

Living Walls: Octavia E. Butler and Xenoarchitecture as an Interspecies Mediator

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Abstract

In her acclaimed science fiction trilogy *Xenogenesis*, Octavia E. Butler presents a narrative of interspecies coexistence involving humans and the alien Oankali. This coexistence is facilitated by living entities known as Lo, which serve as dynamic architectures mediating positive, mutualistic interactions between the two species. These entities offer a valuable framework for analysing architectures that seek to integrate the other. In this article, we propose to extend existing debates on interspecies co-design practices and link them to the concept of xenoarchitecture. Furthermore, we propose the Interspecies Interaction Protocols (IIP) to regulate human/other-than-human interactions in built environments. To demonstrate that xenoarchitecture's interspecies mediating vision can be applied to non-fictional real-world architecture, we project ideas

from Butler's onto three unusual examples of buildings that achieve this human/other-than-human mediation: the library at the National Palace of Mafra and Coimbra University's Joanina Library, both located in Portugal, and the Karni Mata temple, located in Rajasthan, India. These case studies illustrate positive IIPs that facilitate mutualistic coexistence between humans and two other species, bats and rats.

Keywords

Xenoarchitecture, interspecies, protocol, multispecies city, coexistence, bodies

In the plot of her celebrated science fiction trilogy *Xenogenesis*, Octavia E. Butler conceives interspecies coexistence involving the human species and the alien species of the Oankali.¹ Following a fatal nuclear war initiated by humans at the end of the twentieth century, the Oankali rescue (or capture) human survivors. They wish to generate a combined (and augmented) Oankali-human offspring.² In the first part of the narrative arc, the Oankali-human coexistence takes place inside the living entity-ship that the Oankali call Lo, a planet-scale autonomous being with whom the Oankali establish a mutualistic (and even affective) relationship.³ The Oankali possess the ability to instruct Lo to modify itself, generating walls, furniture, and even food from its own flesh. This ability is passed on to those humans who agree to live and reproduce with the Oankali. Later, when the narrative moves to planet Earth (a re-naturalised planet Earth in which all previous vestiges of human existence have been eradicated, including its architectures), the Oankali-human coexistence continues to be mediated by the Lo entity (more specifically, by offshoots of the primal entity-ship), which now takes the

form of wooden cabins. Our analysis will be focused on these Lo entities, which Butler defines as architectures that 'had been grown' instead of having been built.⁴ These living architectures act as mediators between the human species and the Oankali (as well as other-than-human species such as rodents, insects and various kinds of plants) in positive, mutualistic interactions.⁵ Such architectures seek to integrate the other, extending interspecies co-design practices that, we propose, can be linked to existing debates around the concept of xenoarchitecture. First introduced by the philosopher Armen Avanessian, there is currently a vibrant debate surrounding this neologism.⁶ This debate is best exemplified in the book *Perhaps It Is High Time for a Xeno-architecture to Match* (2018).⁷ This compilation of articles contains a series of dialogues aiming to incorporate the prefix 'xeno-' (meaning 'other, different in origin') into philosophical discussions regarding architecture. The open format of this debate invites us to expand the concept of xenoarchitecture to another area in which it can also have an impact: the field that investigates the integration of other-than-human agents into the projected space.

At a time when contemporary architecture and urban theory are immersed in a profound search for alternative forms of interspecies coexistence that remove the human being from the centre of the design practice, Butler's text is particularly resonant.⁸ Published between 1987 and 1989, the trilogy explores an array of topics such as sexuality, gender, race, and the ethics of interspecies relationships with a contemporary sensibility. This work, along with the rest of Butler's literary opus, became a key intellectual reference with significant influence on a new generation of thinkers who argue for the necessity to establish new worldviews.⁹ In this article, we argue that the current search for alternative forms of interspecies coexistence, taking place within the disciplines of architecture and urbanism, can and should be enriched by diving into literary works of science fiction, such as this one.

