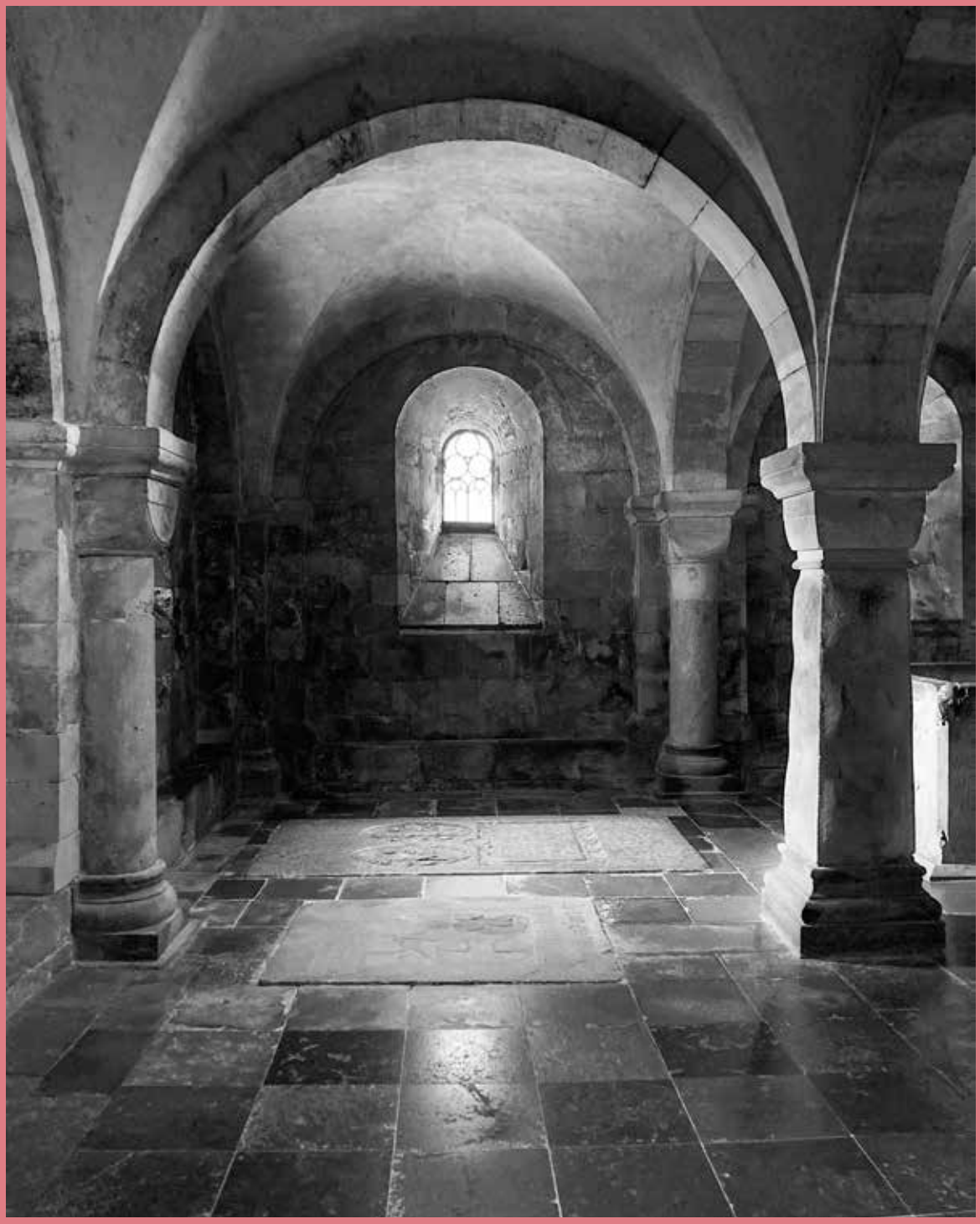


LENA LIEPE

Inner spaces

The inside experience of architecture

The crypt of Lund Cathedral as architectural space

SUPPOSE THAT I FACE the task of acquainting a group of people with a piece of architecture such as the interior of an ancient church building—a situation familiar enough for most art historians who teach at university level. The standard procedure is to speak of the architecture in terms of ground plans, elevations, sections, and in the case of exteriors, the design of façades. By this, the building is treated in terms of its material components, the visual representations of which are flattened into two-dimensional patterns, i.e. the just-mentioned ground plans, elevations and sections. Descriptions likewise focus on the material and visual qualities of a built structure and its diverse parts, all of which can be characterized by means of a well-developed repertoire of precise terms. Such academic abstractions work to purpose in that they are well-suited to characterize and classify buildings as manifestations of the structural and stylistic developments that it is the discipline's task to uncover. They have, however, less to do with how buildings actually are experienced by those who are inside them; namely, as space.

Take the early 12th-century crypt of Lund Cathedral (fig. 2). Going down the stairs at the eastern end of either the north or the south aisle of the upper church, the visitor finds her- or himself in a room of the same horizontal extent as the transept, chancel and apse of the upper church, but considerably lower in height. Whereas the corresponding section of the upper church consists of five huge bays, each covered by a single vault so that no free-standing supports are needed, the crypt is crowded by a forest of columns and piers. Wherever the visitor directs her or his gaze, it bumps into stone. But it is not the massive ashlar walls, the paved floor or the squat round-arch vaults with their support, the piers and columns, that "make" the room; their surfaces serve to frame and define it, but the room as such is the space they circumscribe. This is linguistically clearer in German, where the same word, "Raum", is

Figure 1. The crypt of Lund Cathedral.



Figure 2. The crypt of Lund Cathedral, looking north.

used for space and room. "Architecture", writes Christopher Tilley, "is the deliberate creation of space made tangible, visible, and sensible."[1] For Juhani Pallasmaa, the purpose of architecture is to domesticate limitless space; and Simon Unwin similarly describes "doing architecture" as organizing space into places, equating space with (material) structure as the medium of architecture.[2] And Tadhg O'Keeffe points to how, when entering a building, one's initial sense is often of its volumetric nature, not of surface details such as bay-dividing pilasters and soffit arches.[3]

If the built structure is but a means to create space, then to grasp the nature of that space is as vital for a genuine understanding of the "meaning" of architecture as knowledge of construction principles and the grammar of architectural styles. So, how do I best communicate the spatial qualities of the crypt of Lund Cathedral to my audience? I need

1. Tilley 1994, p. 17.
2. Pallasmaa 2012, p. 35; Unwin 2014, pp. 28–29, 177. Cf. Rasmussen 1962, pp. 46–50, on the conception of any built interior as predominantly spatial.
3. O'Keeffe 2007, p. 80.

to find a way to verbalize the room as space: as an expanse enveloped by building parts conflated into a stony shell. This, however, is easier said than done, at least if the ambition goes further than to merely define the physical space in geometrical terms as a volume with an extension in three dimensions. Which it should, since, as Pallasmaa underlines, "[a]rchitectural space is lived space rather than physical space, and lived space always transcends geometry and measurability".[4] To explore space as a felt sensation and mental experience is a challenging exercise. According to Anthony Vidler, space is the most elusive of all the characteristics ascribed to architectural form: it is intangible and escapes representation, to the extent that it can only be characterized through a study of what is *not* represented: "the white ground of a plan, the implied sense of visual and bodily projection in perspective views."[5]

