soviet-era transporter aircraft. Similarly the threat in *Tomorrow Never Dies* is the use of misinformation to generate conflict – a prescient theme highly relevant to the 2020s, given its release date in 1997. But the lair is a fairly humble converted tanker ship, chosen for its inconspicuousness. Greinacher suggests that real world architecture has taken inspiration from Bond’s gadgets, by enhancing buildings’ flexibility and multi-functionality (56-57). Yet back in the film world, the examples above highlight the lag between the technological advancement of lairs, versus weapons and gadgetry, that occurs throughout the series.

For static lairs, little innovation has occurred over the decades in terms of construction material (see *Table 2*). Reinforced concrete, the most prevalent construction material in lairs, has been in use since the latter half of the 19th century (Moussard et al. 2018, 2786). The use of reinforced concrete does allow for large spans (i.e. the distance between structural supports), and dramatic interior spaces, yet these architectural features do not reflect technological innovations, *per se*. There are no clear and obvious examples of where true construction innovations in the use of concrete (e.g. thin shells, 3D-printed elements, or the use of ultra-high performance concrete in modern skyscrapers) have been used in villains’ lairs. In terms of materials, innovation in lair design has again lagged behind weapons and gadgetry.

The stand-out examples of technological innovation in lair design are in the two lairs classified as “science fiction” type – the submersible Atlantis base in *The Spy Who Loved Me*, and Drax’s space station in *Moonraker*. However, these two set designs had very different approaches to technological realism. For Atlantis, there was an emphasis on the interior space itself with little consideration of technical feasibility; for the space station in *Moonraker* there was a concerted effort to make it as realistic as possible (Burgess 1979, 984). To say whether these science fiction designs have “anticipated” real world developments – as has been argued for gadgets (Fritzsche and Dürrbeck) – is debatable. There are no large, submersible bases akin to Atlantis (to the author’s knowledge), and establishing permanent underwater settlements has not been a topic of enduring interest. The space station in *Moonraker* did pre-date the first modular space station Mir (launched in 1986) by nearly a decade; however, the vast interior spaces and simulated gravity in the film’s depiction are conspicuous by their absence in the International Space Station and Tiangong-2 (these are the only space stations in operation in 2024). Millard comments that “Fleming and Broccoli and Saltzman exploited nuclear anxieties to raise the stakes of Bond’s adventures, but

the same pressures that made them devise ever more ingenious gadgets forced them to create more menacing threats to civilisation” (2018, 116). In the case of *The Spy Who Loved Me* and *Moonraker* (which was developed as a direct response to the popularity of the *Star Wars* films) the pressure for more of the key Bondian elements was channelled into the fantastical design of their lairs.

In comparison to the rate of technological change and possibility in the real world, innovation in villains’ lairs has in general lagged far behind (with the exception of *The Spy Who Loved Me* and *Moonraker*, as forementioned). Much of the real-world architectural innovation since the film franchise’s existence from the 1960s onwards has focussed on the development of super-tall buildings (i.e. 300m or taller). But given the importance of privacy for lairs and their plot function of building suspense towards a climatic confrontation between Bond and the villain, super-tall buildings are not naturally suited to being villains’ lairs. There is also a key distinction between the technological origins of the series’ gadgets and weapons, and its construction materials. Reinforced concrete was first developed in the civilian sector (Moussard et al., 2786), although it was quickly adapted for military use once its beneficial properties were identified (Gatti and Cacciaguerra 2010, 188; Mändel and Orro 2012, 69). In contrast, the inspiration for the films’ gadgets were rooted in the espionage and military sectors (Millard 2018, 64). In order not to overwhelm the audiences with gimmicks or tip the balance into self-parody, there is a limit on the overall amount of technological innovation that can be integrated into a Bond film before it is no longer a Bond film. Given that Bond’s character is centred around a military identity, the “budget” of technological innovation in any given film will always be preferentially expended on gadgets and weaponry, rather than architecture and construction.

