The Physical Geometries of Sacred Spaces:

Methodological challenges in applying practice-based approaches to Study Sacred Shrines

Abstract

While the praxeological turn in social research has resulted in many empirical studies, there are few works utilizing this concept as a framework to analyze complex architectural-anthropological phenomena, in particular in sacred geographies. This study addresses this gap by integrating architectural and anthropological approaches to explore interactions between humans, non-humans, and what are considered sacred environments. It presents case studies of the womb-tomb archetypes of Rabbi Zechariah and Rabbi Avdimi in northern Israel to demonstrate how ritualistic practices shape and are shaped by these structures that are deeply connected to human anatomy, life cycles, and territoriality. Our analysis uses isovist analysis to examine the spatial dynamics of sacred architectures, which is then applied to Navisworks Roamer 3D Viewer to estimate the materials from a sacred architectural-anthropological perspective that better reflects body movements and ritualistic performances. Based on our findings from interviews, observations and architectural measures, we reveal how these practices simultaneously articulate land as property—an exclusive, territorial claim rooted in religious and political narratives—and as connectivity, emphasizing relational ties that foster a sense of belonging and interdependence with the land. This duality is represented by the embodied gestures of bending, crawling, and touching in these spaces, which establish both symbolic ownership and deep relationships with the environment. The findings emphasize the importance of bodily engagements and narrative constructions in reimagining human-environment relationships and contribute to the broader discourse on practice-based boundary making approaches in architectural studies. They also demonstrate how body-environment practices shape ongoing negotiations of land, belonging, and totemic relationships within complex cultural landscapes.

Introduction

In an ongoing entwinement, individuals shape their surroundings, including their buildings, homes, cities, and landscapes, and are shaped by them through people's ways of using space (Aijaz, 2023; Stender, 2020; Stender et al, 2021). The praxeological turn in social research views practices; i.e., routine behaviors, actions, and activities as its fundamental units of analysis in understanding social life, but few works have applied this framework to the study of complex architectural-anthropological phenomena (Aydemir et al, 2024). To better grasp such entwinements, new cross-disciplinary physical geometries and

natural substrate approaches need to be developed that combine architecture and anthropology (Askland et al., 2014; Buchli, 2020). Contemporary social research is increasingly characterized by practice-based approaches, although these have not been unified (Nicolini, 2012; Schatzki, 2001, p. 2; Smagacz-Poziemska et al, 2021). A similar ethnographic turn is also emerging in contemporary geographic research, where space is considered to be a social and cultural fabric that involves humans, non-humans, and their relations (Latour & Yaneva, 2017; Ray et al., 2023). The term "non-human entities," according to Descola's (2014) framework, include objects, animals, and natural forces, which are actively shape, and are shaped by, cultural practices and spatial arrangements. By emphasizing how social and spatial dynamics emerge from interactions between humans and non-humans, this perspective challenges the human-centered approach. These turns have prompted geographers, architects and anthropologists to collaborate and further develop conceptual strategies to better understand human behavior and movement in built material environments (Hagen, 2015). The study of sacred geography can provide insights into deeply-rooted cultural, religious and societal values of civilizations, their environmental biopolitics (Gao et al., 2023; Çevrimli et al, 2024), as well as the intricate ways in which their environments, whether natural such as land, grottos, the soil and trees, or built such as tombs, walls and chambers, can shape and reflect human beliefs, behaviors and practices (Barrie, 2013; Scully, 2013; Wescoat & Ousterhout, 2014; Di Giovine & Choe, 2020; García Sanjuán et al., 2023).

Drawing on anthropological work by Nadasdy (1999) dealing with the sacred geography of the Colombian peoples of the Amazon, we show that land and landscape can be conceptualized as property, but also as connectivity, meaning more ecological and sacred belonging to the soil. The notion of property emphasizes owning and mastering lands, whereas connectivity highlights dependence on the land for survival, creating relationships, sacredness, rituals and striving for reproduction. To see land in both frameworks it is essential to differentiate between 'earth/soil' and 'land/territory.' The former refers to a material entity, while the latter denotes a network of interconnections among beings/objects. Taking the Amazonian studies notions of land further, Echeverri et al. (2005) demonstrate that "territory for the people of the center is an appetite: the need to connect" in the center, the sacred axis mundi. People's emotional attachment to objects awakens the "sixth sense" of architecture and enhances interpretations of faith (Porter 2004; Ingold, 2013). In other words, womb tomb ritualization encompasses six sense fusing lands, sacredness and belongings.

Power & Tristant (2016) suggested that in ancient times, burying bodies in ceramic containers was a common practice, possibly as a result of the symbolic association between pots, wombs, and eggs that facilitated rebirth and transition into the afterlife. Sacred architectures also include mold and microbes,

walls, views, sounds and smells, legal and financial structures and symbols, which according to Koonce (2005), make "transparent the boundary between matter and mind, flesh and spirit" (see also Serageldin et al, 2001). Using the womb tomb concept, Horowitz (2003) showed that Mesopotamian god images underwent a ritualized lifecycle, similar to human life, that included stages such as conception, birth, and death. According to Kieckhefer (2008), entering a religious edifice signifies entering a spiritual relationship. He suggested that a sacred space is composed of three factors: a longitudinal space that underscores the process and return of sacramental acts, an auditorium space that suggests proclamation and response, and the more minimal scale of new communal spaces that enhance intimacy and participation in worship, all of which affect the spiritual experience (Luo, 2023). Buchli (2020) recast these effects of institutional forms in the context of geographical thought and the materiality of the built form, and argued that architecture is the most productive analytical category for examining the origins and ideal forms of human society.

Womb-tombs are ancient structures for worship and their rituals (Weaver, 2019; Plasquy, 2016). They can be seen as a constellation of social practices, and hence pose challenges to praxeologization. These structures typically take on a circular or elliptical shape symbolic of the womb, and have a central tomb or burial chamber that is usually enclosed, dimly lit, and covered with a dome. Often, these shrines are built in cave-like settings, so that their front entrances are their only access point and source of light. These narrow, low entrances force pilgrims and visitors to crouch and brush against the entrance, walls and doors. An analysis of womb-tombs can thus respond to the methodological question of the optimal way to empirically characterize rituals related to or engendered by structures that are tightly linked to human anatomy, the life cycles, and belonging to the land. The literature suggests that these shrines are popular during times of anomie and infertility (of humans and the land), because crawling into the depths of the Earth from the entrance to the praying area replicates the fertilization of the egg by the sperm, and their architecture resembles the womb (Barrett, 1988; Masters, 1974). For example, the Aztecs built womb-tomb shrines, the most famous of which are Teotihuacan's two pyramids (Weaver, 2019). The Pantheon in ancient Rome was originally a temple to the gods, but was later transformed into a church shaped like a womb. The circular dome and the central opening at the top, known as the Oculus, symbolize the womb and the tomb, respectively (Plasquy, 2016). The circular design of the Holy Sepulcher in Jerusalem which is said to have been built over the site of Jesus' tomb, has the same features.

