


Symbiotic spatiality in domestic interiors: A spatial model for human-animal cohabitation

Neşe Başak Yurttaş* 

Abstract

Domestic interiors have historically been organized through anthropocentric spatial logics in which architectural layouts, circulation systems, and spatial hierarchies are structured primarily around human needs and bodily experience. However, the increasing presence of animals as everyday companions within contemporary households has gradually transformed domestic environments into shared multispecies habitats. Despite this transformation, architectural responses often remain limited to functional adjustments rather than reconsidering interior spatial organization itself. Addressing this gap, the study proposes the Symbiotic Spatial Model as an analytical framework for examining how domestic interiors reorganize when animals are recognized as spatial actors rather than accommodated occupants. The model translates post-humanist spatial discourse into three operational layers: hierarchical reconfiguration, multi-species circulation, and negotiated boundaries. The framework is applied through a comparative spatial analysis of two contemporary residential projects that explicitly integrate human–animal cohabitation. The findings demonstrate that symbiotic coexistence emerges through different spatial mechanisms, including plan-based redistribution of hierarchy and sectional stratification of movement systems. By operationalizing multispecies theory through spatial parameters, the study contributes a methodological framework for interpreting human–animal coexistence within interior architecture.

Keywords: multispecies architecture, human-animal cohabitation, posthumanist design, interior spatial organization, symbiotic spatial model

1. Introduction

Domestic interiors have traditionally been designed as environments organized exclusively around human bodies, routines, and spatial priorities. However, as animals increasingly inhabit domestic spaces as everyday companions, interiors are gradually transforming into multispecies environments in which spatial organization is negotiated among multiple forms of life. In many contemporary households, animals are no longer positioned solely as external companions but as participants in everyday domestic routines. This shift has gradually redefined the spatial dynamics of domestic interiors, where animals occupy circulation routes, resting zones, observation points, and vertical surfaces alongside human inhabitants. As a result, domestic environments increasingly function as shared habitats rather than exclusively human-centered living spaces.

Despite this transformation, architectural and interior design practices have only partially responded to the spatial implications of multispecies living. Design approaches that address animals in domestic interiors often focus on practical adjustments such as hygiene management, durable materials, specialized furniture, or localized spatial modifications. While these strategies may improve practical compatibility between humans and animals, they rarely reconsider the spatial logic of interiors at the level of plan organization, circulation systems, or vertical spatial structure. Consequently, animals are frequently treated as accommodated occupants rather than as spatial actors capable of reshaping interior environments.

*(Corresponding author), Department of Interior Architecture and Environmental Design, Biruni University, İstanbul, Türkiye

✉ nyurttas@biruni.edu.tr

Article history: Received 06 February 2026, Accepted 01 April 2026, Published 30 April 2026

Copyright: © The Author(s). Distributed under the terms of the Creative Commons Attribution 4.0 International License



Recent theoretical developments in post-humanist and relational spatial thought challenge the anthropocentric assumptions that have historically shaped architectural discourse. These perspectives emphasize that spatial environments emerge through networks of interactions among human and non-human actors rather than through purely human agency. Within this framework, interiors can be understood as relational environments produced through the movements, behaviors, and sensory experiences of multiple species. However, while such theoretical perspectives increasingly recognize multispecies coexistence, their translation into operational spatial frameworks within interior architecture remains limited.

This gap highlights the need for analytical approaches that examine how domestic interiors respond to multispecies habitation at the spatial level. In particular, there is a lack of systematic frameworks that enable researchers and designers to evaluate how spatial hierarchy, circulation patterns, and boundary conditions are reorganized when animals are recognized as active participants in interior environments. Addressing this gap requires models that translate multispecies theory into spatially observable parameters for examination within built environments.

In response to this need, the present study proposes the Symbiotic Spatial Model as a conceptual and analytical framework for examining human-animal coexistence within domestic interiors. The model interprets multispecies living not merely as a social or ethical issue but as a spatial phenomenon that can be analyzed through observable design parameters. By focusing on the redistribution of spatial hierarchy, the reconfiguration of circulation systems, and the negotiation of spatial boundaries, the model enables a systematic reading of how interior environments adapt to shared habitation between humans and animals.

Within this framework, the study investigates two contemporary residential projects that explicitly address human-animal cohabitation through spatial design strategies. Through a comparative spatial analysis, the research examines how different architectural approaches reorganize interior space in response to multispecies living conditions.

The objective of this study is to examine how multispecies habitation reorganizes interior spatial structures and to develop an analytical framework to interpret these transformations. The following research questions guide the study:

RQ1: How do interior spatial hierarchies change when animals are recognized as active occupants within domestic environments?

RQ2: In what ways do circulation systems adapt to accommodate multispecies movement within interior spaces?

RQ3: How are spatial boundaries negotiated between human and non-human occupants within shared domestic environments?

Based on these questions, the study advances the following hypothesis:

H1: When animals are recognized as spatial actors rather than accommodated occupants, domestic interiors exhibit observable transformations in spatial hierarchy, circulation structures, and boundary configurations.

By operationalizing multispecies theory through spatial parameters, the study aims to contribute to the emerging discourse on post-humanist interior architecture. The proposed model provides a methodological framework for analyzing symbiotic living conditions in domestic environments and a structured approach to interpreting spatial adaptations that support human-animal coexistence.

The remainder of the article is structured as follows. Section 2 reviews the theoretical foundations of multispecies coexistence and its implications for interior architecture. Section 3 outlines the research methodology and analytical approach adopted in the study. Section 4 introduces the Symbiotic Spatial Model and defines its operational layers. Section 5 presents the

comparative spatial analysis of the selected case studies. Finally, Section 6 discusses the findings and reflects on the implications of symbiotic spatial thinking for future interior design practices.