Based on the nature and underlying purpose of their threat, the lairs’ architectural form, and also the social context into which they fit, lairs can be non-exhaustively categorised into three distinctive “eras” (discounting films in which the lair type is “threat-agnostic”): Cold War Disruptors, New World Order Survivalists, and Data Manipulators:

- Cold War Disruptors (1962-1967). These villains threaten to upset international relations, with a view to precipitating a nuclear war between world powers via the use of space weapons (*Dr. No*, *You Only Live Twice*). Their threats require large amounts of fixed infrastructure which need to be concealed. Lairs are situated underground, with a heavy reliance on reinforced concrete.

- New World Order Survivalists (1977-1979). These villains seek to restart civilisation in their own worldview (*The Spy Who Loved Me*, *Moonraker*). Their lairs are classified within the “science fiction” typology, with a survivalist intention, to enable them to sit out the ensuing collapse of world-wide society. The design of these lairs places an emphasis on novel construction technologies and architectural forms, to endure extreme environments.
- Data Manipulators (1997-2015). These villains exercise power for various ends through surveillance, and the control and manipulation of data (*Tomorrow Never Dies*, *Skyfall*, *Spectre*). These demonstrate a flexible approach to lair location and design, whilst also acknowledging the physical footprint and energy infrastructure required to support data centres and computing facilities.

These chronological groupings by threat category show how lair design, and in particular a lair’s physical footprint, is influenced by the type of threat. In turn, the nature of the threats and the identity of the villains reflects the evolution of perceived geopolitical and technological threats by Western audiences (Chapman 2024, 11, 132, 212), through the Cold War to post-Cold War eras (Dodds 2005, 271; Hochscherf, 299). The first transition from Cold War Disruptors to New World Order Survivalists aligns with “[t]he exponential growth of weapons of mass destruction”, whose emergence “pushed the Bond formula from routine spy thriller to apocalyptic action films struggling to compete in a filmic world of futuristic weapons and fantastic threats” (Millard 2021, 10). The second transition to Data Manipulators is a response to “maintain Bond’s position [...] as the herald of looming technological disaster”, in order “to suit contemporary concerns about the latest technology” (ibid.). Thus, the evolution in the design of villains’ lairs indirectly tracks wider geopolitical and technological trends over time.

From the Cold War Disruptors era, the use of concrete and modernist design deserves closer attention, given how their cultural perceptions have changed over time. Ken Adam’s set designs for the Bond films, as well as in other well-known films such as *Dr. Strangelove* (1964), have been acknowledged as Modernist masterpieces (Fear, 97; Greinacher, 55). Modernism is the architectural style “associated with an analytical approach to the function of buildings, a strictly rational use of (often new) materials, structural innovation and the elimination of ornament” (“Modernism” 2022, n.p.). Modernist architecture has a strongly continental association – this design style emerged principally in Germany (most fa-

mously through the Bauhaus school) and France. Whilst the naming of Auric Goldfinger (the villain in *Goldfinger*) was not known to be a personal slight on the contemporary Modernist architect Ernő Goldfinger by Ian Fleming (Roberts 2017, 126-127), Fleming's reported dislike for Modernist architecture was in keeping with similar views amongst the British establishment over the preceding years. Such mistrust of Modernism was not only aesthetic, but also ideological. Sir Reginald Blomfield, an architect well-known for his Classical buildings in the Edwardian era, denounced Modernism in the 1930s as "based on mistaken sociological theories and on arbitrary psychological assumptions" (1934, 168-169). Modernism represented a "bold departure from previous stylistic periods and their ties to specific cultural regions and political epochs" (Greinacher, 53), and was perceived as fundamentally "un-English" (Whiteley 1995, 223). The utopian aims and non-specific European origins of Modernism made it ripe for subversion as the perfect architectural fit for totalitarian, generically European Bond villains (Greinacher, 53).