To demonstrate that xenoarchitecture's interspecies mediating vision can be applied to actual built architecture, in this article we project the ideas from Butler's *Xenogenesis* onto three examples of buildings that achieve this human/other-than-human mediation. Both in the library at the National Palace of Mafra and in Coimbra University's Joanina Library, colonies of common pipistrelle bats make their home behind the bookshelves and emerge at nightfall to consume flies, gnats and other insects that endanger the centuries-old books.¹⁰ In the Karni Mata temple in Rajasthan, India, a population of more than twenty thousand rats is venerated and cohabit in perfect harmony with human beings.¹¹ In this article we delve into these examples of mutualistic coexistence between different species,

mediated by architecture, through the prism of Butler's text. This approach offers the opportunity for a rich comparative analysis that will allow us to find connections between fiction and contemporary architectural theories.

Perspectivism: we are the aliens!

From the point of view of the Oankali, rescuing the few humans who survived the nuclear war (which had also annihilated the majority of Earth's other-than-human inhabitants) and then genetically modifying them is a logical thing to do. It is almost an act of mercy, since by doing so, they free the human species from diseases, conflicts, and pathologically hierarchical behaviour. The Oankali do not ask for permission for this act and do not believe that they should. They are confused and surprised by the indignation shown by the majority of the humans who have been 'rescued': how is it possible that such an obviously flawed species does not appreciate being 'corrected' by a more advanced species?

From the point of view of the human beings, however, the mere fact that the Oankali have genetically modified them without their consent is a violation of their rights, an affront to their dignity as an autonomous and free species. Even worse, they are denied their right to freely inhabit Earth, their home planet, the place they inhabited until its complete devastation in the apocalyptic nuclear war (caused, it is true, by humans themselves). From the human perspective, the situation is unambiguous: humans have been 'captured' by the Oankali. Who gave the Oankali the right to decide about other species? The aliens are nothing more than occupiers against which fierce resistance is necessary.

We find here a confrontation between two different perspectives – of the rescuers and of the captured – juxtaposed in Butler's fiction.¹² Butler points out a key issue in interspecies coexistence: the confrontation of incompatible points of view. In similar fashion, in their book *The Ends of the World*, Déborah Danowski and Eduardo Viveiros de Castro effectively illustrate the perspectives of others in the context of Amerindian cosmologies, which has become known in the academic world as Amerindian perspectivism:

Each existing species sees itself as (anatomically and culturally) human... We humans (Amerindian humans, that is) do not see animals as humans. They are not human *for us*; but we know they are human *for themselves*. We know just as well that we are not human *for them*.¹³

Applying this theory to the fictional species of the Oankali, we could state that the Oankali perceive themselves as human, while to them, the humans that they have rescued from the ruins of the nuclear war are nothing more than a

troubled species from which they can obtain genetic material in exchange for saving them from extinction. This finds an immediate parallel in numerous contemporary situations directly caused by humans by humans, such as the establishment of protected reserves to rescue endangered species, experimentation on animals (without their consent) to obtain medical or cosmetic benefits, the radical and violent extermination of 'pests' that invade the human habitat, and so on.¹⁴ By shifting perspective, as seen in Tânia Stolze Lima and Eduardo Viveiros de Castro's study on Amerindian tribes, we can imagine that laboratory animals, or other animals that humans hold in captivity, have a perception of humans that closely resembles the depiction of extraterrestrial beings in cinema and science fiction. In other words, we are to those other living beings what the Oankali are to humans: an invasive and strange species that comes from somewhere else and abducts them, experiments on them, and claims the right to do whatever they please. By asking ourselves who granted the Oankali the right to decide on other species, we can immediately ask ourselves the same question: who gave humans the right to decide on the rest of the species with whom we share the planet?¹⁵

This debate currently has a broad significance, framed by an active intellectual movement that seeks to challenge human exceptionalism, and involving academics from diverse fields of thought.¹⁶ Butler's work manages, through the intellectual exercise of changing perspectives and 'othering' humans, to confront the reader with these ontological and ethical questions. Butler's fiction enables us to experience what would it mean for our humanity to be denied and subjugated by the prevailing humanity of a stronger species.