This means that the explication of an architectural interior, such as the Lund Cathedral crypt, in terms of space requires fieldwork. Looking at ground plans and even photographs is futile—the researcher has to be *in* the room and alert her or his senses to its range of modalities, or wavelengths, for transmitting its spatial qualities to the receiver.[6] Sight, hearing and the skin's capacity to register the movement and humidity of air are all sensory channels through which the expansion and quality of the room as space are perceived, as well as moving about, measuring the span of the room with one's steps. But a mere description of the atmosphere and sensory properties of the crypt will not suffice; the *modus operandi* must answer to a level of applicability general enough to be transferable to other contexts as well. To this end, a research question needs to be formulated against which the procedure of analysis can be tried. The question will be in what way the crypt as space is constitutive of the crypt as a sacred room, a sanctuary. The obvious answer, of course, would be to point to its plan, with a central apse and two lateral recesses for altars as liturgical foci for the celebration of mass.[7] What I aim for, however, amounts to more than an exposition of how the layout of the

4. Pallasmaa 2012, p. 68.

5. Vidler 1998, p. 105.

6. Accordingly, in preparation for this chapter I spent just short of six hours in the crypt on a Thursday in October 2022.

7. This is the approach taken by, for example, Harold Turner and J.G. Davies, in their respective studies of the architecture of the Abrahamitic religions as expressions of how the Divine is defined vis-à-vis the sanctuary as a physical location; and by John Renard who devises a method to investigate how architecture communicates the theological beliefs and spiritual convictions of religious communities. Turner 1979; Davies 1982, pp. 125–127; Renard 1996.

crypt answers to the liturgical requirements. I aspire to a fuller understanding of what might with a somewhat prosaic phrase be described as the mechanics of the architectural space of a sanctuary: in this case, the crypt of Lund Cathedral.

Approaching the object. Description and theory

The theoretical framework that will be applied for the investigation builds on phenomenology tinted with anthropology and hermeneutics. I will expound on the constituents of the theoretical apparatus as I go along; but since theory is but a lens, a device to use when looking at things, I wish first to introduce the object of investigation, the crypt. Despite the initial questioning of the sufficiency of the means provided by architectural history and terminology for a communication on a space such as the crypt, the merits of an adequate vocabulary for description cannot be overestimated, both for the sake of economy and exactness, and for the inherent cognitive value of words. The following account is intended to set the scene, so to speak: it aims to communicate the essentials of the crypt in architectural terms to the reader, thus hopefully making it easier to grasp the spatial qualities that are the main point of interest here (fig. 3).

The crypt extends under the transept, chancel and apse of the upper church. The transept part of the crypt is divided into three equally large modules, each in its turn consisting of nine bays, arranged three by three. Two pairs of massive piers with semi-engaged columns on all four sides separate the central module from the ones to the north and the south. The 27 bays are covered by round-arched groin vaults supported by the piers, twelve freestanding columns and twenty semi-engaged columns in the walls. In both the north and the south transept arm, the mid-section of the east wall opens onto vaulted recesses that at one time contained side altars. A pair of piers carry the transverse arches that join the central transept module to the chancel. The north and south walls of the chancel curve into the apse; hence the ground plan of the chancel is elongated compared to the transept modules, with the apse forming an additional bay and the twelve vaults being carried by six freestanding columns, plus the piers.

A total of eleven of the crypt's columns are decorated. The shafts of six columns of the apse and one column at each end of the transept are patterned in relief with ridges or tori twisting around the shaft, wavy bulging stripes, more complicated grids of angular bars climbing

stepwise along the shafts, or curving stems interlacing with vertical posts for a trellis-like effect. One column shaft in the north section of the transept is of square section and is more subtly moulded in large convex quadrangles, three on each side. Two columns display figurative sculptures. Next to the north entrance is the so-called "Finn column" where a male figure, long tresses cascading down his back, embraces the column with both arms.[8] Uniquely for the crypt, the capital above his head is richly decorated: four small, sternly staring corner figures are entangled in the ribbed leafy stalks twining over all four faces of the capital. On the corresponding place in the south end of the transept two smaller figures have attached themselves to the column, one by wrapping arms and legs around it, the other by being squeezed tight between the shaft and the head of the first figure.

The crypt is furnished with two early 16th-century sculpted works by the master mason Adam van Düren: the northernmost section of the transept holds a wellhead constructed from four slabs of stone decorated with somewhat enigmatic motifs in relief, and the central bay of the chancel is occupied by the huge sarcophagus of Archbishop Birger Gunnersen (d. 1519). Grave slabs, some raised and others on a level with the pavement, fill the floor space of several bays in the transept arms and chancel; they were transferred from the upper church to the crypt in the 19th century. The most recent addition to the crypt is a stained-glass window in shifting shades of blue, red and golden yellow. It was created by glass artist and designer Erika Lagerbielke for the apse's easternmost window, where it was installed in 2023.[9]

The above account settles the formalities but does nothing to communicate a sensation of the crypt as space: in plain words, what it feels like to be there. This might seem like a simplistic issue to raise in a scholarly context: to feel, or sense, is a subjective experience of a kind that, it could be argued, is irrelevant for architectural analysis. With regard to space, however, the reverse applies: Juhani Pallasmaa's phenomenological

8. The name derives from a folklore tale where the figure is identified as a giant named Finn who was tricked by St Lawrence into building the cathedral. Scholarly interpretations abound: the north ("Finn") column figure has been interpreted as Samson, and the south column figures as children that according to a legend told by Gregory of Tours miraculously raised a column that no grown men could move. Other suggestions include the pair of column sculptures taken together as generic representations of God-sent strength, as representations of the Boaz and Jachin bronze pillars in the Temple of Solomon, or simply as construction workers. Carlsson 1976, pp. 78–86; Rydén & Lovén 1995, pp. 50–53.