Within Modernism, Brutalism is a style characterised by an "emphasis on materials, textures and construction" ("Modernism", n.p.), frequently using large volumes of exposed concrete. Concrete "offers a lens through which to apprehend social formations and transformations" in societies (Archambault 2024, 295). In the United Kingdom, the first two decades of the Bond film franchise (1960s-1980s) coincided with a wave of Brutalist social housing. These concrete dwellings formed a key motif for filmmakers showing deprivation in British cinema in this period (Heathcote 2000, 23). In this context, the visual connotation of bare concrete was firmly intended as negative – a fitting association for the Modernist troglodyte lairs featured in *Dr. No*, *You Only Live Twice*, and *Live and Let Die*. In more recent years, Brutalism has undergone a revival (Heathcote, 25), and Modernism has become more widely accepted by the British architectural establishment (Whiteley, 220). Trellick Tower, completed in 1972, one of Ernő Goldfinger's most well-known buildings in the United Kingdom, is now a Grade II* listed building. The revival in the use of concrete-based lairs in the 2010s and 2020s (*Quantum of Solace* [2008], *Skyfall*, *No Time to Die*) is rooted in its new-found aesthetic appeal, rather than a desire to invoke negative feelings in the viewer by association (as was the intention in the 1960s films). The rehabilitation of concrete is affirmed by the siting of MI6 headquarters in prominent concrete buildings from the 1990s onwards, such as the Brutalist icon The Barbican (Grade II listed) in *Quantum of Solace*, and the real-life MI6 building at Vauxhall Cross from *Goldeneye* to *Skyfall*.

The Data Manipulators era has the greatest relevance to contemporary technological developments and architectural trends. In *Spectre*, Blofeld's lair is secluded in the Sahara desert, but its sleek aesthetic and spacious setting is in line with current trends for Big Tech companies' headquarters in Silicon Valley (Schmidt-Lux 2021, 30-38). The plot of *Spectre* – and to a lesser extent *Skyfall* – hinges on data surveillance and manipulation. This threat aligns with the recent rise of “dataveillance” by both state and corporate actors (Van Dijck 2014, 205), and a shift in the balance of power between state and corporation: “[a]s a locus of technological expertise, the multinational corporation filled in for the monolithic nation states of the Cold War in the Bond films” (Millard 2021, 10). The design and construction of campus headquarters for various Silicon Valley firms by renowned “starchitects” (e.g. Apple: Foster + Partners; Google: Bjarke Ingels Group and Heatherwick Studios; and Facebook: Gehry Partners) has been a high profile development in architecture in recent years. *Spectre* shows that the Bond film series has not only adapted to reflect evolving societal fears about the threats of Big Data, but has purposefully conveyed this using the architectural language of Silicon Valley in its design of the villain's lair.

The framing of tech tycoons as contemporary villains comes full circle when considering ultra-high net worth individuals' investment in secure underground survival bunkers in remote locations (Pike 2022). The case study of a subterranean survivalist bunker by Bradley Garrett (2020) features a pool and interior landscaping which echoes the aesthetic of Bond villains' underground lairs in the 1960s-1980s era. The growing interest in luxury bunkers by the kind of powerful individuals which the series has drawn on for its villains, is an example of Bondian architecture made manifest (Fear, 91-92). Knowingly or unknowingly, the adoption of villain-esque lairs in real life demonstrates the wider influence of the film series on how the possibilities of underground architectural forms are perceived.

The James Bond films generally have not kept up with, or anticipated, developments in construction materials and architectural technologies, with the exception of the “science fiction” style of lair adopted by the New World Order Survivalist villains of the late 1970s. This marks a contrast with the zealous adoption and innovation in gadgetry and weaponry throughout the series; together, the different approaches to technological adoption (regarding gadgetry and weaponry, versus construction and architecture) represents conscious restraint from the filmmakers to avoid the films from becoming too implausible for audiences. The evolution of architectural forms has indirectly mirrored the evolution

in geopolitical tensions and social fears, as lairs have adapted to the changing nature and infrastructural requirements of villains' threats.

THE LAIR AS EXTENSION OF A VILLAIN'S "FOREIGNNESS" AND MORALITY

Film architecture can be seen as a signifier of the "social position of the characters and their inner moods" (Schaal 2000, 13); the typically one-dimensional nature of Bond villains makes them a useful example on which to test this proposition. In this section, I propose how the architectural design of lairs has been used to emphasise the morality and "foreign-ness" of Bond villains.