2. Literature Review

The Interior architecture has historically evolved within an anthropocentric conceptual framework in which space is primarily defined through human scale, perception, and patterns of use. Domestic interiors, in particular, have long been conceived as environments optimized for human comfort, functionality, and aesthetic order. Phenomenological approaches to architecture have frequently emphasized human sensory experience and bodily perception as the primary basis for spatial understanding (Pallasmaa, 2012, pp. 61-125). Within this paradigm, non-human living beings have generally been positioned as peripheral or secondary occupants whose presence is accommodated rather than structurally integrated into spatial organization. As a result, the design logic of interiors has largely prioritized human circulation patterns, ergonomic standards, and sensory preferences while overlooking the spatial implications of multispecies coexistence. From a relational perspective, however, space may also be understood as a network of interactions among human and non-human actors rather than a domain exclusively produced by human agency (Latour, 2005, pp. xii).

In recent decades, the growing visibility of animals within domestic environments has begun to challenge these assumptions. Increasing rates of pet ownership, the transformation of urban domestic life, and the evolving recognition of human-animal relationships have contributed to new forms of shared living environments. In many contemporary households, animals are no longer treated merely as external companions but as participants in everyday domestic routines. Despite these transformations in living practices, architectural and interior design responses frequently remain limited to functional adjustments such as hygiene management, furniture adaptation, or localized design modifications. Such strategies typically operate within design frameworks that continue to prioritize human spatial logic rather than reconsidering interiors as multispecies environments (Wakkary, 2021, pp. xii).

The limitations of anthropocentric spatial thinking have been extensively discussed within post-humanist scholarship, which challenges the hierarchical distinction traditionally drawn between humans and non-human actors. Post-humanist theory argues that human subjectivity cannot be understood independently from the networks of relations that connect humans with other living beings, technologies, and environments. Within this perspective, humans are no longer interpreted as the sole producers of space; instead, spatial environments emerge through interactions among multiple forms of agency. Braidotti's critique of human exceptionalism challenges the humanist assumption that centers the human subject in knowledge and design (Braidotti, 2013, pp. 13-54). Similarly, Haraway's concept of "companion species" emphasizes the co-evolutionary relationships between humans and animals, suggesting that shared living environments are produced through ongoing processes of mutual adaptation and interaction (Haraway, 2003, pp. xii). Anthropological perspectives on ontology further reinforce this argument by demonstrating that distinctions between humans and other living beings are culturally constructed rather than universally fixed (Descola, 2013, pp. 1-30).

Relational approaches to spatial theory have also expanded the understanding of how environments are produced. Actor-network theory highlights the distributed agency of both human and non-human actors within social and spatial systems, suggesting that built environments emerge from complex networks of relationships rather than singular human intentions. Ingold's concept of "meshwork" similarly describes space as a dynamic field of interconnected trajectories, movements, and interactions rather than a static container (Ingold, 2011, pp. xii). From this perspective, interiors may be understood not merely as enclosed volumes but as relational environments shaped by the movements, behaviors, and practices of the beings that inhabit them.

Ecological thought adds dimension to these discussions by emphasizing the interdependence of living organisms and environmental systems. Ecosystem theory demonstrates that environmental

conditions emerge from networks of reciprocal relationships among organisms, energy flows, and material exchanges (Odum, 1971, pp. 1-30). The concept of the ecosphere further extends this understanding by framing life on Earth as a complex system in which biological, chemical, and atmospheric processes interact continuously (Lovelock, 2000, pp. xii). Within built environments, these ecological perspectives encourage designers to view interiors not merely as human shelters but as micro-environments embedded within broader environmental systems (Chapin et al., 2011, pp. 4-20).

Environmental perception research has further broadened architectural discussions of space by highlighting the multisensory nature of spatial experience. Architectural theorists have emphasized that spatial perception is shaped not only by visual form but also by sensory conditions such as sound, temperature, air movement, and tactile qualities (Pallasmaa, 2012, pp. 40-60). Environmental psychology research similarly suggests that spatial well-being is influenced by atmospheric conditions and environmental stimuli that affect both physiological and psychological responses (Ulrich et al., 2008, pp. 61-125). These insights highlight the importance of recognizing that different species perceive and experience spatial environments through distinct sensory modalities.

Studies in animal behavior and cognition reinforce this perspective by demonstrating that animals interact with spatial environments through species-specific behavioral patterns such as climbing, hiding, territorial observation, and seeking sheltered retreats (Bekoff, 2007, pp. xii). Animals also perceive environmental stimuli differently from humans, often exhibiting heightened auditory sensitivity, olfactory awareness, and spatial orientation behaviors (Grandin & Johnson, 2005, pp. xii). When design strategies fail to account for these differences, conflicts between spatial organization and animal behavior may arise, leading to stress, spatial competition, or environmental incompatibility. Conversely, environments that account for behavioral and perceptual diversity can support more balanced forms of coexistence between humans and animals (Bradshaw, 2017, pp. xii).

Material and environmental conditions also play a critical role in shaping multispecies interiors. Material properties such as toxicity, durability, surface resilience, and environmental performance also influence the ecological quality and environmental conditions of interior spaces (Ashby et al., 2016, pp. 80-109). These considerations demonstrate that design decisions regarding materials, surfaces, and environmental systems significantly contribute to the quality of shared habitats.

Despite these growing theoretical insights, much of the existing literature addressing animals in domestic environments remains focused on product design, specialized furniture, or isolated functional adaptations. Design strategies described as “pet-friendly” often focus on practical concerns such as durability, hygiene, and containment rather than on reconsidering the spatial organization of interiors from a multispecies perspective. As a result, animals are frequently treated as accommodated occupants rather than as spatial actors whose presence may reshape circulation patterns, spatial hierarchies, or vertical movement systems. Overall, the literature increasingly challenges anthropocentric assumptions and calls for design approaches that treat non-human occupants as active spatial stakeholders rather than accommodated add-ons. However, within interior architecture, this shift has only partially translated into operational spatial frameworks that can guide design decisions at the plan, section, and circulation scales. Recent work has begun to address this gap by examining post-humanist cohabitation in interior and furniture design for pets, highlighting the need for more systematic spatial models (Yurttaş & Altuncu, 2022, pp. 281-283).

This limitation reveals a significant gap within contemporary interior architecture discourse. While multispecies relationships are increasingly recognized within theoretical discussions, their spatial implications within interior architecture remain insufficiently examined. Addressing this gap requires analytical frameworks that translate multispecies theory into spatially observable design parameters.