9. Cf. Liepe 2024.

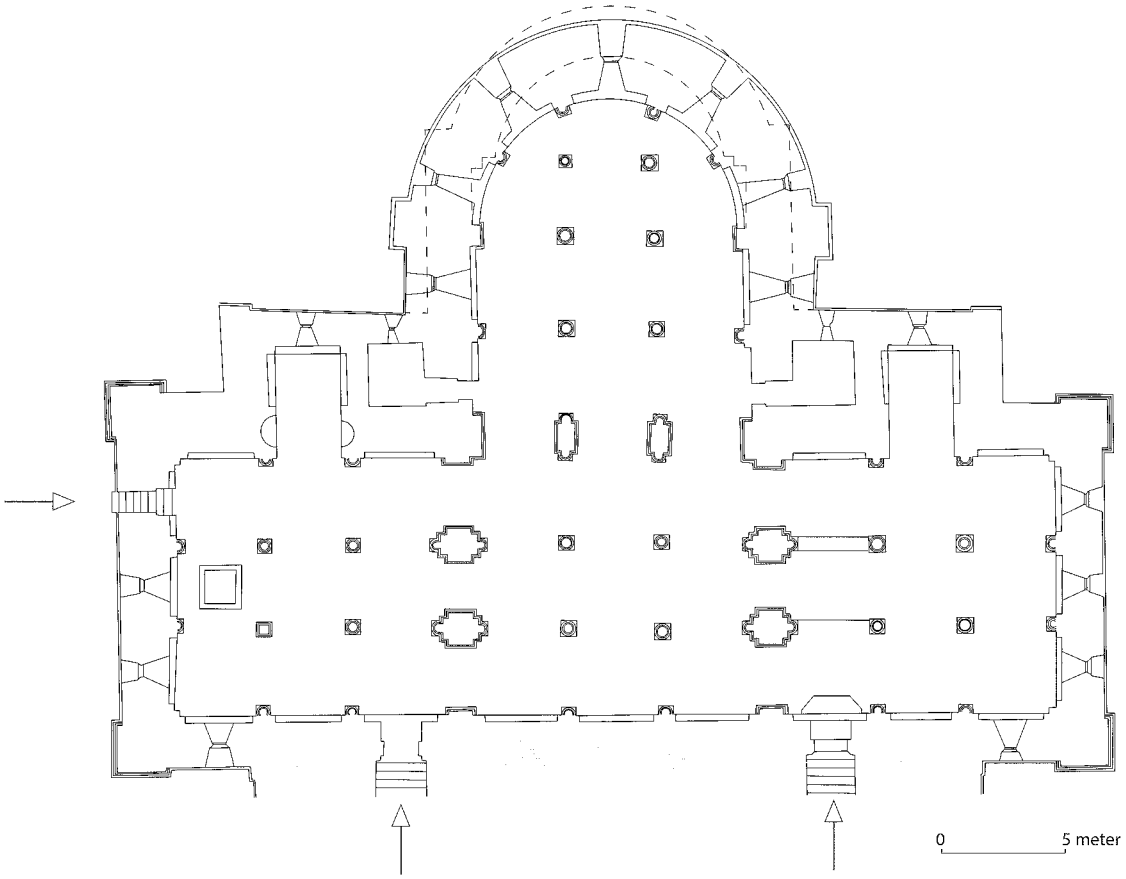


Figure 3. The crypt of Lund Cathedral, ground plan.

equation of architectural space with lived space is another way of saying that space, rather than being an immaterial object delineated by material surfaces, is a function of dynamic interactions and interrelations with the body that experiences it.[10] More than this, body and space are mutually contingent in that the body cannot be perceived separate from its domicile in space, whereas space—indeed, the world—is not knowable exterior to perception; the "objective", scientifically explainable world is only a second-order expression of the silent world of actual experience which precedes knowledge.[11] Human existence is premised on the embodied engagement with the material world; the body, says Maurice Merleau-Ponty, is the general medium for having a world.[12] Its spatial and temporal dimensions are embedded in our existence: our body *inhabits*

10. Pallasmaa 2012, p. 68.
11. Merleau-Ponty 2005, pp. xviii, 66; Pallasmaa 2012, p. 44.
12. Brück 2005, p. 46; Merleau-Ponty 2005, p. 169.

space and time.[13] "I am not in space or time, nor do I conceive space and time; I belong to them, my body combines with them and includes them. [...] our body is not primarily *in* space; it is of it."[14] Because the vital channel of communication between body and world is provided by sense experience, the qualities thus perceived always involve a reference to the body.[15] Translated into a discourse on the crypt, this implies that it is the sensation of the crypt as architectural space—"what it feels like to be there"—that constitutes its primary meaning for the experiencing subject. In comparison, renderings of the architecture into ground plans and stylistic categories are retrospective rationalizations with little bearing on the actual experience.[16]

Another expression for what the crypt as space feels like might be atmosphere. According to Gernot Böhme, architecture consists essentially in the production of atmospheres.[17] Pallasmaa points to how we, upon entering a space, grasp its atmosphere immediately, before we identify its details or understand it intellectually; the perception of the overall character of a built environment—whether an architectural interior or a city—is an intuitive, emotive capacity that works independent of conscious reasoning.[18] Philosopher Gerhard Thonhauser has recently observed that the research interest in moods and atmospheres is on the rise.[19] Thonhauser widens the perspective by reviewing the history of the German term *Stimmung*, a word that encompasses the whole semantic field of mood and atmosphere. In 'Sein und Zeit' (1927), Martin Heidegger makes the central claim that *Stimmung* can be sought neither in the individual mind—it is not a mental state or grounded in psychology—nor in objects and environments external to it: it exists in the relationship *between* the subject and the object, attuning the being-in-the-world as a whole.[20] In an application on architecture, David Seamon seizes upon Edward Relph's distinction between *sense of place* and *spirit of place* in arguing that architectural atmosphere, the sensing of a "mood" or ambience as distinctive of a certain site, is the product of a two-way communication: that of an awareness, often tacit and beneath consciousness,

13. Merleau-Ponty 2005, p. 161.
14. Merleau-Ponty 2005, pp. 162, 171.
15. Merleau-Ponty 2005, p. 61.
16. Merleau-Ponty 2005, p. 61; Johnson 2013, p. 383.
17. Böhme 2017, p. 70.
18. Pallasmaa 2014, pp. 20–26; 2017, pp. 132–136.
19. Thonhauser 2021, p. 1247.
20. Heidegger 1927; Thonhauser 2021, p. 1261.

which radiates from the experiencing individual toward a place ("sense of place"), and a quality radiating from the physical environment toward the experiencer ("spirit of place"). By this, Seamon assigns to architecture a part in sustaining the human faculty to feel the uniqueness of a particular environment; it is the qualities of the experiencer and qualities of the built world taken together that contribute to the relative atmospheric presence of a building.[21]

A prerequisite for Seamon's model to qualify as phenomenology has to be that the "spirit of place" only exists as a sensible experience when it is processed as such by the receiver's perception. A variant approach that takes account of the agency of architecture without bothering too much about the perceptual conditions is the exploration of built structures in terms of "affective spaces". This is the *leitmotif* of anthropologists who have taken an interest in sacred architecture, i.e. buildings that function as religious *foci* by force of being formally consecrated and thus transformed into hallowed sites, or in more general terms by being sites where supranatural powers are ritually approached, venerated and appealed to. Thus, Oskar Verkaaik ascribes a power of affect to sacred edifices, activated in a dynamic interactional relationship between the building and the believer. By limiting or directing movements, impressing visitors, affecting the senses and evoking connotations, sacred architecture exerts influence on human experience and provides opportunities for processes of identification—and, it might be added, dissociation.[22] Pooyan Tamimi Arab likewise acknowledges elements of agency in sacred architecture, in reference to Bruno Latour's notion of symmetrical anthropology: "[a] Muslim does not only pray in a mosque, he is not only a subject or a mosque-user, he is also called to prayer by the mosque and in that sense the object of the mosque's attention. [...] buildings can be said to have 'psychologies' that affect the humans who use them."[23]

21. Seamon 2017, p. 255; cf. Pallasmaa 2014, pp. 20–21 on atmosphere as an exchange between the material properties of a place and the subjects' immaterial realm of projection and imagination. Yet a theoretical matrix is offered by French anthropologist Michael Chambon who, in an article on Christian churches in China, outlines an understanding of the agency of architecture from an actor-network theory perspective. Chambon approaches the churches as "actants" in a net of relations that includes everyone and everything in their surroundings: Christian and non-Christian laypeople and clergy, Chinese geomancy and history, and even gods, ghosts and ancestors. "It is from the multiplicity of these relations and influences", says Chambon, "that Christian churches come to act and ultimately transform local worldviews" (Chambon 2017, p. 118).