Throughout the series, the portrayal of villains with a range of visual disfigurements including scarring, prostheses, and ocular injury (far more so than for allies or neutral characters) (Chen et al., 127) is a harmful trend which perpetuates long-running tropes in film that associate disability and/or disfigurement with evil, deviance, or a desire for vengeance. Others have attempted to suggest that causation between visual disfigurement and evil is not necessarily implied (Kluger 2022); nonetheless, the films still adopt the concept of "narrative prosthesis" common in film and literature, by which the disability and/or disfigurement is a "stock feature of characterisation" (used repeatedly throughout the series) and "an opportunistic metaphorical device" (used to denote evil) (Mitchell and Snyder 2013, 222). The series' trend of writing villains as disfigured or disabled fits within wider readings of societies' historical tendencies to perceive of disabled people as "embodying otherwise formless dangers" (Yamamoto 1971, 182). Within this context, the impressive (and often elegant) architectural nature of the lairs serves as a juxtaposition, against which to emphasise the physical disfigurements of the villains themselves. For example, Karl Stromberg's webbed hands against the vast dining room of the gleaming Atlantis in *The Spy Who Loved Me*, and Dr. No's metal hands against the Gothic luxury of his dining room in *Dr. No*. The architecture and interior design of these two villains' lairs is used to signpost their evil nature in two ways. Firstly, their megalomaniacal character is communicated through the use of large underground/underwater indoor functional spaces (the submarine pen and reactor hall, respectively), related to the infrastructural requirements of their threat (as discussed in the previous section). Secondly, their association with evil is accentuated by highlighting their physical disfigurements in contrast with the luxurious setting of domestic spaces (i.e. their dining quarters).

The aesthetic contrast between villains and their lairs can also be interpreted within the nexus of morality and sexuality. The concept of the "sexual repositioning" of female companions or allies to the villain occurs in several of the

films (most famously, perhaps, in *Goldfinger*): through a sexual encounter with Bond, they are morally re-positioned and thereafter help Bond (Bennett and Woollacott 1987, 115-116). Within this process, it is implicit that any attraction or allegiance they have to the villain is based on money, material objects, and power – motivations which are then inevitably outweighed by Bond’s sexual charisma. Whilst not all villains are explicitly portrayed as having a physical disfigurement, they are nearly always older and (intended to be) less attractive than Bond, who is portrayed as “an image of toughness, sharpness, cleverness and male sexuality” and “the all-British version of Romeo” (Black 2005, x). The lair thus forms part of the “material character” of the villain. This recurring situation can also be interpreted through the lens of prostheticism, as argued by Claus-Ulrich Viol: for the villains, the mental elevation of technology to become a “misdirected libidinal end in itself” is visually rendered through “altar-like control rooms of their plants which often provide the scene for the films’ final battles” (2019, 7). In this interpretation, the lair transcends mere association with character – the lair becomes part of the villain’s character themselves. A clear example can be found in *Thunderball*. The luxurious Disco Volante yacht performs a functional plot role in hiding and delivering a nuclear warhead, but also represents the wealth and power of Largo in which he figuratively and literally traps his female companion, Domino. This material capital presents a contrast to the intended portrayal of Emilio Largo as being physically unattractive – significantly older than Bond or Domino Derval, and also having an ocular disfigurement – and hence implied as having low sexual capital. If one of Bond’s functions throughout the series is as a “medieval knight rescuing maidens from modern dragons” (Black, x), then Largo’s yacht is the dragon’s cave, piled with gold and gemstones. Thus, the extravagance of the lair can be seen as an essential ingredient to be pitted against Bond’s sexual charisma.

Underground lairs make up a minority of the static lairs in the series (i.e. 7 out of 16), but are some of the most iconic (*You Only Live Twice*, *Dr.No*). Fritz Lang’s *Spione* (1928) was proposed to be the template for the Bond films by Millard (2018, 52); alongside many shared aspects between *Spione* and Bond films, the villain Haghi operates an extensive underground lair which is ultimately destroyed. Beyond practical rationales for siting lairs underground, such as concealing the large physical footprint of infrastructures required for certain threats, the underground lair can be interpreted through the lens of moral framing. “Most of the world’s cultures believe that beneath the earth’s surface lies the Underworld” (Kroonenberg 2013, 7), and the subterranean association with Hell in