In response to this need, the present study introduces the Symbiotic Spatial Model as a conceptual and analytical framework for examining multispecies coexistence within domestic interiors. By translating post-humanist and ecological perspectives into spatially readable parameters, the model enables a systematic examination of how interior environments respond to the presence of multiple species. The framework focuses on the spatial negotiation of hierarchy, circulation, and boundaries within shared domestic environments, providing a methodological basis for analyzing symbiotic living conditions in human-animal shared spaces.

3. Methodology

This study adopts a model-oriented analytical approach to examine the spatial organization of domestic interiors accommodating multi-species living. The methodology comprises three stages: the development of an analytical framework grounded in post-humanist spatial discourse; the identification of contemporary residential projects that meaningfully engage with human-animal cohabitation; and a layered spatial reading of selected examples. Through this process, the study seeks to clarify how symbiotic coexistence can be interpreted as a spatial regime rather than a purely functional accommodation.

3.1. Development of the Symbiotic Spatial Model

The Symbiotic Spatial Model was developed through a critical reading of post-humanist spatial discourse alongside architectural discussions on human-animal cohabitation. While these discussions frequently address issues such as decentered hierarchy, multi-species agency, and negotiated coexistence, they often remain at a conceptual level. This study examined how such ideas might be recognized in the spatial organization of domestic interiors.

To do so, recurring theoretical themes were translated into spatial questions: Who occupies the dominant zones of a plan? How are circulation paths structured and shared? Where are boundaries fixed, and where are they adjustable? By reformulating abstract concepts into spatial parameters that can be read in plan and section, three interrelated layers were defined: (1) Reconfiguration of Spatial Hierarchy, (2) Multi-Species Circulation and Bodily Negotiation, and (3) Negotiated Separation and Co-presence.

The model was articulated before project selection and operates as an analytical framework that enables a structured spatial reading rather than prescribing a specific design solution.

3.2. Project Identification and Selection

Contemporary residential projects addressing human–animal cohabitation were identified through a focused review of architectural publications and professional repositories. The search was carried out across widely recognized platforms, including ArchDaily, Dezeen, Designboom, Architizer, Divisare, and Interior Design Magazine.

Using keywords such as “co-living with pets,” “multi-species housing,” “pet-friendly residence,” and related variations, approximately 30 contemporary projects were initially identified. The first stage of filtering excluded projects in which animal accommodation was limited to additive interventions, such as furniture insertions, wall-mounted pathways, or accessory-based integrations, that had no measurable impact on the spatial organization of the domestic plan.

A second stage focused on the availability of technical documentation. Projects lacking accessible plans or sectional drawings were excluded, as this limited the ability to conduct a plan-based analysis. The remaining projects were then evaluated according to the extent to which circulation systems, zoning strategies, and boundary conditions suggested structural spatial integration rather than peripheral accommodation. Two projects were ultimately selected for their ability to demonstrate distinct degrees of spatial reorganization in relation to the proposed analytical framework.

3.3. Analytical Procedure

The selected projects were examined through a layer-by-layer spatial reading based on the three components of the Symbiotic Spatial Model. Rather than treating the projects as isolated case studies, the analysis focused on identifying specific spatial operations within their plan organization and sectional articulation.

For each project, the first layer, “Reconfiguration of Spatial Hierarchy”, was examined by observing how dominant zones were distributed, whether central areas remained exclusively human-oriented, and how spatial priority was allocated across the interior. This involved assessing the relative size, position, and connectivity of spaces attributed to different forms of inhabitation.

The second layer, “Multi-Species Circulation and Bodily Negotiation”, was analyzed through the configuration of movement paths. Circulation systems were examined for continuity, overlap, and accessibility, with attention to whether non-human movement was structurally integrated into the primary interior flow or confined to residual surfaces and peripheral routes.

The third layer, “Negotiated Separation and Co-presence”, was evaluated by identifying how boundaries were articulated. Particular attention was given to thresholds, partitions, and visual permeability: whether separation operated as rigid exclusion or as calibrated adjacency enabling simultaneous presence without enforced overlap.

The findings from each layer were then comparatively interpreted to identify varying degrees of spatial reorganization. This comparative reading does not rank the projects by success; instead, it reveals how different domestic interiors negotiate multi-species coexistence through spatial logic.

To enhance comparative clarity, the layer-based observations were additionally synthesized into a qualitative evaluation matrix. Each operational layer was assessed based on the extent to which it reorganized the spatial hierarchy, circulation systems, and boundary conditions. Rather than introducing a quantitative scoring system, the matrix employs a two-level qualitative distinction, Primary and Secondary, indicating whether the spatial reorganization constitutes a structural driver of the project or a supportive but non-dominant operation. This classification does not rank the projects but clarifies the relative intensity of spatial integration across the three operational layers.

3.4. Scope and Limitations

This study is limited to the spatial organization of domestic interiors accommodating human-animal cohabitation. The analysis focuses specifically on architectural spatial logic, plan configuration, circulation systems, and boundary articulation, rather than legal ownership structures, urban policy frameworks, or behavioral and veterinary considerations.

The projects examined are interpreted through published drawings and visual documentation. As such, the study does not evaluate post-occupancy performance, user satisfaction, or measurable indicators of animal welfare. Instead, it investigates how spatial organization itself may enable or constrain symbiotic coexistence.

The scope is further confined to residential typologies, including individual dwellings and multi-unit housing, and does not extend to urban-scale interspecies planning.

4. The Symbiotic Spatial Model

The increasing visibility of human-animal cohabitation in domestic environments has not necessarily translated into a structural transformation of interior spatial organization. While pet-inclusive strategies often accommodate animals through additive or accessory-based solutions, the underlying spatial hierarchy of the domestic plan frequently remains anthropocentric. In response to this spatial condition, this study proposes a Symbiotic Spatial Model that reconsiders the interior not as a human-dominated arrangement with animal adaptations, but as a negotiated spatial system structured through multi-species interaction.