The key role of architecture in interspecies interaction protocols

Human beings share the planet, including the built environment, with all kinds of other-than-human beings. Ants, rats, cockroaches, larvae, weeds, mould, flies, bees, termites, birds, fish, and many other species, cohabit with us in spaces that were not designed for them.¹⁷ As the humans expand the agrologistic project, challenging definitions of the domesticated and the wild, there is a growing need to redefine interaction protocols between these two worlds and align them with new socio-economic and political realities.¹⁸ We propose the term Interspecies Interaction Protocol (IIP) as the set of rules that would regulate the interaction between humans and other-than-humans in an urban context. While it is true that these rules are designed and agreed upon mainly by humans, this does not mean that we, the humans, should ignore the other party involved in the interaction. On the contrary, in the formulation of the IIP, we need to make an effort to understand the will and

needs of both parties.¹⁹ The vast majority of human/other-than-human interactions that take place in the built environment involve encounters that were not anticipated by architects and urban planners, who designed cities in a way that does not take into account the needs and behaviours of both parties. The improvised and inadequate Interspecies Interaction Protocols often lead to the violent death of the other-than-humans.²⁰ For instance, an unplanned encounter between a rat and a human being in an urban environment is a situation for which urban designers have not generated an effective IIP.²¹ Consequently, rats usually end up dying or getting seriously injured, while humans may sustain a bite wound, the transmission of a zoonotic disease, and so on. One way to bring a positive outcome to the aforementioned encounter between rats and humans would involve incorporating mechanisms of detection, population control, and non-lethal evacuation from buildings and infrastructure. Any of these solutions hinges on a crucial initial step: acknowledging rats and other non-charismatic other-than-human species as legitimate city dwellers, rather than denying their presence by implementing hostile protocols and architectures.²²

Contrary to the negative encounters described above, in Octavia E. Butler's *Xenogenesis* we find architectures (the living entities that Oankali call 'Lo') that facilitate mutualistic interactions with a positive outcome for all the species involved. Throughout the series, we come across a multitude of references to these types of positive interspecies interactions. For instance: 'The Lo entity shaped itself according to the desires of its occupants and the patterns of the surrounding vegetation'; it could 'learn to incorporate Earth vegetation, sustain it, and benefit from it'; and 'it did not have problems with rodents or insects that came to eat excess human food, as they were able to establish complex equilibrium relationships with the living beings that are part of the ecosystems in which they are integrated.'²³ We propose that this kind of architecture, which acts as interspecies mediator in mutualistic IIPs, is exactly what can be linked with the existing theories on xenoarchitectures. In this article we demonstrate that the case studies under examination, the library at the National Palace of Mafra, Coimbra University's Joanina Library, and the Kani Mata temple, are existing and functioning examples of xenoarchitectures.

The Library of the National Palace of Mafra and the Joanina Library of the University of Coimbra, both in Portugal, are buildings from the eighteenth century that house valuable collections of ancient books such as a first-edition of Dionysius of Halicarnassus's *Roman Antiquities* (1532) and several incunabula. Both libraries are inhabited by colonies of pipistrelle bats, which have made their home behind the towering bookshelves.²⁴ As night falls, the bats emerge to feed on flies, gnats, and other insects, before flying out of

the library windows in search of water. These bats play a crucial role in the library's ecosystem, as they help control the insect population that could damage the valuable manuscripts. A series of sensors arranged throughout the libraries ensures optimal temperature and humidity conditions for the three agents that coexist in the buildings: humans, bats, and books. At the end of the day, when the library closes for humans, library workers cover the books with special cloths to protect them from bat droppings. The following morning, after the bats have returned to their resting places behind the bookshelves, a maintenance crew cleans the building, and the library is once again ready for human users.

It is important to note that the very nature of the library makes this human-bat interspecies cohabitation highly compatible, as a number of special conditions are met. First, human users are typically silent in libraries, something that allows the bats to rest. Second, public libraries usually only allow access to human users during the day, while bats are a species that sleeps during the day and becomes active at night. The combination of these factors constitutes a set of IIPs to the benefit of both bats and humans. The bats obtain a safe and comfortable place to live and feed, while the humans gain an effective means of protection for their valuable ancient books. Thus, the xenoarchitectonic spatial elements deployed in this IIP (the high ceilings that allow bats to fly; the dark and humid cavities created between the wooden shelves and stone walls; the cloth coverings that protect the shelves from bat droppings; the sensors and other technological devices that monitor and condition the space) adjust and mediate the overlap between humans and bats, making it possible for both parties to derive benefits from this symbiosis.