the Christian frame has been cemented in Western Europe over many centuries through literature (Dante's *Divine Comedy*) and through art (the paintings of Hieronymus Bosch). This association between evil and the underground is spelt out in a literal sense in *No Time to Die* (2021) – Lyutsifer is the first name of villain Safin, whose lair is an underground former missile silo. The morality of the Bond films can be framed through a national perspective, with Bond's role in a "late imperial fantasy" (Dodds 2003, 132) to defend British interests and values against a range of threats. If Adolf Hitler was Fleming's prototype for his villains (Millard 2018, 104), then Hitler's bunker was the prototype for his villains' lairs. Villains' underground lairs are juxtaposed with M's office in MI6, clearly above ground level: this is shown in the earlier films, by Bond entering Moneypenny's office walking out of a lift, and in later films, by the view over the Thames from M's office. The siting of lairs underground can be read as yet another way of enforcing a moral binary between the villains, and Bond along with the rest of MI6 (and by extension the rest of the British establishment). *Spectre* presents an intriguing inversion of this moral framing. New intelligence chief Max Denbigh, also known as C, occupies the top floor office of the new Joint Intelligence Service headquarters in a gleaming glass and steel tower. M is relegated to MI6's temporary underground headquarters after their previous headquarters (Vauxhall Cross) is bombed in *Skyfall*. Jonathan Murray observes that the "[Daniel Craig era] movies' closely related fascination with the idea of milking memory also propels them towards a surfeit of subterranean locations", and interprets this pattern to be rooted in the notion that "the stability and/or legibility of the visible surfaces of the present are always dependent on a complex network of largely hidden ancestral roots" (2017, 258). In contrast, centring the interpretation on the villain rather than Bond suggests a framing of morality as well as memory.

The concepts of "Britishness" and "foreignness" feature strongly throughout the film series, and interior design and materiality feeds into this. Modernism had a strong influence in the style of Ken Adam's set designs for villains' lairs (Chapman 2024, 42-43; Greinacher, 54). In this context, the early films make a clear association between Modernism and "foreignness". In portraying villains who are clearly foreign by name, appearance, and/or accent, the architecture of their lairs is used to reinforce the notion of "foreignness". If Bond is an "agent of modernism" (Millard 2018, 165) regarding his penchant for technology in gadgetry, weaponry, and vehicles, then the early villains are "agents of Modernism" with a capital M. These early villains represent a contemporary suspicion of European foreignness; to reinforce this suspicion, some of these early villains have

a strong visual association with Modernist design aesthetics. Dr. No's reactor hall in *Dr. No* is sleek and spacious with a clear nod to the Bauhaus style, and his interrogation room has a menacing minimalism (Chapman 2024, 43). Karl Stromberg's Atlantis lair in *The Spy Who Loved Me* has swooping, biomimetic curves which seem influenced by the Expressionist architectural style. In *Thunderball*, Ernst Stavro Blofeld makes his first appearance at a SPECTRE meeting, during which he drops a subordinate through a trapdoor. The SPECTRE meeting room in which this scene takes place (whilst it does not count as a lair) also displays objects of Modernist style, such as the lamps, chairs, and tables. The austere Modernism of the villains' lairs in the early Bond films is juxtaposed with the visual cues for "Britishness" in M's office – oak-panelled walls, a large wooden writing desk, and oil portraits on the wall. The visual association is not only with Britishness, but more specifically with the British establishment (Smith 2016, 166; Stock 2009, 252). The dedication to this establishment aesthetic as a backdrop for M can at times be jarring; Millard cites the scene in *You Only Live Twice* in which Bond walks into M's wood-panelled office as usual, albeit this time incongruously placed inside a Royal Navy submarine (2018, 169). The language of the architecture and interior design speaks the same message to the audience as the storyline – European foreign-ness cannot be trusted, whereas the British establishment is your knight in shining armour.