The model is grounded in three interrelated layers that operate at the level of plan organization and sectional articulation: (1) the reconfiguration of spatial hierarchy, (2) multi-species circulation and bodily negotiation, and (3) negotiated separation and co-presence.

4.1. Reconfiguration of Spatial Hierarchy

Domestic interiors have historically been organized through an implicit hierarchy that positions the human subject as the primary spatial reference. Rooms are distributed according to human routines; circulation follows human ergonomics; thresholds, levels, and visual axes are calibrated to human perception and bodily scale. Within this framework, animals are typically accommodated secondarily, through localized adaptations, peripheral zones, or movable additions, without fundamentally altering the underlying spatial order.

Reconfiguration of spatial hierarchy, as proposed in the Symbiotic Spatial Model, does not imply the elimination of human centrality, but rather its recalibration. The interior is reconsidered as a field of negotiated priorities, where spatial allocation, adjacency, and degrees of access are distributed in response to the needs, movements, and spatial occupation of multiple species, rather than determined solely by human functional sequences. Instead of attaching animal-related functions onto an already fixed plan, the hierarchy itself becomes adjustable, allowing different species to exert influence over spatial distribution.

At the level of plan organization, this reconfiguration becomes visible through shifts in zoning logic. Spaces traditionally considered secondary, corridors, transitional zones, and service areas, may acquire structural significance when multi-species occupation is acknowledged. Circulation cores can transform from purely connective elements into shared infrastructures. The hierarchy of private versus common, primary versus auxiliary, expands to accommodate species-specific needs without reducing them to accessory status.

This layer, therefore, operates primarily at the scale of spatial ordering. It asks not whether animals are present within the domestic interior, but whether their presence has reorganized the distribution of space. A symbiotic hierarchy emerges when the plan reflects negotiated spatial priorities rather than unilateral human dominance, producing an interior in which multiple forms of occupation are embedded in the plan's spatial organization rather than added as secondary layers.

4.2. Multi-Species Circulation and Bodily Negotiation

If the first layer concerns the allocation of space, the second layer addresses how bodies move through it. In most residential plans, circulation is organized around human routines: entry sequences, room-to-room transitions, visual axes, and ergonomic dimensions are all designed according to human scale and habitual patterns of use. Movement paths are typically linear and horizontally organized, structured through room sequences, openings, and spatial alignments defined by human scale. When animals are considered, their movement is often accommodated by adding elements such as wall-mounted pathways, surface extensions, or localized openings, without altering the dwelling's primary circulation system.

Within a symbiotic spatial framework, circulation becomes a site of multi-species negotiation. Movement is no longer conceived as a single, human-dominated trajectory but as an overlapping set of routes shaped by different bodily scales, speeds, and spatial preferences. This does not necessarily require duplicating entire circulation systems; rather, it entails recalibrating spatial thresholds, vertical connections, and transitional zones to enable multiple forms of movement to coexist within the same interior structure.

At the plan and section levels, such negotiation may manifest through layered pathways, vertically articulated circulation cores, or differentiated levels of access embedded in walls, platforms, or structural elements. Instead of confining animals to peripheral routes, the circulation is structurally reorganized so that their movement intersects, parallels, or occasionally diverges

from human paths. The primary flow of the plan is therefore reconsidered rather than replaced, enabling multiple trajectories to coexist within a shared spatial framework.

In this layer, bodily negotiation is articulated through measurable spatial decisions: variations in height, sectional layering, calibrated passage widths, visual permeability across levels, and controlled points of intersection. These decisions acknowledge that bodies occupy space differently and that movement patterns are species-specific. A multi-species interior does not merely tolerate animal mobility; it anticipates and integrates it into the architectural logic of circulation itself.

4.3. Negotiated Separation and Co-presence

Domestic interiors that include animals often oscillate between two spatial extremes: unrestricted integration or strict segregation. In the first case, animals move freely throughout the dwelling, resulting in shared but frequently unstructured occupation. In the second, they are confined to enclosed rooms, cages, or isolated zones, thereby disconnecting them from daily domestic life. Both approaches rely on fixed boundaries, either none at all or entirely rigid ones.

Within the Symbiotic Spatial Model, separation and co-presence are not treated as opposites but as spatial conditions that can be calibrated. Rather than drawing permanent dividing lines, the interior incorporates controlled thresholds, adjustable partitions, semi-transparent surfaces, and layered boundaries that allow varying degrees of visibility, proximity, and interaction. Separation becomes partial and reversible; co-presence becomes structured rather than incidental.

At the level of architectural articulation, this negotiation is expressed through sliding panels, elevated platforms, half-height enclosures, perforated partitions, or translucent materials that permit visual continuity without unrestricted access. The emphasis is not on isolating species from one another, but on designing spatial relationships that enable moments of closeness and moments of withdrawal within the same framework. These calibrated boundaries allow domestic life to fluctuate between shared occupation and differentiated inhabitation without collapsing into spatial conflict.

In this layer, co-presence is spatially staged rather than assumed. Animals and humans may occupy adjacent zones, maintain visual connection across levels, or intersect at controlled points of overlap. The interior thereby acknowledges proximity as an architectural condition, not merely a behavioral one. Negotiation is embedded in thresholds, edges, and intermediate zones, ensuring that separation does not eliminate interaction, and interaction does not eliminate spatial autonomy.

This operational structure is schematically represented in [Figure 1](#) through a neutral, rectilinear residential plan. The left diagram illustrates an anthropocentric default configuration, in which the spatial hierarchy is centralized and dominated by a primary human living zone. Although non-human movement is present, it remains fragmented and structurally unallocated, occurring within a spatial order that has not been reorganized to accommodate multiple forms of occupation. Boundaries are fixed, and overlap emerges incidentally rather than through calibrated design.