The relationship between architecture, the human body and anatomy has been debated since the first century when Vitruvius argued that the human body is the ideal model for all forms of architecture (Panofsky, 1948). Dürer studied the human body in depth in his 1525 treatise *Underweysung der Messen,*

based on his conviction that a mastery of anatomy would be useful for examining the symbolism of sacred architecture (Price, 2003). According to Krautheimer (1983), the womb and the tomb represented the hope for eternal life and the belief in the resurrection of the dead in early Christian architecture (Krautheimer & Ćurčić, 1992).

Coleman & Elsner's (2002) concept of "body in motion" provides a more recent lens to explore bodily movement in underground infrastructures, and more specifically in womb-tomb settings that can account for practices of devotion, movement and the use of the senses in sacred sites today (Coleman & Eade, 2004). Using this idea of the body in motion, we can explain how what we refer to as mimetic body-based rituals, such as crawling, bending, kissing, praying, touching, smelling and candle-lighting become a standardized experience that promotes devotion to the womb-tomb saint and more broadly, the popularity of these shrines. In contrast to much existing literature on womb-tomb shrines, which emphasizes their role as sites of devotion and fertility quests, this paper demonstrates that these sites also function as mechanisms for establishing a sense of "belonging to the land." Being connected to the land means having a deep, multidimensional connection that encompasses spiritual, cultural, and ancestral ties, as well as claims of territorial ownership and stewardship. The soil and the site’s sacredness are used in womb-tomb shrines to root visitors' identities, histories and futures in the land. Through this process, devotion transforms into a form of territorialization in which the spiritual act of engaging with the tomb is intertwined with broader socio-political claims to the land, its resources, and its sanctity. To show these connections, the current study focuses on two womb tomb shrines: one identified with Rabbi Zechariah and the other with Rabbi Avdimi. These sites are typical of most womb tombs. Although according to scriptures, Rabbi Avdimi lived nearly 300 years after Rabbi Zechariah, there are numerous similarities in the ways their tombs associate ritual and land, including the fact that neither individual is actually buried in these tombs.

To set this theory, this article is organized as follows. The first section discusses theories of womb-tombs and puts forward a framework combining geography and architectural-anthropology approaches. The following section presents the research methods and their limitations, the challenges we encountered and how we dealt with them. We then turn to conceptualization, operationalization, fieldwork, and the data analysis related to the roles of womb-tomb shrines in boundary-making and the delimitation of territory and evaluate their influence on the tomb experience. The final section considers the impact of this approach on our model assessing the capacity of bodily engagements and narrative constructions to reimagine and reshape human relationships with the land and the environment as a statement of

territorialization. The conclusion encourages further development of research procedures consistent with the theoretical assumptions of practice-based approaches.

Method

To better probe the reciprocal relationship between body movements and the womb-tomb structures, we applied a typology of anthropological and architectural research approaches to examine spatial configurations and patterns of human activity within these sacred architectures. The objective was to decipher how the choreography of movements within these sacred environments mutually transforms people and spaces, thus enriching our understanding of ritualistic spatial dynamics. To do so, we synthesized anthropological and architectural methods into a seamless, unified framework of interdisciplinary approaches. This methodological fusion is then articulated through seven distinct but inherently interwoven phases that lead to a better understanding of the dynamic interaction between human activities and sacred environments.

Phase 1 involved forming a team of researchers, anthropologists, and architects who selected womb-tomb sites in the landscape of the "Holy Land", a term that historically includes areas in today's Israel, Jordan, and Egypt. Together we developed a short questionnaire on the site, its meanings, symbols, and material objects. The team then selected specific informants, men and women, from a range of religious and ethnic groups, ages, backgrounds, places of birth, and ethnicities. To better understand the users' movement patterns, movement radius, and space available for visual and physical contact, the team defined several key points for each site based on their location and role within the site. Using anthropological tools and objective measurements of the space, the team was able to determine patterns of movement within the womb-tombs of both males and females.

In Phase 2, we identified and collected information on more than 300 womb-tomb shrines throughout the Holy Land to determine their basic womb-tomb components. Note that north of the studied area, it was not possible to document the sites due to current boundaries and not necessarily due to the lack of similar examples. The narratives needed to be based on the three canonical books, and all had to meet the following criteria: a. they commemorate a revered biblical, canonical, or mythological figure; b. the sites are open to the public; c. they have a womb- tomb form with a small entrance, a tomb or tombs in the center, a round roof, and a small dome.

Aside from these features, the sites were far from homogeneous. To explore these differences, we contextualized these sites and situated them in terms of the era when they were first built, major socio-historical and political circumstances of the time, and current mythologies.

In Phase 3, we collected documentation on each shrine and analyzed it in time and space to better understand the characteristics affecting their main axes, water sources, and surrounding areas. The input also included data on the

identities of their users and the "cycles" of each womb-tomb in different religions and cultures. This provided us with a detailed anthropological-architectural picture of the experiences, rituals and built environment of the sites.
In Phase 4, we conducted a spatial analysis of the sites to generate spatial distribution maps to which we aggregated the background data related to ancient and current overland routes to the site, the path network, and the locations. This database was then geo-referenced to the parcels' GIS layer (open source, with residential, infrastructure, topographic, and land ownership data, updated in April 2022).
The fifth phase consisted of conducting observations and interviews at each site, which served to map the area based on movement types and users. We took photos and made short videos to supplement our observations and interviews. The observations were used to define the key locations for the morphological analysis of locations where most of the interactions occur. Using kinesthetic analysis, we observed and documented the sensory experiences at the shrines in detail. This involved charting visitors' body movements and rituals as they entered and prayed within these specific womb-tomb structures. The notes and descriptions covered rituals, bodily performances, conduct, and natural elements such as soil, trees, and flowers. The interviews included (1) background questions about age, place of birth, place of residence, religion (primarily Jewish, but also Muslim and Christian adherents), ethnicity, and occupation, (2) their reasons for visiting the specific shrine, and (3) the visitors' bond with the local saint. The goal was to understand the meaning of the saint in their lives as well as the pertinence of specific canonical texts, narratives, and mythologies related to each shrine. We have identified that Jewish people from all over the country visit the tombs around Rosh Chodesh (the beginning of each month in the Hebrew calendar) and Yom Kippur (the Day of Atonement). The pilgrims also visit holy sites near personal events such as fertility requests, marriages, illnesses, and the like, so they also visit nearby holy sites. Most Jewish men arrive at the sites in an organized manner (usually by bus with Yeshiva students). Prayer usually takes place in a group around the customary three prayers that are recited each day in the mornings (Shacharit), afternoon (Mincha) and evening prayer (Maariv). Jewish women are often accompanied by family or friends. Non-Jewish men, mainly Muslims and Christians, tend to visit Ben Hatzav's Tomb independently while women, usually, accompany their partners or children. All visitors perform rituals or spend time reading or meditating.
In Phase 6, to account for the connectivity and the integration of these womb-tombs' architectural and body movements, we conducted a morphological analysis using the isovist analytical technique (Turner, 2001). A single isovist is the volume of space visible from a given point in space, together with a specification of the location of that point (Benedikt (1979); (Hillier, 1999). An isovist can also be considered the volume of space illuminated by a point source of light. Every point in physical space has an isovist associated with it. The resulting isovists determine the visibility and accessibility to or from a particular point in morphological terms. In this study, we use morphological analysis (MA) for identifying, structuring and investigating the total set of possible relationships contained in a given

multidimensional problem complex. We use analytical software (https://isovists.org/) to construct a set of two-dimensional isovists for each site's horizontal section ("plan"). The resulting isovists determine visibility and accessibility to or from a particular point within emerged morphological arrays. The particular generating point's location varies depending on the needs of the analysis. In general, views in the area run along cave axes, including the long views east and west, highlighting the human activity and spatial dynamics within these sacred architectures. However, views and quality of open space observed from various alternative locations changes as per the morphological conditions of the surroundings as identified by isovists.