22. Verkaaik 2013, pp. 12–13.

23. Tamimi Arab 2013, p. 56.

What anthropology contributes to the theoretical substructure of this chapter is a foregrounding of the architectural space as a force to consider on a par with the human actor, though still within the phenomenological confines of sensory experience as the fundamental premise for perception and, based on this, cognition. In accordance with the anthropological recognition of the agency of space, the analytical perspective will be constructed to point *from* the crypt *towards* the experiencing subject, posing questions such as:

- Where does the crypt situate me as a visitor?
- How does it address me?
- How does it use me?
- How does it talk about itself? What does it say?
- What are its material qualities? How do its surfaces relate to its volume?
- What is its time? How does it measure time?

The walk

Since the starting point of my inquiries is an imagined teaching scenario, I will proceed by walking (quite literally) my group through the experience of the crypt as space, ending up, hopefully, with an understanding of its distinctive character as a room formed by the circumstances for and under which it was constructed, both spiritually and materially.

This is how we will proceed. We walk towards the entrance of the crypt in the east end of the upper church's south aisle (fig. 4). Our steps echo in the large, vaulted space that we are traversing, but as we descend the stairs and approach the opening into the crypt, the surfaces of the ashlar walls on both sides of the stairs and of the archivolt muffle the resonance into a dry, nearby sound, thus heightening the feeling that the space tightens around us for a moment. Visually we register the hues of the masonry, shifting between a stony grey and a pale reddish yellow, and the progressively deeper archivolts that frame the arched opening, making it resemble a funnel that pulls us down- and inwards. We notice the sculpted angel above the opening and, if we are attentive, also the strings of palmettes and *fleurs-de-lis* in low relief that run along the two outermost archivolts; but we may be too preoccupied with not tripping on the stairs to look up at this stage.

We pass through the opening and linger for a moment on the landing that leads from the stairs to the paved floor; partly to adjust our eyes

to the dim light of the crypt, partly to get a first overview of the room before us. When we step down and advance a little into the room, we sense a slight increase of humidity in the atmosphere. The sound caused by our walking again swells into a reverberation that reveals to our ears the expanse of the crypt, but also, in comparison with the upper church, its considerably lower height. The acoustics are such that the smallest movement causes a noise that can be heard across the room, and we automatically lower our voices (if we speak at all) in adaption to this. Faint sound from the outside makes its way into the crypt and reminds us of the outer world: people talking in the upper church, the distant but clearly discernible peal of the cathedral's bells, the low murmur of the traffic on the street in front of the cathedral. If we happen to arrive in the morning, we may sit in on the daily pilgrim's prayer. The soft chanting of the priest, settled on a chair in the chancel, resounds from the vaults and fills the entire room. The words cannot be heard distinctly unless one is close by, and the voice seems to come from everywhere.



Figure 4. Lund Cathedral, the south entrance to the crypt.

This is what we hear. What do we see? Depending on the time of the day and the weather conditions, the crypt is illuminated by daylight falling in from the east, south or west through the small, round-arch windows that are placed well above eye level, deeply recessed in the masonry, and set with semi-opaque glass. The sections of the crypt nearest to the windows are more brightly lit, and the gradation from light to increasing dullness articulates the room as a three-dimensional volume (fig. 5). In addition, spotlights on thin metal bars that run beneath the vaults spread an artificial yellow light across the room. The many columns and piers crowd the field of vision in all directions, to the extent that the layout of the crypt is not easily grasped, at least not at first sight. The lack of a clearly indicated spatial orientation towards a centre leaves visitors free to choose their route. Most tend to wander from the entrance in the south-western part of the transept, towards the crossing where many arrest their steps at the sight of the stained-glass east window, floating like a mirage of light in the dusk. They then either advance further into the chancel to take a closer look at the window and, perhaps, circle the



Figure 5. The crypt of Lund Cathedral, south transept.

archbishop's sarcophagus (fig. 6), or else head for the north section of the transept, where the column-hugging "Finn the giant" and Adam van Düren's wellhead are to be seen (fig. 7). The grave slabs influence the routes taken by the visitors: most slabs rise only 10–20 centimetres above floor level, but it is rare to see people climb them, and some even avoid stepping on the slabs that are inserted on a level with the pavement.

To stroll at a slow but steady pace from one end of the transept to the other takes about 40 seconds. To circuit the entire room along the walls at a similar tempo takes between one and a half and two minutes. To a visitor tuned into her or his immediate surroundings (and not only intent, as many seem to be, on seeking out "Finn the giant"), it is an eventful promenade: as one moves along, the vista changes continuously when the relative positions of the columns and piers shift in one's visual field. The dense distribution of columns and the pronounced longitudinal and transverse arches make the bays appear as distinct spatial units, with the effect that the larger space of the crypt is divided into a multitude of sub-spaces or rooms-within-the-room that open up and then disappear out of sight again as one walks on. The varied surface ornaments on nine of the columns also contribute to the excitement, plus of course the two columns with sculpted figures. Visually, the walk is a highly three-



Figure 6. The crypt of Lund Cathedral, the chancel.

dimensional experience: the slow gliding, as one passes by, of the columns from the focused sphere of one's vision to the periphery, and then out of the visual field entirely (but leaving an awareness of them still being there, behind one's back) produces a strong sense of being enveloped by the crypt as a continuous expanse: as space. The stained-glass window, the sarcophagus, the wellhead and the "Finn" column constitute breaks or stopping places before which the journey momentarily comes to a halt (figs 6–7).

It would run against the whole idea of this project if I merely told my followers all these things. Instead, I would begin by sending them on their own explorative mission, with the instruction to make a tour of the crypt and alert their senses to what it feels, looks and sounds like. When we gather again my task would be to verbalize a discourse on the crypt as a sacred room with a history, in a manner that resonates meaningfully with the experience of the room as, in the words of Christopher Tilley, "space made tangible, visible, and sensible".[24]



Figure 7. The "Finn column" in the crypt of Lund Cathedral.

24. Tilley 1994, p. 17.

Sound and movement

It may not be apparent from the above, but strictly speaking, the two parameters by which the sensation of the crypt as space can be gauged are sound and movement. Visually, an architectural volume can be perceived only indirectly, by mentally multiplying its three dimensions.[25] We cannot "see" spatial volume: what we see are the surfaces that delimit it. We can, however, hear it. Aurally, we sense the volume of a room by the resonance of sounds emitted in it. "[T]he sound measures space and makes its scale comprehensible", says Juhani Pallasmaa: "We stroke the boundaries of the space with our ears."[26] All sounds are the result of dynamic actions that produce sound-waves, and so a necessary constituent for sound to arise is movement. In a space such as the crypt, the main source of sound is bodily movement: one's own or that of other visitors. To move about is also to measure the room with one's body, to calculate its area by means of one's steps, and to project one's bodily proportions onto the dimensions of the room and its structural components.[27]

The realization that architectural space cannot be grasped visually is potentially dismaying to an art historian, and it is also a powerful reminder that the standard photographic illustrations of church interiors (as of interiors in general in art-historical literature) fail to capture built structures as material sites for actions, events, situations and experiences: the sum of which David Seamon equates to buildings understood phenomenologically as lifeworlds.[28] Photographs of architectural interiors normally show them empty of people, detached from the functions for which they are built, and preferably lit by an even, cool light that makes the structural details appear as sharp and distinct as possible, but does little to communicate the atmosphere of the room; at least not in the sense that this evasive quality is defined by Seamon, namely, as a complex, diffuse, invisible, never fully graspable or describable "mood" that is nonetheless often the most significant effect of a space or building. "[A]rchitectural and place atmospheres [...] are not brought to awareness or identity via vision alone but incorporate a wide range of lived qualities that include sound, tactility, emotional vibrations, an active presence

25. Blesser & Salter 2006, p. 21.
26. Pallasmaa 2012, p. 55; cf. Rasmussen 1962, pp. 226–237, on what it means to hear architecture.
27. Casey 1997, p. 229; Pallasmaa 2012, p. 71.
28. Seamon 2017, p. 248.

of things and spaces"[29]—none of which a visual, two-dimensional rendering can even remotely do justice to.