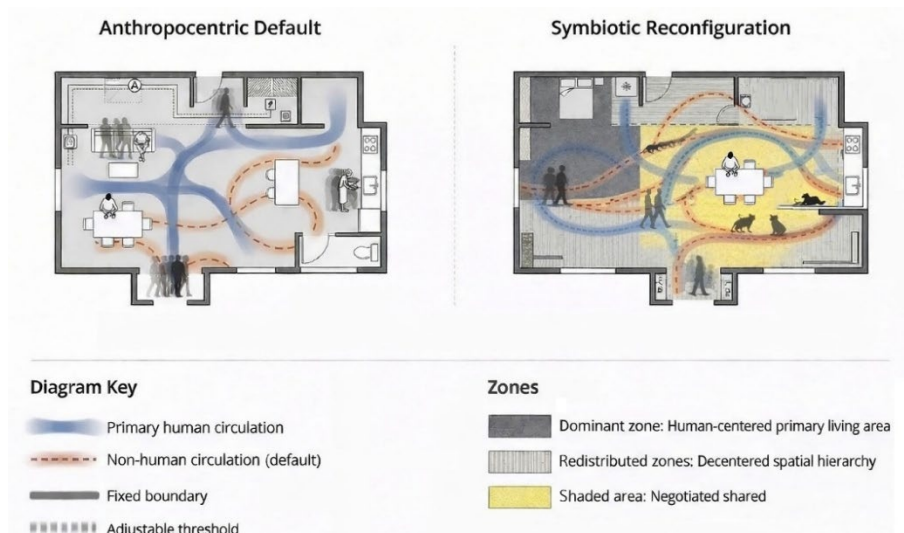


Figure 1 Conceptual diagram of the Symbiotic Spatial Model contrasting anthropocentric spatial organization with symbiotic reconfiguration. The diagram illustrates how multispecies habitation reorganizes spatial hierarchy, circulation systems, and boundary conditions within domestic interiors (Created by the author)

The diagram on the right visualizes the transition toward a symbiotic spatial regime. While the geometric envelope of the plan remains unchanged, the distribution of zones, circulation trajectories, and boundary conditions is reorganized. Dominant areas are redistributed, shared infrastructural zones emerge, and thresholds become adjustable rather than absolute. The diagram does not propose a specific architectural typology; instead, it clarifies how shifts in spatial hierarchy, circulation logic, and boundary calibration transform the interior from a human-centered arrangement into a structurally integrated multi-species environment.

5. Spatial Analysis Through the Symbiotic Spatial Model

The following section applies the three-layered Symbiotic Spatial Model to two contemporary residential projects that explicitly engage with human-animal cohabitation. Rather than presenting isolated project descriptions, the analysis is structured around the model's three operational layers. Each layer is examined comparatively, allowing the spatial logic of both projects to be read in parallel.

This parallel reading does not seek to rank the projects, but to clarify how different degrees of spatial reorganization emerge when domestic interiors are reconfigured beyond anthropocentric defaults. The focus remains on plan organization, circulation structure, and boundary articulation, as defined within the three-layered Symbiotic Spatial Model.

5.1. Reconfiguration of Spatial Hierarchy

The first operational layer of the Symbiotic Spatial Model addresses how spatial priority is distributed within the domestic plan. Reconfiguration of the spatial hierarchy does not imply the elimination of human-centered organization; rather, it involves questioning which zones are treated as dominant and which are treated as residual. A symbiotic approach shifts this balance so that animal inhabitation is considered at the level of spatial organization rather than as a secondary insertion.

In *Home of Pets*, hierarchy is reorganized through a systematic redistribution of territorial domains. This redistribution does not merely allocate resting areas for pets but also restructures circulation cores, light access, and boundary permeability in relation to feline movement. The conventional domestic core, living, cooking, and sleeping areas, is no longer treated as the fixed spatial nucleus around which animals circulate peripherally. Instead, the plan establishes two interlocking systems: one structured primarily for human occupation and another designed as a continuous feline habitat. Corridors, cabins, and transitional zones are redefined as part of a

cohesive pet-oriented domain, while human living areas become more compact and clearly bounded.

A key spatial device in this reorganization is a sliding translucent partition, which the designers describe as a spatial “valve.” This movable element operates as a calibrated threshold, mediating expansion, visibility, and circulation between the two spatial domains. When closed, circulation privileges human movement and limits feline access to the central core. When opened, the animal domain expands toward the light well and the circulation axis, allowing cats to traverse areas that would otherwise remain under human control. In this sense, hierarchy is no longer fixed; it can shift with daily use and with negotiated proximity between species. The depth of this recalibration is legible in the before-and-after plan transformation and the adjustable zoning logic (Figure 2).

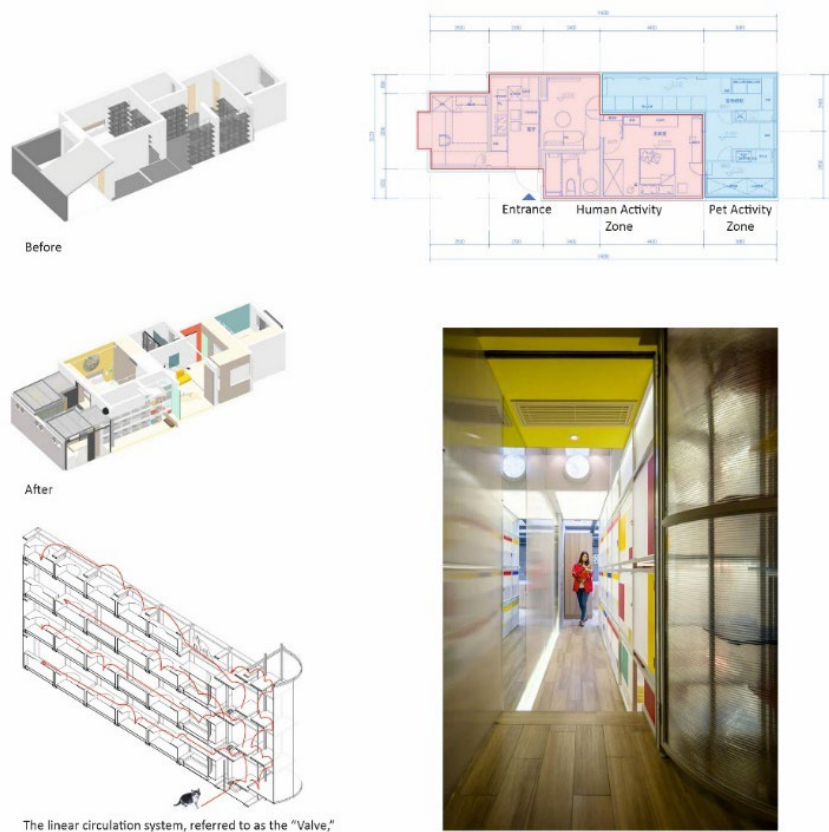


Figure 2 Before-and-after spatial transformation of *Home of Pets*: Plan reorganization, human – pet zoning strategy, axonometric circulation system “Valve”, and interior view illustrating the adjustable territorial relationship between human and feline domains (Created by author)