In Phase 7, to interpret hidden infrastructures as systems that facilitate the circulation of goods, knowledge, meaning, people, materials, and power, we constructed a set of two-dimensional planes in the horizontal section and at least four sections of each site. Navisworks Roamer 3D Viewer was used to analyze, navigate, and produce photorealistic images, and estimate the materials within a sacred architectural-anthropological context to examine body movements and ritualistic performances.

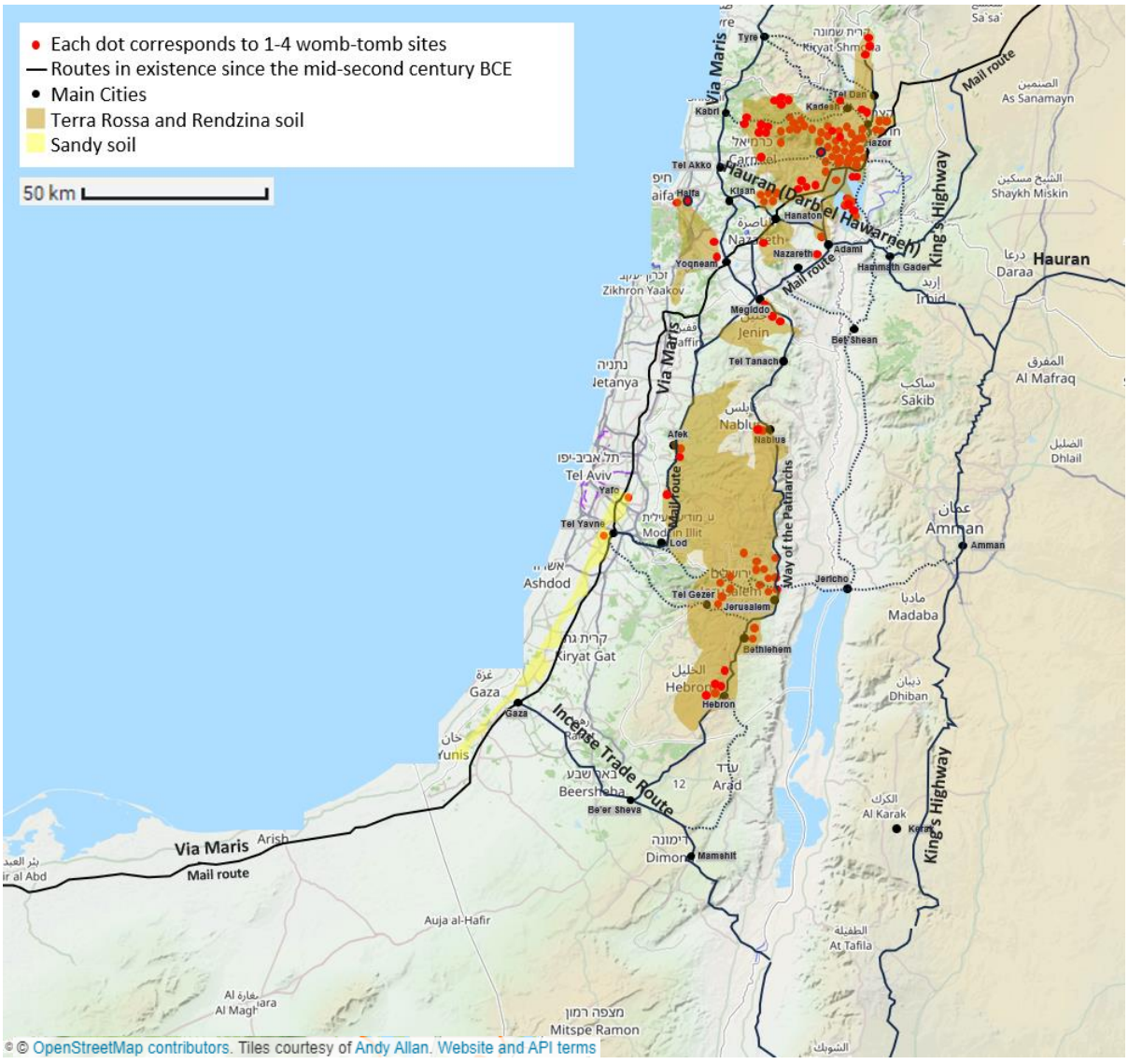
Limitations

This approach, despite its detail, suffered from two shortcomings: situating the womb-tomb narratives and the ancient routes associated with the Holy Land in terms of actual sites, and dating them accurately. Scant precise information is available about the identity of the person buried at these sites, or the different incarnations of these sites in different religions over time. Ancient secondary routes outside urban areas and religious centers rarely have datable traces since they were seldom constructed or paved. By contrast, the location of contemporary womb tomb shrines, the narratives associated with them, and the activities that have taken place in recent decades can be determined. Evidence and hypotheses of a more general nature can be used to reconstruct a communication network (Dorsey 1991: 25–51). In many cases, we identified ancient Levantine routes dating as far back as c. 1300 BCE, based on archaeological documentation on their destinations, as well as less important locations along the way (Beitzel 1992). A pragmatic perspective suggests that in addition to parameters that influence human decisions, ancient thoroughfares took the most convenient route between two destinations that required the least effort to reach (Roll, 2005; 2009 p. 238).

The roles of Womb-Tomb shrines in boundary-making and the maintenance of territories

This work is based on the exploration of Holy Land shrines. The term Holy Land is traditionally synonymous with both the biblical Land of Israel and with the region of Palestine, a region roughly situated between the Mediterranean Sea and the eastern bank of the Jordan River, encompassing places mentioned in the Old and New Testaments. The Holy Land is the crossroads for four ancient international

government and trade routes (fig. 1a-b): the Via Maris that linked Egypt to the northern empires of Syria, Anatolia and Mesopotamia along the Mediterranean coast, the King's Highway that connected Africa with Mesopotamia, the Horan Road (Darb el-Hawarneh) that linked the port of Acre with the Horan, the most fertile Syrian granary, and the Incense trade route which stretched from Mediterranean ports across the Levant and Egypt through Northeastern Africa and Arabia to India and beyond. There are also several regional routes that passed through the area, including the Mail Route (Tariq Al Barid) that connected Gaza to Damascus during the Mamluk era (after 1260) and the Mountain Path (the Way of the Patriarchs) which followed the watershed ridge line of the Samarian and Judaean Mountains. The tangent areas between these routes occur along ridges in mountainous regions, along river valleys in low hilly areas, and along edges in marshy plains. Cities were built at their intersection points in relatively flat areas.