Being physically present in the crypt, however, will allow me and my group both to attune our senses to the atmosphere and to take the intellectual and theoretical position that comes with paying attention to visible form.[30] At this stage, the set of questions formulated above may bring us forward. So, where does the crypt situate us, how does it address us, how does it use us, what does it have to say about itself, what are its material qualities, and what about time? A first observation would be that the crypt is a non-restrictive space, in that it does not command us to follow a certain course or go in a specified direction; on the contrary, its composite character, and the fact that parts of the room are always hidden from view no matter where one stands, invite exploration. At the same time, by force of its overwhelming materiality, it is a commanding room. The presence of massive, solid stone makes itself felt everywhere: stone surrounds the visitor on all sides and is a cause of the clearly perceptible humidity of the air. Visually the crypt states its structural design in no uncertain terms: each bay, consisting of four load-carrying supports and a groin vault marked off by two pairs of perfectly semicircular arches, can be read as an example of the modular constructional principle that underlies the crypt's layout.

Although the crypt as a whole encourages meandering, within the confines of a bay the visitor may have the sensation of being firmly positioned vis-à-vis the module. One might even feel quite ensconced in the "safe space" of the bay: partly because the vault forms a shielding canopy above one's head ("[a] semicircular vault, [...] is in fact a form of embracement"),[31] partly because the proportions of the columns correspond to the human body. The columns measure 1.95 meters from base to capital, meaning that someone of medium height is, so to speak, roughly on eye level with them (a notion that is not as far-fetched as it may seem, considering that columns have been seen as embodiments of human qualities since Antiquity).[32] In contrast, the distance from the floor to the apices of the transversal and longitudinal arches is 3.15 meters, mak-

29. Seamon 2017, p. 254; cf. Pallasmaa 2014, pp. 38–39, with a similar observation on the inability of photographic images to render the embracing character of peripheral perception ("the perceptival mode through which we grasp atmospheres"), encompassing not only unfocused vision, but also hearing, smell and touch.

30. Cf. Pallasmaa 2017, p. 133.

31. Davies 1982, p. 152.

32. Onians 1988, pp. 4, 34, 162–165.

ing persons look small in comparison when seen at some distance. The visitor thus becomes one of the means by and against which the crypt measures itself. In doing all this, it asserts itself as a structure with a strong material presence that exercises control over the senses; over the kinesthetic self-awareness of the position and extension of one's body, over movement and hearing (as explained above), and not least over sight. Wherever one looks, columns and arches frame the gaze and direct it either along the main axes of the room, or diagonally across them.

Moreover, the stony surfaces that define and delimit the spatial volume of the room speak eloquently of time.[33] One does not need to be aware that the finely cut, smallish (in comparison to those of the upper church) sandstone ashlars of the walls, the columns likewise made from sandstone, and the tufa stones of the vaults, were hewn and put in place in the 12th century in order to recognize that the crypt has existed for a very long time.[34] For Juhani Pallasmaa, such an insight implies an emancipation from the present: the awareness that buildings are manifestations of time cycles that surpass individual life makes the passing of history visible and graspable.[35] But buildings are also of the present; the crypt is in daily use as a liturgical space and receives numerous visitors all year round. Lindsay Jones points to how built structures in which people continue to live, work and worship are, in a certain sense, perpetually new, even when, in fact, old. In every material object with a history, the past is linked to the present, or embedded in the present.[36]

On a microscale, this embeddedness applies also to the momentary experience of the crypt as space. Spatial volume is apprehended first and foremost through sound and movement, and both entail time: the temporal dimension is constitutive of hearing, and of any perception of movement. In contrast to light waves, which move instantaneously and thus do not communicate a sense of time, sound-waves traverse a space with perceptible speed, so that when the space produces a reverberation or echo, it is the sound of the past we hear.[37] And movement is registered as a change of location—as in the case of a person, of a limb or of the entire body—from where it was a moment ago to where it is now. Thus, not only in the idea of the crypt as a monument from the past that

33. Pallasmaa 2012, p. 34.
34. Sundnér 1997.
35. Pallasmaa 2012, p. 56.
36. Jones 2000, pp. 143–145; Knott 2005, p. 23.
37. Blesser & Salter 2006, p. 16.

continually greets new visitors, but also in the on-the-spot sensorial registration of the crypt as space, is the past built into the present. This insight offers a cue for the discourse on the historical layers of the crypt that is one of my objectives to communicate to my audience.

Sacred space

After this unravelling of what the crypt is, does and states in material terms, it is time to move on to the question of how all this relates to its being a sacred space, and a space with a history. In my approach I will follow the lead of Kim Knott in her refusal of any idea of space as *inherently* sacred. She quotes Andrew Merrifield's definition of place as practiced space, i.e., a terrain where social practices are lived out, whereby the space becomes a place equipped with specific user values.[38] For Knott, a religious ritual is a sacred-making practice or behaviour that produces sacred space: "[r]itual *takes* place, and *makes place* in this sense." Sacred-making spatial practices are not intrinsically religious either; ritual practice is simply practice transformed by religious meaning.[39] Along similar lines, Lindsay Jones calls for what he describes as "a more eventful approach to sacred architecture",[40] and proposes a redefinition of the very concept of sacred architecture as made up, not of buildings, but of "ritual-architectural events". For Jones, the meaning of a building such as a church emerges within the confines of the performative occasions in which it is but one player, alongside the people that partake in the ritual seen as a hermeneutical game of meaning making. The resulting meaning, and perhaps even the very being of the building, lasts only as long as the ritual, or performative occasion, takes place.[41]

Nonetheless, once a space is brought into existence—or, with Tilley, has been made "tangible, visible, and sensible"—by the built structure of which it is a function, it conditions the activities that take place within its confines. Frank Burch Brown compares the disposition of sacred spaces in different religious traditions (Chinese temple architecture, Catholic and Protestant churches, and Islamic mosques), in support of the view that a tradition's dominant sacred space shapes the worshippers' characteristic perceptions of the sacred in particular ways. "If places can be made and used in such a way as to mediate a particular sense of

38. Merrifield 1993, p. 522; Knott 2005.
39. Knott 2005, p. 43; see also Kilde 2008, p. 7.
40. Jones 2000, p. 46.
41. Jones 2000, pp. 48–52.

the sacred, this means that the sacred is partly defined and created by material making."[42] Jeanne Halgren Kilde also brings the users into the equation when she cites Jonathan Z. Smith's argument that the ways in which religious sites organize and arrange the people who use them contribute importantly to the perceived holiness of a place.[43] Consequently, the question to ask is: By what means does the architectural space of the crypt engender behaviours that define the space as sacred?