In contrast, Positive House operates through a different spatial strategy. The ground plan remains recognizable as a conventional domestic layout, with primary functions arranged according to a familiar human-centered logic. Rather than redistributing these core zones, the project introduces vertical layering through elevated platforms, suspended surfaces, and a cylindrical climbing core. These elements generate alternative trajectories for animal movement above and across the main inhabitable plane.

Here, hierarchy is not overturned but expanded. Human occupation continues to define the primary horizontal organization; however, sectional articulation allows animals to inhabit a parallel spatial system without being confined to residual floor-level territories. The result is a vertically stratified spatial field in which differentiated platforms, suspended elements, and sectional layering create parallel trajectories without disrupting the primary horizontal plan (Figure 3).

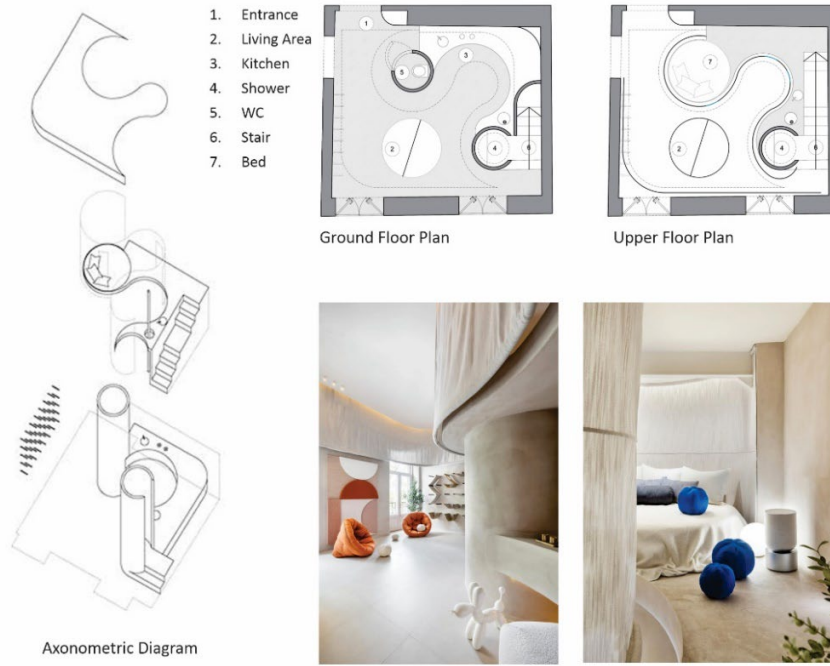


Figure 3 Spatial organization of *Positive House*: Axonometric diagram, exploded circulation system, ground and upper floor plans, and interior views illustrating vertical differentiation and layered spatial integration (Created by author)

The comparison clarifies that hierarchical reconfiguration can emerge through distinct mechanisms. In *Home of Pets*, spatial priority is recalibrated through the redistribution of the structural plan and adjustable territorial control. In *Positive House*, hierarchy remains largely stable at the plan level but is diversified through sectional and volumetric enrichment. What differentiates the two is not the acknowledgment of multiple species, but the extent to which hierarchy itself becomes negotiable within the domestic system. Within the Symbiotic Spatial Model, this distinction corresponds to two different modes of hierarchical recalibration: structural redistribution versus sectional augmentation.

5.2. Multi-Species Circulation and Bodily Negotiation

While the previous layer examined how spatial hierarchy is redistributed, the second operational layer of the Symbiotic Spatial Model focuses on circulation as a site of bodily negotiation. In multi-species domestic environments, movement is not a neutral condition; it structures access, visibility, and territorial overlap. Circulation, therefore, becomes a primary mechanism through which coexistence is either stabilized or contested.

In *Home of Pets*, circulation is deliberately fragmented and recalibrated to accommodate feline movement patterns. Rather than relying solely on floor-based pathways, the project integrates elevated cabins, concealed passages, and a continuous peripheral route that allows cats to move independently of human trajectories. The reorganization of corridors is particularly significant. What would conventionally function as a transitional space for humans becomes an extended habitat for animals. This shift transforms circulation from a residual connector into an inhabitable system structured around species-specific mobility.

The designers' description of the sliding translucent partition as a "valve" takes on added relevance in this context. Beyond regulating territorial expansion, the valve also modulates the intensity of circulation. When closed, it compresses feline movement into the peripheral network; when open, it allows animals to intersect the primary human axis. Circulation thus becomes dynamically adjustable rather than statically assigned. Movement is negotiated through spatial thresholds rather than enforced separation (see *Figure 4*).



Figure 4 The linear circulation system, referred to as the “Valve,” reorganizes corridor space in *Home of Pets*, enabling adjustable thresholds between the human and feline domains (ArchDaily, 2026a)

In contrast, *Positive House* constructs coexistence through vertical differentiation rather than plan-based rerouting. The circulation logic remains legible for human users at ground level, but is complemented by elevated surfaces, suspended platforms, and a cylindrical climbing core that generate alternative spatial trajectories. These elements enable animals to occupy overhead and interstitial zones while maintaining a visual and spatial connection with human activities below.

Here, bodily negotiation is structured through sectional layering rather than corridor redistribution. Animals are neither confined to the floor nor fully merged with human pathways; instead, a parallel vertical circulation network emerges. The result is a multi-scalar movement system in which bodies of different sizes and locomotive capacities coexist without direct spatial competition (Figure 5).