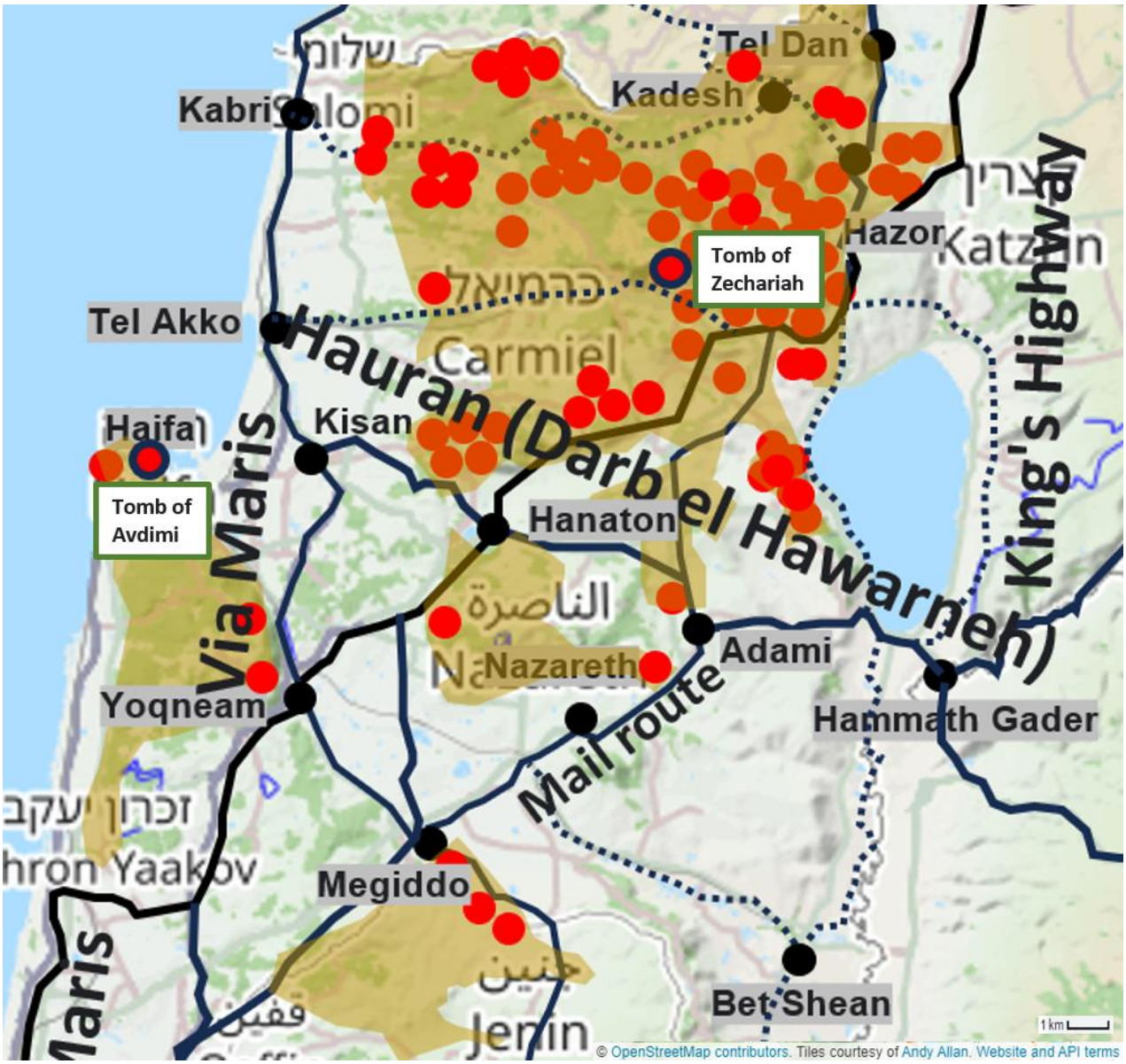


Figure 1: a. Spatial distribution of womb-tomb sites in the Holy Land; b. the case studies at the crossroads of four ancient international government and trade routes

Figure 1 shows the associations between routes, topography, soil types, localities, and womb- tomb sites in northern Israel. As in other karst landscapes (Durn, 2003), the surface has been affected by natural tectonics, karst processes and weathering which has led to the development of both surficial and underground features, where caves are a common feature of geomorphology (Tsatskin, 2002). The womb-tomb sites are mostly found in areas with terra-rossa and Rendzinas soils, a type of clay-rich reddish-brown soil formed from soft limestone and dolomite bedrock such as chalk, in karst regions. This soft rock is covered by a layer of caliche, a hardened calcium carbonate cement that binds other materials

together. This light-colored, stiff crust is the sedimentary rock on which cities in the area were built. Dating roughly from AD 250 to 1099, hundreds of caves were extended in limestone rock as a result of quarrying for construction purposes and then turned into womb-tombs (Roll, 2009). People broke the multiple layers of hard rock, 1.5-3 meters thick, and carved into the limestone rock, using the excavated material for the construction of their homes. Working underground had its advantages because the temperature inside the cave changed little throughout the year. In the winter the cave was warm, and in the summer cool air circulated. The inhabitants of these areas are likely to have preferred to live near main roads and intersections and used the narratives created around these caves to define their settlements and mark property boundaries. Overall, these hidden infrastructures make it possible to gain new insights into power, territoriality, and religion to construct a framework for understanding the shifting networks between the human and the nonhuman.

To advance our understanding of the relationship between body, structure, and space, we focused on two womb-tomb sites: the tomb-cave of Rabbi Zechariah and the tomb of Rabbi Avdimi. The sites selected from our collection exemplify all the characteristics of womb-tomb structures as defined in the methodological section, yet their close proximity (including the same type of soil) facilitates direct comparison. In both places, our mixed-method anthropology-architectural analysis suggested that the shrine structure and architecture were often stronger than theology and local mythologies even though local religions, languages, mythologies, and symbols are integrated into these structures.

When interviewing visitors to womb-tombs, both in the shrines under investigation and in other similar sites, Holy Land pilgrims often employed various Hebrew and Arabic terms to articulate the significance of touching or entering the ground and soil. Yoseff (pseudonym), a 40-year-old religious Jewish man from Tzfat, used the Hebrew term **ADAMA** (אדמה) to describe the soil within the tomb's interior. When asked about his experience, he explained:

"We come here to pray to the Tzadik at his grave, the place where he was finally buried. It means that he is here with us, and his body, blood, and bones are connected with the soil forever. He is forever part of the soil (ADAMA), mixed with its holiness and nature."