The answer, it seems to me, lies in the crypt's quality of being a room that manifests itself as fundamentally different from the outer world; a world from which it is, furthermore, set apart by the thick walls and the high-placed windows that preclude all view of the outside. The existence of exterior surroundings is perceived only through faint sounds penetrating from the outside, and shadows cast by foliage dancing on the semi-opaque windowpanes when there is sunshine. The room's own acoustics magnify every sound, inducing the visitor to adjust her or his behaviour accordingly: one speaks in a low voice and moves quietly. The sonorous, reverberant soundscape of the crypt is yet a distinctive trait that, perhaps more than anything else, enhances the visitor's awareness of the space as an entity with an intense presence. The otherness of the crypt is further accentuated by the shadowy twilight atmosphere that prevails all through the day. The mid-section, or crossing, is furthest from the windows and is hence the darkest part of the room (although nowadays lit by spotlights). John Renard quotes a line by Dylan Thomas: "Dark is a way and light is a place", as a poetic way of suggesting that dark is a condition through which one moves, whereas light is an invitation to come to rest.[44] If Thomas is to be taken literally, the contrasting lighting conditions bear on how the crypt pilots the visitor to certain parts of the room.

This, however, opens for an intriguing aspect of the crypt as a sacred space, or in any case a Christian sacred space, namely, its lack of a clearly indicated direction towards the focal point of the room, liturgically speaking. The typical Christian church is a rectangular hall that ushers the visitor ahead from the western entrance towards the chancel and the altar in the east end. Also in centrally planned churches, e.g. in the

42. Brown 2000, p. 211.
43. Smith 1992, pp. 56–60; Kilde 2008, p. 7.
44. Renard 1996, p. 118. The line is from Dylan Thomas, 'Poem on His Birthday' (Renard 1996, p. 191). The poem is at https://www.poetryverse.com/dylan-thomas-poems/poem-on-his-birthday, accessed 12 March 2025.

Eastern Orthodox building tradition, the chancel with its altar behind the iconostasis is a definite centre of attention.[45] The crypt, however, appears to the visitor as a kind of floating space where the forest of columns that demarcate the bays—the rooms-within-the-room—extends in all directions. The impression is heightened by the fact that one enters the crypt not from a centrally placed opening, but from the stairs in the south- and north-western ends. Hence, the chancel is at first hidden from view, and appears in sight first after one has proceeded laterally some way towards the crossing. In this, the crypt is not unlike a mosque. Mosques of the so-called open-plan type are multidirectional, with a profusion of pillars and arches in the hypostyles, or pillar halls, that can be added to if more space is needed. The *mihrab* or niche that indicates the direction—*qibla*—to the Kaaba in Mecca which Muslims should face when praying, is not a sacred focus in itself and hence does not determine the spatial structure of the mosque in the same way that the altar of a Christian church normally does.[46] In the crypt, the recent addition of new stained glass to the window in the wall of the easternmost bay has increased the spatial-liturgical weight of the altar below: the black contours of the cames that hold the glass panels together create a perspective in depth that draws the beholder forward into the chancel, to the altar.

There is, of course, a rationale behind the layout of the crypt. Its three altars—the still-extant main altar and a (now-missing) side altar in each of the recesses in the south- and north-eastern walls of the transept—were inscribed in the original plans for the crypt. The main altar was inaugurated in 1123, and when the south side altar was consecrated in 1131, the transfer of the liturgical functions from the pre-existing church of the bishop, which preceded the present cathedral, to the crypt was completed.[47] The main obligation of the canons who constituted the cathedral clergy was to perform the daily services: the reading of the hours and the celebration of mass.[48] The crypt formed part of this liturgical infrastructure, and mass must have been celebrated at all three altars on a regular basis, presumably daily.[49] The rule of the Lund Cathedral chapter specifies that the mass was to begin and end with a procession,

45. Brown 2000, pp. 208–209; Kilde 2008, pp. 52–59.
46. Davies 1982, pp. 125–127; Jørgensen 2010; Giudetti 2017, p. 134.
47. Cinthio 1957, pp. 15–16, 49, 57–58.
48. Ciardi 2003, p. 17; 2004, p. 109.
49. Karlsson 2015, pp. 196–199.

and for this the crypt is eminently suited, with its multiple axes at right angles framed by the columns' line-up along the procession route.[50]

Knowledge of the crypt's original use, however, does not diminish the relevance of the contemporary visitor's experience for the understanding of it as a sacred space. Lindsay Jones underscores that the entire reception history of a building as a ritual-architectural event must be considered for the interpretation of its qualities as sacred architecture; *all* "human–monument hermeneutical conversations" are valid evidence when the building's meaningfulness as a site for ritual occasions is sought to be established.[51] This includes the contemporary visitor's encounter with the crypt *hic et nunc*. Furthermore, a potential recognition of the sacredness of the crypt hinges not only on the ritual-architectural performativity it engenders, but also on the visitor's previous experiences and preconceived notions of sacred spaces. To describe the crypt in terms of a mosque might seem like a didactical approach designed foremost to trigger the recognition of an audience with a Muslim identity. This is a fully legitimate objective, but in the present context, the analogy aims further. It begs the question of possible generic, behaviour-inducing elements in sacred architecture across religious persuasions.

Among the essential qualities of sacred edifices in the main, it seems to me, is the "otherness" of the inner space, an otherness that sets the sacred interior apart from its surroundings. The distinction comes in many forms: the experience of awe-inspiring interior vastness, as in cathedrals and mosques of monumental proportions; or the sensation of descending from daylight into the perennial dusk such as reigns beneath the vaults of the Lund Cathedral crypt. Vaults and domes are frequently seen as representations of Heaven in both Christian and Muslim contexts.[52] The symbolic values aside, the acoustics produced by stone vaults—and walls—are fundamental for the perception of an interior space as charged with a presence that exceeds the visitor's own being. The slightest motion generates sound-waves that travel through the space and resonate back towards the source. The visitor thus becomes acutely aware of the space as an autonomous factor, almost a force, that conditions and regulates the visitor's behaviour by broadcasting every movement made. Yet a common

50. Ciardi 2003, pp. 64–68.
51. Jones 2000, pp. 29–48, 146.
52. Turner 1979, pp. 190, 272; Kilde 2008, pp. 56–60; Unwin 2014, p. 180; Mostafa 2021, p. 15.



Figure 8. World Trade Center car park, Växjö.

feature of sacred interiors is the exclusion of any view of the outside by the windows—if there are any at all—being set well above eye level.

Finally, and somewhat in contradiction to the foregrounding of space that is otherwise the main concern of this chapter, the materials of the visible, and touchable, surfaces of a sacred space often differ quite markedly from those of more mundane surroundings. In the crypt, the masonry of the paving, walls, vaults, piers and columns fuse into an indoor landscape of stone quite unlike anything met with elsewhere—the closest equivalent would, perhaps, be underground or multi-storey car parks (fig. 8). (This makes for a thought experiment: why does an indoor car park *not* effuse a sense of sacredness comparable to the atmosphere of the crypt? The answer lies partly in the prosaic building materials used in the former—steel, concrete, LECA slabs[53]— although strictly speaking the raw concrete surfaces of the car park should not count among the distinguishing features, on account of there being a number of modern churches built in the Brutalist architectural style, with bare concrete walls where casting impressions and abrasions remain.[54] Aside from this, and disregarding the obvious difference that lies in the presence of cars and the noise and pollution they emit, the modulation of space by means of height and light is very different in an indoor car park. The interior

53. Slabs made from expanded clay (Lightweight Expanded Concrete Aggregate, LECA).

54. Cf. Bartolacci n.d.

height need not be more than 2.1–2.2 meters, and light tubes are used for illumination, ideally creating an evenly diffused, white light that leaves as few shadowy nooks as possible.[55] When stamping one's foot on the concrete floor, the reverberation that bounces against the low, flat ceiling comes out as a short, metallic ringing. Overall, an indoor car park level is just that: an empty, unarticulated shell without shape or orientation. It exudes nothing in particular: it is a blank space, made not to linger in, but to pass through and leave. However, in accordance with Kim Knott's definition of sacred space as the product of sacred-making rituals, it is quite possible to imagine an indoor car park being transformed into a hallowed space if used as one, for instance, if a small shrine in remembrance of something that had taken place at the site was installed in a corner.)