Not all "foreign" architecture in the Bond films is associated with evil characters, however – the residences or offices of several allied characters clearly show interior designs associated with other countries, albeit in a vernacular style. Vernacular architecture refers to "buildings that are, or were, the authentic product of a specific place and people, have evolved in form over time, and are produced by non expert 'ordinary people' through shared knowledge passed down over time" (Brown and Maudlin 2012, 340). For example, Karim Bey's Istanbul office in *From Russia with Love* (1963), and the placement of Tiger Tanaka within traditional Japanese architecture in several scenes in *You Only Live Twice* (the training school for his agents, set in the grounds of Himeji castle). Both of these characters are given names, outfits, and interior settings that clearly associate them with their respective countries in a postcard exoticism that would be familiar with Western viewers; both are also portrayed as trustworthy allies, aligned with (and implicitly obedient towards) Bond and the West. Beyond architecture, this relationship is shown through customs - in a scene drinking sake, Tanaka "holds his glass slightly below the table, showing that he sees himself as of lower rank than Bond" (Miller 2024, 8). Whilst other etiquette details of this scene paint

a mixed picture around who sees themselves as the superior in the relationship, the scene shows that Tanaka is grounded in traditional Japanese customs and to whom Bond is at least his equal. This association between the traditional design aesthetics of foreign allies, and their alignment or subservience to British interests, is a visual reference to the old order of international relations; in doing so, it is another way for the series' early films to uphold the legacy of Empire (Chapman 2018, 216-217; Chapman 2024, 43-44). In contrast, it is a particular type of foreignness – a foreign modernity (i.e. Modernism) – which is considered new and untrustworthy, and has a specific association with villainy.

The conflation of a villain's morals and their foreignness is a theme returned to in *No Time to Die*, and emphasised through the choice of lair. The villain Lyutsifer Safin's upbringing was in the Soviet Union; the choice of an abandoned Soviet missile silo as his lair is an architectural metaphor for a personal comfort zone in his past. In parallel, this setting is a geopolitical comfort zone for the series. Russian characters have appeared in many of the films and are generally framed as "Others" through negative portrayals and perpetuation of stereotypes (Lawless 2014). Yet, Safin is a geographically muddled villain, as many others in the series have been. It is stated that he was born in the Soviet Union and speaks with an accent associated with the Eurasian region. However, fitting into a pattern in which "Bond's nemeses often adopt distinctly Asian motifs", Safin "keeps a Japanese garden and often wears traditional Japanese clothing; his base is also decorated in Japanese traditional style with tatami mats lining the floor" (Gao 2023, 12). The mask worn during the sequence in which he murders Madeleine Swann's mother, and re-appearing at later points, is a Noh theatre mask. On one hand, these Japanese stylings are a self-referential signpost that frames Safin's lair in *No Time to Die* as a re-interpretation of Dr. Shatterhand's (Blofeld's) Japanese castle and poisonous garden in the book *You Only Live Twice* (1964), reflected in the film's working title of "Shatterhand" during production. Yet on the other hand, there is no clear reason given in the film about the character's personal history that explains this merging of influences. The end result is a non-specific "othering", framing him as a "greatest hits" compilation of villains' backgrounds (most obviously Russian and Japanese) from earlier films in the series. This generic "otherness" is also reflected in the location of the lair, a disputed island in the seas between Russia, China, and Japan. This choice of location suggests that the filmmakers are unable to fully break free from the familiar Cold War territory of the series' early years. Just as the re-emergence of the iconic Aston Martin DB9 in the opening sequence of *No Time to Die* is a riff on the heritage of the series' early films, the use of a Cold War lite villain and lair lo-

cation marks a heavy dose of nostalgia in Daniel Craig's final film as Bond, continuing the self-referential homages used throughout the Daniel Craig era (and especially in *Spectre*) (Murray 2017, 262-263). Whilst the Daniel Craig era brought in certain changes that could be considered as a progressive attempt to bring in more diversity (Isely 2023) (e.g. Nomi as a Black female 007 in *No Time to Die*), the portrayal of Safin as a non-descript "Oriental" villain with a facial disfigurement demonstrates how deeply such tropes are baked into the fabric of the series. Safin shares several villain tropes with the eponymous Dr. No (a suggested European-East Asian background, "Oriental" clothes, and a physical disfigurement), in the first film in the series released 59 years previously. Likewise, the final confrontations in *Dr. No* and *No Time to Die* take place in and around underground reinforced concrete lairs. The trope of the foreign villain is seemingly hard to escape; so is the trope of the underground concrete lair.