In contrast, Yoseff used the term **ERETZ** (ארץ) to refer to land in a broader sense, saying:

"When you are amalgamated with the sacred soil, it means that you are part of the land. You belong; you are part of the covenant with God, and this gives you rights to the land. It belongs to you and your family forever."

For Yoseff, **ADAMA** is a biblical term that evokes connections to human blood and the color red, symbolizing a covenant between humans and the Earth. In comparison, **ERETZ** refers to ownership of land

and, at times, its mastery and reclamation. These terms, **ADAMA** and **ERETZ**, were frequently invoked by visitors to womb-tomb shrines to explain the spiritual significance of proximity to the soil and participation in rituals at these sacred sites.

Similarly, Muslim visitors often use specific Arabic terms to articulate the spiritual and cultural significance of soil, land, and homeland in their interactions with womb-tombs. Terms such as **TURBA** (تربة) refer to the soil, **ARD** (أَرْض) to the land, and **BALAD** (بلد) to the country. Muhamad (pseudonym), a 45-year-old Muslim from Ibellin, emphasized the essential role of **TURBA** in his experience when visiting a tomb and praying. He explained:

"When you enter the tomb, you seek a quiet, separate place to immerse yourself in the soil (TURBA) of your ancestors. At the same time, it signifies that this land is your ARD, and it is a BALAD for us to preserve for generations to come."

In Muhamad's view, **TURBA** carries the spiritual weight of ancestral connection and sacredness, grounding visitors in a physical and metaphysical relationship with their lineage. **ARD**, by contrast, extends this connection to a broader sense of belonging, symbolizing the land's sanctity and its role in defining identity and stewardship. **BALAD**, in turn, reflects the collective responsibility to protect the land as part of a larger national and communal heritage.

These terms were pivotal in Muslim visitors' explanations of the importance of proximity to sacred soil and participation in rituals, revealing the intertwined relationship between personal spirituality and collective belonging at these sites. In many interviews, ARD is often used to signify property, while TURBA emphasizes connectivity and ancestral ties. BALAD represents property in the context of ownership or mastery, including processes of reclamation and remastery. TURBA further underscores the significance of social and cultural identity in relation to ARD and BALAD, highlighting a deep dependence on the land for survival, creation, and production. In both Hebrew and Arabic, concepts of territoriality, space, and place are employed to link the soil with notions of ownership and property. Despite the historical narrative of the two caves remaining uncertain, the mythologies currently associated with them have become an integral part of a broader Judaization process that began with the establishment of the State of Israel in 1948 (Collins-Kreiner et al., 2013).

The tomb of Rabbi Zechariah the Butcher's Son

Rabbi Zechariah (c. 40-80 AD) was a first-generation Tanna (Amoraic Hebrew: תנאים "repeaters", "teachers"), rabbinic sages whose views are recorded from approximately 10–220 CE. According to tradition from a disciple of the Ramban (1270-1291), Rabbi Zechariah was buried in a cave in the village of

Anan (now Kfar Hanania) in Lower Galilee. According to Rabbi Anshil Greenwald (1934), his disciples were also buried alongside him. When approaching the tomb, visitors see a sign that attributes the site to Rabbi Zechariah (fig. 2) the butcher's son, a Cohen (the Hebrew word for "priest") who witnessed Roman soldiers entering Jerusalem. Pilgrims have situated his grave in a number of different locations but in 2007, the current site was made definitive by the "Ohalei Tzadikim" association, which aims to identify, restore, and preserve Jewish cemeteries and the tombs of righteous figures (Gabbay and Herzberg, 2011). Since his grave was indicated in a different place than the pilgrims described, it is not known whether he was actually buried there.

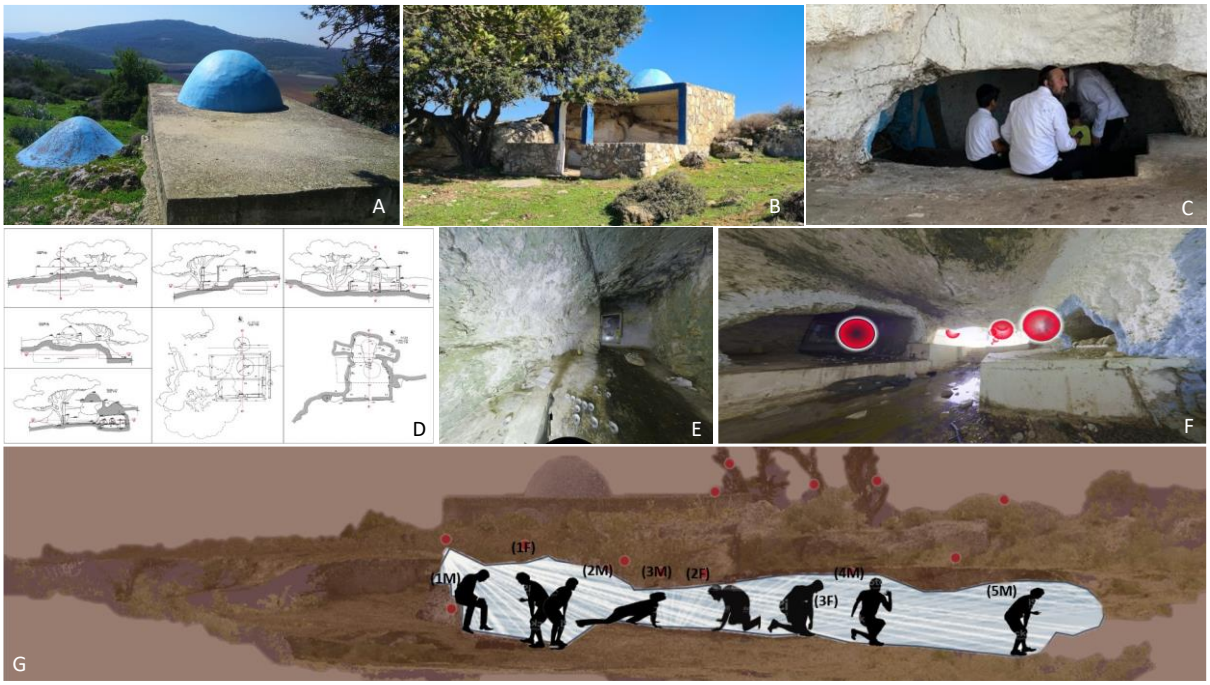


Figure 2: Zechariah's tomb: A. Two blue domes can be seen from a distance; B. Entrance to the tomb; C. Cave entrance; D. Layout of the tomb; E. On one side of the cross is a "chapel" for private prayer; F. Daylight at the exit of the cave; G. Diagram of movements.