The historical layers

So much for the generic otherness shared by sacred spaces of different cultures and religions. What of the particularity of the Lund Cathedral crypt, configured by historical layers that make the room unique in comparison to all others? Materially speaking, although quite a few blocks of the ashlar are 19th-century replacements, the stonework bestows on the crypt an aura of great age, heightened by the bareness of modern fixtures (the bars with spotlights beneath the vaults). Is "ancientness" a quality that conveys sacredness on a par with otherness? The answer is a conditional yes; not, of course, as an absolute requisite, but in the sense that the awe inspired by the feeling of standing in a room that has existed for almost a millennium adds to the solemnity of the experience. Later additions, most recently the stained-glass window in the apse, prevents the crypt from turning into a mere historical space—a museum. The window is a token of the crypt's continued existence as a sanctuary and links the ancient past of the masonry to the present.

The historical layers of the crypt are what art historians normally concern themselves with. I opened this chapter by airing a discontent with the conventional art-historical discourse on architecture as a means to make sense of the crypt as a spatial experience. In conclusion I wish to

55. The Swedish SIS standard for indoor car parks (SIS 05 01 50, valid from 15 February 1978 but since abolished) stated an interior clearance height of 2100 millimetres for indoor car parks (*Svenska institutet för standarder*, https://www.sis.se/produkter/byggnadsmaterial-och-byggnader/byggnader/allmanna-byggnader/ss50150/, 12 March 2025).

return to the question of art history's place in an exploration of the crypt along the lines suggested above. It may be that an art-historical approach alone does not do justice to the experiential qualities of the space; still, without an insight into the time-specific constants of particular groups of artworks and buildings—or, with George Kubler, into the temporally conditioned formal sequences that divide shaped artefacts into form-classes—the understanding of the historically concrete groundedness of the works in question is lost.[56] In other words, to recognize the formal features of the crypt, the modular layout, the rounded arches, the cubic capitals, and the mouldings of the bases and echini, as belonging to the architectural vocabulary of the early 12th century is to acknowledge the integrity of the crypt as a historically situated entity.

This is important: although the perception of the crypt as space is of necessity subjective and influenced by contemporary values, its very materiality entails that it cannot be described arbitrarily in any way one pleases. The historical conditions and the range of available artistic choices that have determined its realization constitute what Ernst Gombrich describes as a "structured situation", i.e. the conventionalized style, outside which an artwork or monument logically cannot occur.[57] What art history as a discipline has to offer is a conceptual framework for ordering and defining the vast universe of artistically shaped artefacts vis-à-vis the points of reference that make up these "structured situations". An art-historical explanation of the crypt as an example of 12th century Romanesque does not exhaust its significance, but it provides a fixing in time and geographical space that confirms its singularity *and* serves to heighten the awareness of its material properties as an essential factor for the experience of it as space.

And, to repeat the just-stated: this experience is subjective. Although my exposition of the sensorial perception of the spatial and material qualities of the crypt may seem to presuppose that the sensations I describe are common for all, this is far from so; in fact, they are entirely subjective to the extent that I cannot objectively prove that anyone but me takes in the crypt in this exact manner. A disabled person, for instance, who cannot walk about may experience the room quite differently, not to speak of how a person with impaired hearing is partly or entirely deprived of the aural dimension that is fundamental for the sensing of the

56. Kubler 1962, pp. 33–37.
57. Gombrich 1968; Jones 2000, pp. 82–83; Brück 2005, p. 58.

crypt as a spatial volume. And I in my turn have a hard time imagining how the crypt as space is perceived by someone in a wheelchair, or with a hearing impairment, or with reduced eyesight. It can work both ways: a person with a sensory impairment can develop increased sensitivity in other senses to compensate.

Theoretically this chapter is premised *inter alia* on phenomenology, a school of thought that has been criticized for a totalizing tendency to assume that the experiences of the individual theoretician represent universal and timeless sensibilities shared by all.[58] Although this pitfall should be avoided at all costs, the inherent subjectivity of the enterprise undertaken in this chapter does not undermine the effort as such. When subjectivity comes into play, what is taken to be objectively true about the crypt is in part replaced, or at least supplemented, by the unknowable. Rational certainty might to a degree be put on hold whereas new dimensions of thought are revealed. Intersubjectively speaking, the cognitive gain lies in the shared realization that the experience of a built space, sacred or not, starts and ends in one's own bodily engagement, regardless of what forms this insight takes in each specific case.

Bibliography

BARTOLACCI, JAMES n.d. '7 concrete churches resurrecting brutalist architecture', *Architizer*, https://architizer.com/blog/inspiration/collections/concrete-church/, accessed 28 November 2022.

BLESSER, BARRY & LINDA-RUTH SALTER 2006. *Spaces Speak. Are You Listening? Experiencing Aural Architecture*, London & Cambridge, Massachusetts: MIT Press.

BÖHME, GERNOT 2017. *Atmospheric Architectures. The Aesthetics of Felt Space*, trans. A.C. Engels-Schwarzpaul, London & New York: Bloomsbury Academic.

BROWN, FRANK BURCH 2000. *Good Taste, Bad Taste, and Christan Taste. Aesthetics in Religious Life*, Oxford: Oxford University Press.

BRÜCK, JOANNA 2005. 'Experiencing the past? The development of phenomenological archaeology in British prehistory', *Archaeological Dialogues* 12:1, pp. 45–72.

CARLSSON, FRANS 1976. *The Iconology of Tectonics in Romanesque Art*, Ph.D. thesis, Lund University.

CASEY, EDWARD S. 1997. *The Fate of Place. A Philosophical History*, Berkeley: University of California Press.

CHAMBON, MICHEL 2017. 'The action of Christian buildings in their Chinese environment', *Studies in World Christianity* 23, pp. 100–212.

CIARDI, ANNA MINARA 2003. *Lundakanikernas levnadsregler. Aachenregeln och Consuetudines canonicae*, Meddelanden från Kyrkohistoriska arkivet i Lund (Ny följd 5), Lund: Lunds universitets kyrkohistoriska arkiv.

58. Whyte 2019, p. 24.

CIARDI, ANNA MINARA 2004. '*Consuetudines Lundenses*—lundakanikernas levnadsregel vid 1100-talets början', in Per-Olov Ahrén & Anders Jarlert eds, *Lund – medeltida kyrkometropol*, Bibliotheca historico-ecclesiastica Lundensis 47, yearbook of Stiftshistoriska sällskapet i Lunds stift, Lund: Arcus, pp. 105–122.