In the case of the Karni Mata sanctuary in India, where a population of more than twenty thousand rats is venerated for religious reasons, human use of the temple requires extreme caution. [Fig.1] This is to avoid stepping on the rodents, which are considered sacred. Humans are subject to heavy fines, should they harm the rats.²⁵ It is mandatory for visitors to remove their shoes before entering the temple premises, so that they can feel the stone floor with their bare feet and the touch of rats passing over them. As a result, a series of high-intensity sensory exchanges are generated, in which architecture plays a crucial role. The pavement is made of soft and cool stone that creates a pleasant experience when walking on it barefoot, predisposing the visitor positively for the interspecies encounter. Furthermore, the temple and its surrounding area are modified with architectural elements specifically designed to meet the needs of the rats that inhabit it. Immediately outside the temple, for example, there are nets protecting the rodents from birds, and non-lethal traps to capture

rats, preventing them from leaving the building.²⁶ [Fig. 2] The architectural spaces are also adapted to the needs of the rodent inhabitants, with small rooms arranged like bunk beds for the thousands of rats. Furthermore, the extensive ornamental decorations and details depicting life-sized rats throughout the temple imbues the architectural space with complex symbolism. Instead of being feared, the rat becomes a positive figure in the public perception. [Fig.3-5]

The artifacts of particular architectural interest are the large, round, metallic pots located inside the temple from which the rodents drink milk. The remaining milk is used by humans to wash their feet, under the belief that it contains healing properties. This establishes a shared experience between species mediated by these objects. In the case of the Karni Mata sanctuary, the benefits of the mutualistic interaction extend to the realm of affection. This affection is manifested first through the overcoming, for mythical or religious reasons, of prejudices and stigmas commonly associated with rats.²⁷ Second, the exchange of affection takes place thanks to the mediation facilitated by the architectural elements described above, and the set of IIPs that, together, foster a conflict-free coexistence without establishing hierarchies.²⁸

Different bodies, different privileges

There is also a negative aspect that appears both in the xenoarchitectures imagined by Butler and the xenoarchitectures proposed as case studies in this article: the discrimination of bodies. A key aspect regarding the interaction between the Lo entities and humans in Butler's novels is that only those humans who have agreed to live and reproduce with the Oankali acquire the ability to modify the Lo entities. For a human who has not been endowed with such ability, something as simple as leaving a compartment located inside a Lo entity is impossible.²⁹ Only the Oankali and the privileged humans are capable of simple things like making a door-opening in their living-walls.

In a similar way, in the cases of the libraries inhabited by common pipistrelle in Portugal, the bats cannot actually fly freely out of the building until the librarians open the windows at night. This happens after the bats have completed their 'service' of consuming all the insects inside the building. It implies the continuing rescued-captured dichotomy alluded to above, and links with the implementation of biopolitical practices, where the window emerges as an architectural element through which control over specific bodies is practiced.³⁰ Something similar happens at the Karni Mata temple, where traps are set with the aim of capturing rats alive to prevent them from escaping. In this case, the control mechanism also materialises in a spatial device: the trap. Like the Oankali, humans reserve the ultimate right of control over the bodies of bats and rats, while