The tomb is located in the western section of a cluster of tombs located in the Beit Kerem Valley (Hebrew: בקעת בית כרם), also known as al-Shaghur (Arabic: الشاغور, romanized: al-Shāghūr) in the Galilee region in northern Israel, about 450 meters above sea level. Beit Kerem Valley is a narrow valley running east-west in the center of Galilee and dividing Upper Galilee from Lower Galilee. While upper Galilee is characterized by high mountains, Lower Galilee has relatively low mountains separated by wide valleys. According to archaeological surveys, Kfar Hananiah, a large Jewish village and pottery production center was established in the area in the Early Roman period and was inhabited through the Byzantine period.

The area marked the border between Lower and Upper Galilee (Leibner, 2009, p. 129). It was resettled in the Middle Ages and the modern era, and by mid-1500, the village was wholly Muslim and was known as Kafr ʿInān (Arabic: كفر عنان), a former Palestinian village, depopulated in the 1948 Arab–Israeli war. Access to the tomb is relatively difficult because it is isolated and higher than the other tombs in the cluster (A, B). It requires a climb of about two kilometers up the mountain from Hanania's tomb, the closest one to it. The tomb overlooks the main road connecting Acre and the Via Maris and the axis linking Darb el Hawarneh, the Mail Route, and the King's Highway. The site is not owned or maintained by anyone today, so no one has responsibility for it or for maintenance services, and entry is free. It can accommodate up to 15 people. It is evident that there is no mediation between the visitor and the place since men and women are not separated, and rituals are not yet institutionalized.

The cave was naturally formed but there is evidence of human intervention such as hewing in the structure of the grave, which is surrounded by unhewn stones, and its two blue domes (fig.3 A, B). Steps at the entrance to the cave have also been carved out of the original stones (C). Attempts were also made to carve two vertical cross-shape alcoves, but due to the hardness of the rock, this carving is only partial, and the concrete poured as a base for the graves makes entry impossible except by crawling or lying on them (D, E). Candle holders are placed in the rock alcoves and candles are scattered about (E, F). The interviews suggest that the ascension to the tomb is associated with fertility themes and requests.

Figure 3G shows that the cave can only be entered by crouching (1M), and visitors can only stand in the front part of the cave (1F). Similar to the description in Kieckhefer (2008), movement through the cave takes place along its main axis, on a narrow and dark longitudinal slope, and requires kneeling (3M, 2F) or crawling (3F, 4M). Given the absence of an auditorium space, the small alcoves create an intimate private personal chapel for religious rituals and prayers (5M) thought to promote spiritual growth and the acquisition of religious knowledge. The isovist analysis indicates that there is limited visibility and accessibility and that the narrow space transitions from light to darkness, a play with light that choreographs the ritual experience. The rising humidity, mold, and the smell of the rock envelop the visitors and enhance their sensory experience while performing rituals and prayers. These enhance the experience of the womb and the alterations in body movements.

Going back to Nadasdy (2002, 2012) concepts, "connectivity" refers to the complex reciprocal social, political, and ecological relationships between local people and the land. The intensity of the womb-tomb experience increases when visitors go deeper into the ground and enter what is perceived as a primal, sacred earth, a holy soil where they can communicate with their land's "old ancestors" and totemic roots (5M). As our interviews describe, the experience in the cave reinforces the sense of a descent into the

"land of the dead", that occurs through a seamless integration with the soil and land characterized by a complex web of obligations and religious practices. As explained in the interviews by entering the cave, visitors enhance narratives of connectivity and belonging to/with the land, soil and territories that is embodied with material and physical elements of the place. These are done by the use of a network of signifiers relating to the dynamic elements and materials that make up the sacred spatial fabric which reinforce visitors' sense of belonging to the place and everything that belongs to it as their own property. The sense of the dual nature of the land as connectivity and property, meaning land claiming and appropriation is re-embedded in visitors' experience while retracing their steps to exit of the cave by passing from darkness to light and seeing celestial objects that prompt a strong connection to the universe on starry nights.

The tomb of Rabbi Avdimi of Haifa

This tomb is attributed to Rabby Avdimi of Haifa (Hebrew: אבדימי דמן חיפה, translit: Avdimi d'min Haifa; in the Jerusalem Talmud: אבדומה ד'חיפה, translit: Avduma d'Haifa; hebraized form of Ancient Greek: Εὔδημος, Eudēmos) (Fig. 3). Rabby Avdimi was among the greatest of the Amoraim, the Jewish scholars of the period from about 200 to 500 CE, who "told over" the teachings of the Oral Torah, and their legal discussions and debates were eventually codified in the Gemara. There are no details about his life other than that he lived in Haifa and judged Eruvin's laws. Talmudic and Midrashic passages mention several of his halachic and legendary articles. As a student of Levi ben Sisi and Resh Lakish, He was regarded as a leading authority on halakhic matters by his contemporaries and successors. Aggadah was another field in which he excelled, and Rabbi Abbahu, Rav Zeira, and Rabbi Helbo cite his views to support theirs.
Similar to other historical figures, Rabbi Avdimi of Haifa's burial site is unknown and is based on local mythologies. Sages do not mention where he was buried, but the cave was identified as a Jewish tomb at the beginning of the third century and its attribution to Rabbi Avdimi was made by an unknown individual in the 17th century, assuming that he was buried in Haifa, where he lived. Rabbi Avdimi's grave was noted and identified by travellers and pilgrims visiting Haifa as located on the southern border just outside the old Jewish cemetery (Knesset Israel Cemetery) on Jaffa Rd. and is one of the remains of the city's ancient Jewish past. It has become a popular place of prayer since the late 20th century, with many people visiting it every Rosh Chodesh eve and for forty consecutive days. Even today, many people visit his grave, which has become a pilgrimage center from all over the country.
The burial cave dating back to the Second Temple period (586 BC-AD 70) is located in the Radzimina soil about 300 meters from Ramban's grave. The Arabic name of this area is Almakhta (المحتة, suggests its

proximity to the Via Maris and the port. Visiting the tomb is associated with health. Visitors explain that "thousands of people have already been granted salvations and miracles, thanks to the virtue of praying at Rabbi Avdimi's grave on the eve of Rosh Chodesh. Especially those who prayed for 3 consecutive evenings, were granted the fulfillment of all their requests: fruit of the womb, livelihood, marriage, protection, peace of the home, happiness from children, health and all salvation." (kivreitzadikim, 2024).