Associations between morality and materiality in films also give an insight back into contemporary architectural concerns. Besides the James Bond films, an association between morality and architectural style is also seen in the *Star Wars* film series (Heathcote, 24): good characters are associated with natural materials and traditional architectural designs, whereas evil characters are more associated with modern materials and industrial styles (Boys-Smith 2022). A key example is the Tatooine dwellings of the Skywalker family which were partly filmed in "ksour" - traditional Tunisian, fortified granaries (Lorenz and Zimbelman 2014, 284). Earth is a widespread material for vernacular construction in North Africa (Zaghez et al. 2024, 483) and worldwide (Houben and Guillaud 1994, 6-9), which is rapidly being replaced by modern industrially-produced materials such as concrete (Marsh and Kulshreshtha 2022, 497). Some critics lament the loss of collective identity in this global transition away from vernacular construction (Barke and Parks 2016, 156), whilst architects warn that "this pandemic of generic buildings have no connection to each other, let alone to the climate and culture of their location" (Murray 2016, n.p.). These concerns have similarities to early 20th Century fears around the loss of national identity and cultural value threatened by Modernism, with its roots in no one country or place (Whiteley, 223). The Modernist architecture of the New World Order lairs embodied sinister utopian visions for the future and the Bond villains' own generic foreignness. Contemporary fears for architectural heritage are much less dramatic, yet represent a variation on the same theme – a loss of cultural and national identity.

CONCLUSIONS

Villains' lairs are a focal point which draw together several aspects of the Bondian formula: the backdrop to the climactic showdown with the villain; the physical platform for delivering a diabolical threat; and an architectural metaphor for the foreignness, otherness, and evil of the villains themselves. Generally, lairs have not stayed up to date with or anticipated technological advances in construction and construction materials. Lairs have rarely pushed the limit with regards to technology, so as to stay within the "technological budget" for each film which is preferred to be spent on gadgetry and weapons. The evolution in geopolitical and technological concerns over the decades is reflected in the evolution in villains' threats; in turn, the structures of lairs accommodate these changing threats. Amidst some degree of change, there is also much continuity in how lairs have been used to accentuate villains' association with foreign-ness and other-ness (via Modernist interiors of lairs) and with evil (the frequent placement of lairs underground). Lairs themselves hence form a key ingredient of the Bondian formula, which provides simple and reliable expectations for the audience.

The perennial question for the Bond film series is around what comes next. As argued in this article, lair design has historically responded both to the nature of villains' threats and villains' identities. A major question for the series is the future selection of threats and the identities of villains, given continued decoupling between nationality and ideology (as well as personal identity) and a continued prevalence of asymmetrical threats. There is also a desire to attract global audiences to recoup production and marketing costs for big-budget films, and therefore a need to not alienate influential audience sectors or attract negative headlines. Or in other words, how the "otherness" of villains will be portrayed if not through nationality or physical disfigurement. If the filmmakers do not make a serious attempt to overcome this issue, it seems most likely that the series will continue with the same mix of fears and threats – and with it, to mix between the same architectural palette of crumbling industrial decay and soulless corporate spaces.

Unlike the motivations for technological development in weaponry, much of the current research and development in architectural design and construction materials is motivated by sustainability. It seems unlikely that motivations of sustainability will align with any future villain unless used as a façade, as for the seemingly benevolent water company fronted by villain Dominic Greene in *Quantum of Solace*. It therefore seems unlikely that villains' lairs will actively or explicitly attempt to keep up with innovations in construction. It is hard to imagine

Bond being tortured by a villain inside a Passivhaus accredited hempcrete base, with clay-based renders in the interrogation room for enhanced thermal comfort and humidity control. Yet with expectations around sustainability and social justice high in younger generations of audiences, there is a doubt around how much appeal remains in the xenophobic and destructive elements within the Bondian formula after 60 years. Perhaps it is the values of sustainability that would seem more likely than any villain to stop the Bond formula from continuing in its current format.

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