Figure 5 Vertical circulation system for pets in *Positive House*, illustrating sectional stratification and parallel movement trajectories (ArchDaily, 2026b)

The comparison reveals two distinct strategies of circulatory negotiation. In *Home of Pets*, circulation is reorganized horizontally through territorial redistribution and adjustable thresholds.

In Positive House, coexistence is achieved through vertical multiplication of trajectories within an otherwise stable plan. Within the Symbiotic Spatial Model, these correspond to two operative approaches: circulatory reprogramming and sectional stratification. Both move beyond anthropocentric defaults, yet differ in the degree to which bodily negotiation is embedded in the structural core of the domestic system.

5.3. Boundary Articulation and Degrees of Co-Presence

The third operational layer of the Symbiotic Spatial Model addresses the articulation of boundaries and the degrees of co-presence that emerge between species. While hierarchy defines priority and circulation structures movement, boundaries regulate visibility, access, and proximity. In multi-species domestic environments, boundaries are not merely separators; they become calibrated interfaces that mediate shared occupation.

In Home of Pets, boundary articulation is closely tied to the concept of adjustable permeability. The translucent sliding partition described as the “Valve” operates not only as a circulation regulator but also as a visual filter. Its materiality allows partial visibility while maintaining spatial distinction. As a result, separation does not equate to isolation. Humans and animals remain visually connected even when territorially differentiated. This produces a condition of controlled co-presence: proximity without total overlap.

Beyond the Valve, the project integrates mesh panels, semi-open cabins, and framed openings that support layered interaction. These devices avoid both extremes of enclosure and full exposure. Instead of rigid segregation or complete integration, the spatial system permits fluctuating degrees of encounter. Boundaries function as negotiable membranes rather than static walls. The domestic interior thus accommodates simultaneous autonomy and relational awareness (see [Figures 2 and 4](#)).

In Positive House, boundary articulation operates through curvature, elevation, and material continuity. The cylindrical climbing core does not isolate animals from human space; rather, it inserts a distinct yet visually accessible vertical domain within the shared interior volume. Soft material transitions and rounded enclosures reduce the perceptual rigidity of separation. Boundaries are expressed through sectional differentiation rather than planar division.

Here, co-presence is structured spatially rather than mechanically. Elevated surfaces allow animals to inhabit zones above human eye level while remaining visually legible within the same volumetric field. The absence of opaque partitions reinforces an atmosphere of spatial continuity. Instead of thresholds that open or close, the project establishes gradational distances shaped by height, curvature, and material tactility (see [Figures 3 and 5](#)).

The comparison clarifies two boundary logics within the Symbiotic Spatial Model. In Home of Pets, boundaries are adjustable and threshold-based, enabling dynamic modulation of co-presence. In Positive House, boundaries are stratified and volumetric, producing stable yet layered coexistence. Both strategies move beyond conventional anthropocentric enclosure by transforming walls into mediating interfaces.

Within the broader framework of the model, this layer demonstrates that symbiotic spatiality is not solely a matter of shared access, but of calibrated relational distance. Degrees of co-presence are spatially constructed through permeability, visibility, and sectional differentiation. The domestic interior becomes a negotiated field of interspecies awareness rather than a hierarchy of isolated zones.

5.4. Comparative Matrix and Operative Synthesis

The preceding sections have examined both projects through the three core operational layers of the Symbiotic Spatial Model. While the layer-based readings clarify distinct spatial strategies, their structural orientation becomes more legible when synthesized comparatively. [Table 1](#)

consolidates the findings across the model’s framework by distinguishing between (A) core operational layers and (B) dominant spatial mechanisms that extend or intensify those layers.

Table 1 Comparative Matrix of the Symbiotic Spatial Model (Created by Author)

A. Core Operational Layers		
Operational Layer	Home of Pets	Positive House
Layer 1: Hierarchical Reconfiguration	Primary	Secondary
Layer 2: Circulatory Reprogramming	Primary	Secondary
Layer 3: Boundary Modulation	Primary	Secondary
B. Dominant Spatial Mechanisms		
Dominant Spatial Mechanisms	Home of Pets	Positive House
Sectional Stratification	Secondary	Primary
Volumetric Differentiation	Secondary	Primary

Note: “Primary” indicates that the identified spatial mechanism functions as a structural driver of the project’s spatial organization. “Secondary” indicates a supportive yet non-dominant operation that reinforces but does not fundamentally define the spatial system.

The first part of the matrix evaluates the three core operational layers: Hierarchical Reconfiguration, Circulatory Reprogramming, and Boundary Modulation. These layers correspond directly to the analytical structure defined in Section 4. In this respect, Home of Pets demonstrates Primary engagement across all three layers. Spatial hierarchy is redistributed at the plan level, circulation is reprogrammed through adjustable thresholds, and boundaries operate as calibrated mediating interfaces. The transformations are embedded within the structural logic of the domestic plan.

In Positive House, by contrast, these same layers operate in a Secondary capacity. While the project integrates multi-species considerations, the primary horizontal plan organization remains relatively stable. Circulation and boundary articulation are reinterpreted, yet not fundamentally restructured at the level of plan hierarchy.

The second part of the matrix identifies dominant spatial mechanisms that characterize each project’s mode of intervention. Here, Sectional Stratification and Volumetric Differentiation become Primary in Positive House. The project constructs coexistence through vertical layering, suspended platforms, and spatial thickening across levels, generating parallel trajectories without redistributing the plan’s core zones. In Home of Pets, these mechanisms are present but operate in a Secondary capacity, supporting a predominantly plan-based reorganization.

The comparative synthesis reveals that symbiotic spatiality does not correspond to a singular formal strategy. Rather, it emerges through different operative emphases within the same theoretical framework. One strategy embeds negotiation into the horizontal redistribution of the domestic plan; the other multiplies trajectories through sectional articulation and volumetric enrichment. The distinction, therefore, lies not in stylistic variation but in the spatial level at which negotiation becomes structurally embedded within the domestic system.