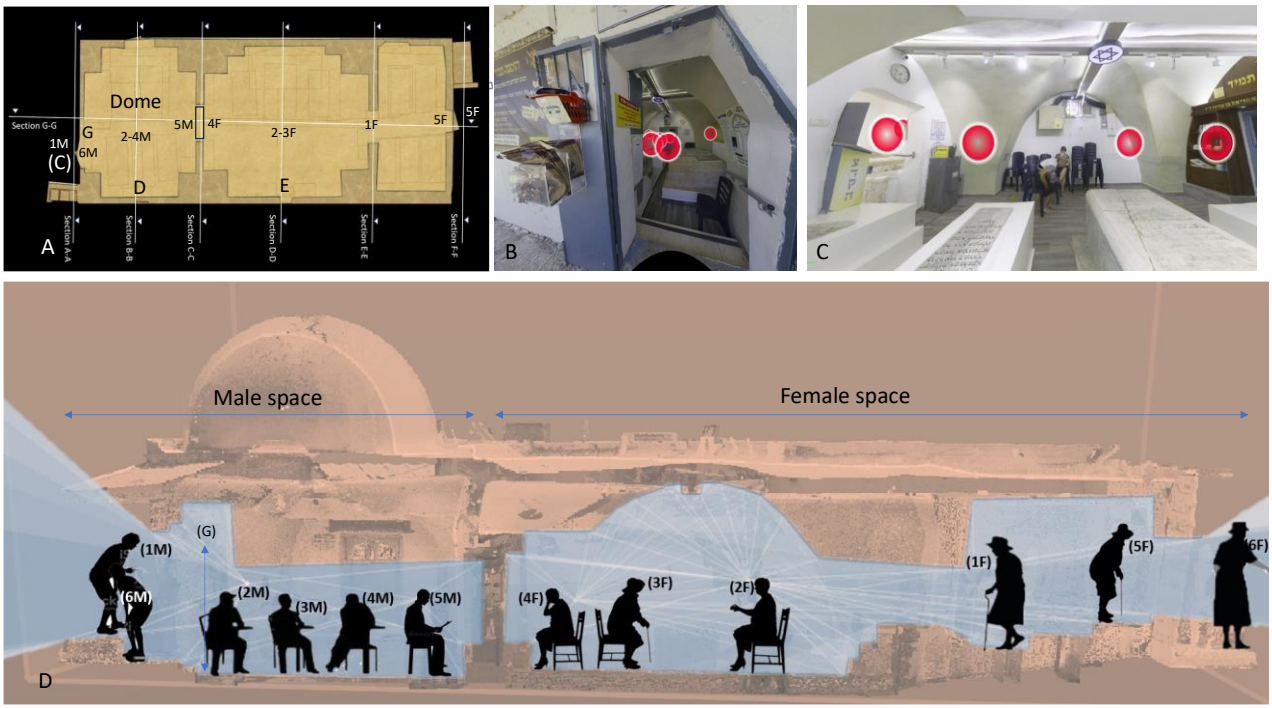


Figure 3: Tomb of Avdimi of Haifa: A. The building's layout: Spaces connected by crossed arches; B. The entrance to the men's assembly room was lowered; C. Women only have an internal assembly space, whereas men have an external one as well; D. Complete separation and lowering of the women's and men's entrances. F and M mark gendered spaces, and each group enters and exits through the same door.

Jewish burial in the cemetery began during the period of the ancient Jewish settlement in the city of Haifa, which is already mentioned in the Talmud. Near the grave of Rabbi Avdimi, there are additional tombstones without an inscription. Haifa municipality is responsible for maintaining and regulating the site as a sacred place associated with Rabbi Avdimi. It has been whitewashed and equipped with tables, chairs, prayer alcoves and artificial lighting, and, together with the outside space, can accommodate about a hundred people. The doors open at regular hours and individuals are directed to areas for public or private prayer. There are separate entrances and prayer spaces for women and men, and an outdoor prayer space where rituals are institutionalized for men. Although the site is located in an Arab

neighborhood, it is mainly frequented by Jews. To enhance security in the area, outside lighting and fencing were added.

The site is a natural cave that has been altered by human intervention such as hewing and actual construction and is now characterized by a large network of man-made tombs whose structures and proportions resemble human bodies. Individuals need to stoop to enter into the compact courtyard framed by white arches. The interior courtyard leads to three diminutive square portals ushering visitors in a realm of subdued illumination characterized by a dark, moist atmosphere, and a constricted grotto leading to a secluded chamber. Each chamber contains an ancient tomb, connected by a labyrinth of grottos that reveal smaller, darker rooms. When inside the site, the noise of passing trains and cars is muffled in a way that intensifies a sense of unworldliness. The arches and tombs were built out of local stone, reflecting the interaction between human craftsmanship and the natural resources of the area. Within these chambers, the microclimate is dark, humid, and cool, which helps preserve the sacred atmosphere surrounded by books and candles. In addition to bending, touching, and kissing the stones, devotees also light oil wicks, a practice that enhances the spiritual ambience of the space. In addition to its architectural and geological significance, this complex of grottos and tombs provides an intimate space for personal reflection and prayer, thus bridging the physical and metaphysical, the ancient and the modern.

Based on Kieckhefer's components (2008), we identified a separate longitudinal space that emphasizes gender separation, with access and return of sacramental acts, as well as small communal spaces. Isovist analysis (D) from the women's section (Ezrat Nashim) indicated that there is limited visibility at the entrance (F1), but full exposure and accessibility as a result of the supporting arches (F2-4). The view, also for those who leave this space (5-6F), is only obstructed by the arches that open up the space. There is a separation between the sitting/assembly areas and the tomb (C). The open space around the site contributes to this gendered space division as it is designated for mass prayers and mass gatherings only for men. The Males' inner compound is more crowded. The descent to this complex, as well as the ascendence from it, requires crouching in dim light (M1) toward the gathering area (2-4M). At the end of this room, people can utter a private prayer facing the wall (5M). In an environment that has been built primarily by humans, the connectivity becomes a layer between people and their environment. This is further strengthened by the separate rituals and the enforcement of human actions/activities in a natural land-sea junction.

Rachel (pseudonym), a 36-year-old Ultraorthodox woman and mother of five, reflected on her experience as she entered the tomb:

"Rabbi Avdimi's tomb is a special place for me. Coming to this place transforms my relationship with the soil (adama). I feel that I am entering a special, ancient time, reconnecting with my ancestors. It's like I am reclaiming the territory that biblically belongs to the Jewish people—and only to them."

Rachel's reflection illustrates Rabbi Avdimi's tomb as both a site of property and connectivity. As she emphasizes the tomb's biblical and ancestral significance, she frames it as a place of exclusive spiritual and territorial ownership, in line with the idea of property rooted in religious and history. In parallel, her description of feeling transported to "special ancient times" and "reconnecting with [her] ancestors" demonstrates how the tomb fosters a deep tie-in connection, linking her present identity with her Jewish local heritage and the land itself. This duality—where the sacred space is both claimed and experienced relationally—exemplifies how material and symbolic dimensions of sacred sites intersect, shaping individual and collective religious practices.

Discussion and Conclusion

This study addressed a gap in the praxeological literature by integrating architectural and anthropological approaches to explore the interactions between humans, non-humans, and sacred environments. To analyze the womb-tomb shrines of Rabbi Zechariah and Rabbi Avdimi, we used content and structure theories to understand how these structures— that are deeply connected to human anatomy, life cycles, and territoriality—both shape and are shaped by ritualistic practices. Specifically, we examined how the practices of rituals related to or engendered by these structures are intricately linked to the body, life cycles, and land.