CINTHIO, ERIK 1957. *Lunds domkyrka under romansk tid*, Acta Archaeologica Lundensia. Series in 8° 1, Bonn & Lund: Rudolf Habelt Verlag & C.W.K. Gleerups förlag.

DAVIES, J.G. 1982. *Temples, Churches and Mosques. A Guide to the Appreciation of Religious Architecture*, Oxford: Basil Blackwell.

GIUDETTI, MATTIA 2017. 'Sacred spaces in early Islam', in Finbarr Barry Flood & Gülru Necipoglu eds, *A Companion to Islamic Architecture*, Wiley-Blackwell Companion to Art History 12, Hoboken: John Wiley & Sons Inc., pp. 130–150.

GOMBRICH, ERNST 1968. 'Style', in David L. Sills ed., *International Encyclopedia of the Social Sciences* vol. 15, New York: MacMillan, pp. 352–361.

HEIDEGGER, MARTIN 1927. 'Sein und Zeit', *Jahrbuch für Philosophie und phänomenologische Forschung* 8, pp. 1–438.

JOHNSON, MATTHEW 2013. 'What do medieval buildings mean?', *History and Theory* 52:3, pp. 380–399.

JONES, LINDSAY 2000. *The Hermeneutics of Sacred Architecture. Experience, Interpretation, Comparison*, vol 1, *Monumental Occasions. Reflections on the Eventfulness of Religious Architecture*, Cambridge, Massachusetts: Harvard University Center for the Study of World Religions.

JØRGENSEN, HANS HENRIK LOHFERT 2010. 'Middelalderens rum og sansing—om sanselige strukturer i middelalderens kristne og islamske rumdannelser', in Ole Høiris & Per Ingesman eds, *Middelalderens verden. Verdensbilledet, tænkningen, rummet og religionen*, Aarhus: Aarhus Universitetsforlag, pp. 169–192.

KARLSSON, MATTIAS 2015. *Konstruktionen av det heliga. Altarna i det medeltida Lunds stift*, Skånsk senmedeltid och renässans 23, Lund: Vetenskapssocieteten i Lund.

KILDE, JEANNE HALGREN 2008. *Sacred Power, Sacred Space. An Introduction to Christian Architecture and Worship*, New York & Oxford: Oxford University Press.

KNOTT, KIM 2005. *The Location of Religion. A Spatial Analysis of the Left Hand*, Oakville, Connecticut: Equinox Publishing.

KUBLER, GEORGE 1962. *The Shape of Time. Remarks on the History of Things*, New Haven: Yale University Press.

LIEPE, LENA 2024. 'Fönstret, rummet och tiden', in Lena Sjöstrand ed., *Att skapa hopp. Ett nytt konstglasfönster för Lunds domkyrka*, Göteborg: Makadam, pp. 64–84.

MERLEAU-PONTY, MAURICE 2005 [French orig. 1945]. *Phenomenology of Perception*, trans. Colin Smith, London & New York: Routledge & Kegan Paul.

MERRIFIELD, ANDREW 1993. 'Place and space: A Lefebvrian reconciliation', *Transactions of the Institute of British Geographers* 18:4, pp. 516–531.

MOSTAFA, HEBA 2021. 'Locating the sacred in early Islamic architecture', in Kathryn Moore & Hasan-Udin Khan eds, *The Religious Architecture of Islam*, vol. 1, *Asia and Australia*, Turnhout: Brepols, pp. 12–23.

O'KEEFFE, TADHG 2007. *Archaeology and the Pan-European Romanesque*, Duckworth Debates in Archaeology, London, New Delhi, New York & Sydney: Bloomsbury Academic.

ONIANS, JOHN 1988. *Bearers of Meaning. The Classical Orders in Antiquity, the Middle Ages, and the Renaissance*, Princeton: Princeton University Press.

PALLASMAA, JUHANI 2012 [1996]. *Eyes of the Skin. Architecture and the Senses*, Chichester: John Wiley & Sons.

PALLASMAA, JUHANI 2014. 'Space, place, and atmosphere: Peripheral perception in existential experiences', in Christian Borch ed., *Architectural Atmospheres. On the Experience and Politics of Architecture*, Basel: Birkhäuser, pp. 18–41.

PALLASMAA, JUHANI 2017. 'Place and atmosphere', in Jeff Malpas ed., *The Intelligence of Place. Topographies and Poetics*, London: Bloomsbury Academic, pp. 129–155.

RASMUSSEN, STEEN EILER 1962. *Experiencing Architecture*, Cambridge: M.I.T. Press.

RENARD, JOHN 1996. 'A method for comparative studies in religious visual arts: Approaching architecture', *Religion and the Arts* 1:1, pp. 100–123.

RYDÉN, THOMAS & BJÖRN LOVÉN 1995. *Domkyrkan i Lund*, Malmö: Corona.

SEAMON, DAVID 2017. 'Architecture, place, and phenomenology: Buildings as lifeworlds, atmospheres, and environmental wholes', in Janet Donohoe ed., *Place and Phenomenology*, London: Rowan & Littlefield International Ltd, pp. 247–264.

SMITH, JONATHAN Z. 1992 [1987]. *To Take Place. Toward Theory in Ritual*, Chicago & London: The University of Chicago Press.

SUNDNÉR, BARBRO 1997. 'Bergarters användning och bearbetning', in Runo Löfvendahl & Barbro Sundnér eds, *Lunds domkyrka. Stenmaterial och skadebild*, Stockholm: Riksantikvarieämbetet, pp. 25–36.

TAMIMI ARAB, POOYAN 2013. 'The biggest mosque in Europe! A symmetrical anthropology of Islamic architecture in Rotterdam', in Oskar Verkaaik ed., *Religious Architecture. Anthropological Perspectives*, Amsterdam: Amsterdam University Press, pp. 47–61.

THONHAUSER, GERHARD 2021. 'Beyond mood and atmosphere: A conceptual history of the term *Stimmung*', *Philosophia* 49, pp. 1247–1265.

TILLEY, CHRISTOPHER 1994. *A Phenomenology of Landscape. Places, Paths, and Monuments*, Oxford: Berg Publishers.

TURNER, HAROLD W. 1979. *From Temple to Meeting House. The Phenomenology and Theology of Places of Worship*, Religion and Society 16, The Hague, Paris & New York: Mouton.

UNWIN, SIMON 2014 [1997]. *Analysing Architecture. The Universal Language of Place-Making*, Abingdon: Routledge.

VERKAAIK, OSKAR 2013. 'Religious architecture: Anthropological perspectives', in Oskar Verkaaik ed., *Religious Architecture. Anthropological Perspectives*, Amsterdam: Amsterdam University Press, pp. 7–24.

VIDLER, ANTHONY 1998. 'Space, time, and architecture', in Russell Ferguson, Richard Koshalek & Elizabeth A.T. Smith eds, *At the End of the Century. One Hundred Years of Architecture*, Los Angeles: Museum of Contemporary Art, pp. 101–125.

WHYTE, WILLIAM 2019. 'Architecture and experience: Regimes of materiality in the nineteenth century', in Edward Gillin & H. Horatio Joyce eds, *Experiencing Architecture in the Nineteenth Century. Buildings and Society in the Modern Age*, London, New York, Oxford, New Delhi & Sydney: Bloomsbury Visual Arts, pp. 15–28.