6. Conclusions

This study set out to examine how domestic interiors may be spatially reorganized when human-animal cohabitation is treated not as a functional accommodation but as an architectural condition. To address this question, the research developed the Symbiotic Spatial Model. This analytical framework translates post-humanist spatial discourse into three operational layers readable within

architectural plans and sections: hierarchical reconfiguration, circulatory negotiation, and boundary modulation.

The comparative analysis demonstrates that multi-species coexistence does not emerge solely from the presence of animals within domestic space, but from the extent to which spatial organization itself is recalibrated. The two examined projects illustrate different spatial pathways through which such recalibration can occur.

In *Home of Pets*, symbiotic coexistence is embedded in the plan's structural organization. Spatial hierarchy is redistributed by redefining corridors and transitional zones as continuous feline habitats; circulation is reorganized through adjustable thresholds and peripheral pathways; and boundaries operate as negotiable interfaces rather than fixed separations. In this configuration, multi-species inhabitation becomes a primary driver of spatial organization.

Positive House, by contrast, demonstrates an alternative strategy in which coexistence emerges through sectional articulation rather than through a redistribution of the plan. The horizontal domestic layout remains largely stable, while elevated platforms, cylindrical climbing elements, and suspended surfaces create parallel vertical trajectories for animal movement. Here, symbiotic spatiality emerges through sectional stratification and volumetric differentiation, enabling species-specific mobility without fundamentally altering the plan hierarchy.

The comparative matrix clarifies that symbiotic spatial regimes may operate through different operative emphases. One approach reorganizes the domestic plan horizontally, redistributing spatial hierarchy and circulation infrastructures. The other multiplies trajectories vertically, thickening the interior's sectional structure while maintaining the primary plan logic. These strategies do not represent opposing models but alternative spatial mechanisms through which negotiated coexistence can be embedded within architectural organization.

By translating post-humanist concepts into readable spatial parameters, the Symbiotic Spatial Model contributes a methodological tool for examining multi-species environments beyond descriptive discourse. Rather than prescribing design solutions, the model provides an analytical framework for identifying how hierarchy, circulation, and boundaries operate when domestic space accommodates multiple species.

At the same time, the scope of the study remains limited to the spatial logic of two contemporary residential examples interpreted through published documentation. The research does not evaluate post-occupancy performance, behavioral adaptation, or measurable indicators of animal welfare. Future studies could extend the framework by incorporating empirical observations, larger comparative datasets, or cross-cultural housing typologies to examine how symbiotic spatial regimes evolve across different domestic and urban contexts.

Despite these limitations, the study suggests that the architectural interior can be reconsidered as a negotiated spatial field rather than a fixed anthropocentric arrangement. When hierarchy, circulation, and boundaries are recalibrated through multi-species inhabitation, domestic space begins to operate as a shared spatial system in which coexistence is structured architecturally rather than accommodated incidentally.

CRedit Authorship Contribution Statement

Neşe Başak Yurttaş: Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Visualization, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The author declares that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

Data will be made available on request.

Ethics Committee Approval

Ethics committee permission is not required.

References

- ArchDaily. (2026a). *Home of pets / HDD*. Retrieved January, 12, 2026, from <https://www.archdaily.com/893059/home-of-pets-hdd>
- ArchDaily. (2026b). *Pets and human positive house / Studio ruizvelazquez*. Retrieved January, 15, 2026 from <https://www.archdaily.com/1023787/pets-and-human-positive-house-studio-ruizvelazquez>
- Ashby, M., Balas, D., & Cora, J. (2016). *Materials and sustainable development* (1st ed.). Butterworth_Heinemann.
- Bekoff, M. (2007). *The emotional lives of animals: A leading scientist explores animal joy, sorrow, and empathy-and why they matter*. New World Library.
- Bradshaw, J. (2017). *The animals among us: How pets make us human*. Basic Books.
- Braidotti, R. (2013). *The posthuman* (1st ed.). Polity Press.
- Chapin, F. S., Vitousek, P. M., & Matson, P. A. (2011). *Principles of terrestrial ecosystem ecology* (2nd ed.). Springer.
- Descola, P. (2013). *Beyond nature and culture* (J. Lloyd, Trans.). University of Chicago Press.
- Grandin, T., & Johnson, C. (2005). *Animals in translation: Using the mysteries of autism to decode animal behavior*. Scribner.
- Haraway, D. (2003). *The companion species manifesto: Dogs, people, and significant otherness*. Prickly Paradigm Press.
- Ingold, T. (2011). *Being alive: Essays on movement, knowledge and description* (1st ed.). Routledge. <https://doi.org/10.4324/9780203818336>
- Latour, B. (2005). *Reassembling the social: An introduction to actor_network_theory* (1st ed.). Oxford University Press. <https://doi.org/10.1093/oso/9780199256044.001.0001>
- Lovelock, J. (2000). *Gaia: A new look at life on Earth*. Oxford University Press.
- Odum, E. (1971). *Fundamentals of ecology* (3rd ed.). W. B. Saunders.
- Pallasmaa, J. (2012). *The eyes of the skin: Architecture and the senses* (3rd ed.). John Wiley & Sons.
- Ulrich, R., Zimring, C., Zhu, X., DuBose, J., Seo, H.-B., Choi, Y.-S., & Joseph, A. (2008). A review of the research literature on evidence-based healthcare design. *HERD: Health Environments Research and Design Journal*, 1(3), 61-125.
- Wakkary, R. (2021). *Things we could design: For more than human-centered worlds* (1st ed.). The MIT Press.
- Yurttaş, N., & Altuncu, D. (2022). New possibilities of living together in post-humanist society: Interior and furniture design for pets. *Journal of Design for Resilience in Architecture and Planning (DRArch)*, 3(3), 281-294. <https://doi.org/10.47818/DRArch.2022.v3i3058>

Resume

Neşe Başak Yurttaş is an Assistant Professor in the Department of Interior Architecture and Environmental Design at Biruni University. She received her Ph.D. in Interior Architecture from Mimar Sinan Fine Arts University. Prior to her academic career, she worked for 19 years as a senior interior architect in international companies. She currently teaches undergraduate design studio courses. Her research focuses on themed spaces, spatial identity, inclusive design, and architectural design education.