The heritage-rich area of the Galilee region is a pilgrimage center for Christianity, Islam, Judaism, Samaritans, Baha'is, Druze, and other groups, such as the Ahmadis and Mormons. Recent decades have seen a revival of pilgrimages to the graves of the righteous, along with an increase in the number of sites and the number of visitors, renovations, construction, and commercialization, as well as the addition of activities nearby. An example of a site in its spontaneous phase, which is undergoing growth, is Rabbi Zechariah's tomb. Rumors about it spread from mouth to mouth, causing a constant stream of visitors. Consequently, private parties begin renovating, maintaining, and preserving the site. It is accomplished through signage, improved accessibility, preservation, and cleaning. In the course of its development, the site gains recognition from religious institutions, such as yeshivas and non-profit organizations. Avdimi Tomb, on the other hand, presents an institutionalized case, in which the municipal authority is involved in historical and halakhic issues. This included the arrangement of lighting and painting, chairs and regulating the separation of men and women in the complex.

This study thus makes several important contributions to both theory and methodology within the fields of architecture, and anthropology, by demonstrating the enormous potential of the praxeological turn to study the

interactions between humans, non-humans, and the environment, along with the need for further development of practice-based research procedures.

Conceptualizing the sacred archetype of the womb-tomb, with its overt and covert infrastructures and cosmologies, lays the groundwork for a comprehensive architectural-anthropological synthesis. The complex arrangement of observable and unobservable elements necessitates specific data collection and analysis techniques. Careful conceptualization and operationalization of sensitizing concepts throughout the research process are crucial to conducting an effective and practice-oriented study. This involves defining social practices conceptually and operationally, designing appropriate research tools for data collection, and developing standards and strategies for practice-sensitive analysis of the research material.

The findings suggest that the ancient people who lived in the Galilee mountains and near major routes built their homes by quarrying the local radzimina soil. Caves then formed around the settlements that were originally used for burying the dead. Later tales associated them with the protection of the settlements. The integration of insights from structural analysis with the dynamics of human engagement, in this study point to the symbiotic relationship between the human anatomy and architectural forms and reveals how they co-construct religious experience within sacred spaces.

Exploring sacred infrastructures can provide a conceptual space for studying the shifting boundaries between material and immaterial structures and the evolving networks between human and non-human actors. This exploration constituted the first exploratory stage that can help identify social practices that structure the relations between power, territoriality, and ritualistic performances in sacred places. These ritual practices in womb-tomb structures embody a performance that articulates the concept of interconnectedness among beings and with the earth, soil and matter, and reveals the twofold meaning of land: the notion of property emphasizes owning and mastering the land, whereas connectivity emphasizes dependence on the land for survival, creating relationships, and striving for production and interconnectivity between beings. In the two case studies, both males and females engage in specific gestures and rituals prompted by the tomb's architectural design. Bending, crawling, kneeling, and laying hands on specific surfaces serve as means of communication and interaction with space, land, soil and their intrinsic structures and materials. In addition to demonstrating respect and reverence, these gestures foster a physical and symbolic connection between the individual and the sacred environment, embodying a deep sense of unity with the place and its historical significance.

Our findings show that the tomb cave of Rabbi Zechariah illustrates the role of unique natural spaces for worship that mimic human anatomy and symbolize the themes of birth, rebirth, and the cycle of life. Devotees' body movements within the womb-tomb infrastructure enact the interconnectedness of beings with earth, soil, and matter in a ceremony that restores the connection with the fertilizing forces of the soil. Crawling, bending and

touching inside the cave are physical manifestations of claiming the land as property, a personal asset. However, the dynamic interaction between tombs and humans not only reinforces the political narratives that surround them but also the "personal connectivity" to the land. This fosters a complex relationship between political narratives, personal power, heritage, and territoriality. Visitors' narratives illustrate how connectivity and property are intertwine at these sacred sites. Often, visitors express a sense of symbolic ownership over the land, rooted in their religious and historical identity, while engaging in practices that emphasize their relationship with the space. For instance, bending, crawling, and touching surfaces not only claim the land as sacred property but also reinforce a personal, spiritual relationship with the land. This dual engagement of land illustrates how it serves both as an object of possession and as a tool to foster relationships. The interviews revealed that these acts of bodily engagement carry layered meanings: they assert ancestral and spiritual ownership (property) while fostering embodied relational connection (connectivity) that transcends individual claims. In Rabbi Zechariah's tomb, for instance, visitors described their interactions with the soil and space as reconnecting with their ancestors and their people's heritage, blending the personal with the collective. Simolarly, at Rabbi Avdimi's tomb, the highly structured rituals facilitated by architectural modifications demonstrates how institutionalized practices shape both the sense of ownership and the means of creating connectivity with the land.

The Rabbi Avdimi's tomb is a natural cave that has evolved beyond recognition and now appears to be man-made. It imitates human body structures and proportions. Through its architecture, its artificial connectivity in prime locations enables connection, ownership and belonging to the land. Since the rituals and architecture are mobilized to enhance the connection with land and the space, the structure serves both purposes.

In general, anthropologists have mostly discussed the construction of belonging solely through rituals, religious centers, symbols and sacred topography. By demonstrating how practice can be used as an analytical category to analyze research material, our architectural-anthropology framework contributes to the development of a practice-based approach to empirical research, reveals a new dimension of power dynamics where a convergence of body rituals, materials, earth, structures, and narratives establishes a novel paradigm of land and ownership. Land in this case is viewed as a dynamic entity capable of being embodied, either as a manifestation of property ownership or as a nexus of connectivity. The earth/soil is merely a material, whereas the land signifies the interconnectedness between beings. Unlike land as property, which is a delineated space whose existence is taken for granted and defined by borders, land as connectivity is a process that must be reproduced and, as such, can be extended to include new beings and resources. These findings highlight the interplay between connectivity and property in sacred spaces, where land is experienced as both a tangible asset and a relational process. While the notion of property often aligns with political and territorial narratives, connectivity is expressed through practices that

reanimate historical and spiritual ties to the land. It is apparent from visitors' interactions with the tombs how rituals can mediate this duality, transforming physical spaces into sites of possession as well as relational belonging.
The practice-based framework emphasizes the power of understanding bodily engagements and cosmological constructs to reimagine and reshape human relationships with the land and environment. It posits that ownership transcends traditional legal and economic boundaries by embedding itself in deeper, more intricate layers of cultural meaning and existential bonds. The Holy Land, where diverse ethnic and religious communities live in close proximity, and where the Via Maris, King's Highway, Incense trade route, the Horan and the Way of the Patriarchs meet, may therefore also contain an alternative path of holiness where the constructed womb can be seen as a driver of territorialization. Further research is needed to shed more light on the complex interrelationship between things and space, and their impact on culture, land, and ownership. Furthermore, these sacred spaces have the potential to contribute to discussions on heritage and cultural politics particularly in such a socio-political context. In light of the tensions that arise between the preservation of the natural environment and the development of sacred spaces, and in particular, since the narrative has been "imprinted" on these sites, further research is needed to clarify the role of planning and conservation politics in general and the impact of such policies and state involvement on the preservation, maintenance, and accessibility of these sacred sites for different groups, in particular.

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