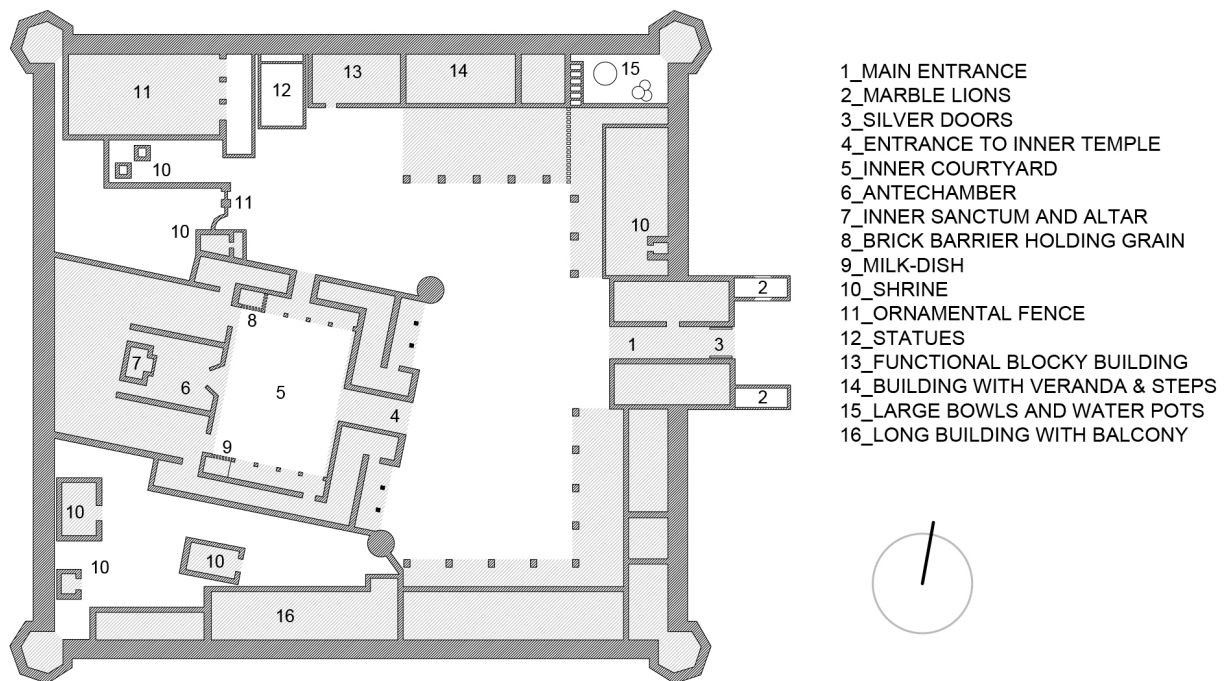


Fig. 1: Karni Mata plan. The floor-plan of the temple, based on Google Maps aerial view and a sketch by Francoise Cooperman. Areas shown in grey are roofed. Source: authors.



Fig. 2: In this image, we can see the nets covering the temple courtyards. Their purpose is to shield rodents from bird attacks. Photo: Bim. Source: Istock.

Fig. 3: People sharing space with rats. Photo: Yogesh Sahu. Source: Istock.



Fig. 4: Detail of the decorations at a 1:1 scale. Photo: Ostill. Source: Istock.

spatial devices (in these cases, windows and traps) play a key role in this process of control. If the bodies-under-control behave as expected (that is, if bats eat all insects that threaten the integrity of books, and rats remain within the boundaries of the temple) the coexistence between human and other-than-human agents will be peaceful and harmonious, practically optimal. Otherwise, control devices will be put into operation.

In the case of the Karni Mata temple, only rats considered *Kaba* (reincarnated descendants of the *Charans*, the caste dominant in the region, in the direct lineage of Karni Mata) have permission to inhabit the temple. Access is prohibited to common rats and to human beings belonging to the *Dalit* caste as well. As Trembley shows in his article 'Jatikan: Caste, Rats, and the control of space at the Karni Mata Mandir,' the interspecies relationship established in this IIP is subject to the mythic or religious belief that Kabas and Charans share a familial bond, implying a clear anthropomorphisation of the other-than-human agents.³¹ The privileged rights of the dominant caste are extended to these rodents for reasons that serve a human narrative. This involves an interspecies transfer of a discriminatory system, the caste system, from human agents to other-than-human agents. For a kaba rat, the mere act of being inside the temple automatically results in a transfer of privileges, as humans believe that kabas mercilessly kill other rats that dare to invade the sacred space. The xenoarchitectural structure that is the Karni Mata temple is thus established as a socio-corporeal device, extending privileges but also discriminations from some bodies to others.

Of course, the IIPs in both cases could be further optimised to deploy fairer practices related to human and other-than-human agents. These modifications to the IIPs would necessarily translate into modifications of the xenoarchitectures themselves, as the latter are established to facilitate the former. In this way, library windows could be connected, for example, to motion sensors that are activated when bats begin to wake up, so that they could come and go at will, gaining a greater degree of freedom. Non-lethal traps that seek to prevent Kabas from leaving the Karni Mata temple and all protocols that aim to prevent common rats from accessing it could also be eliminated. Thus, the redesign of the IIPs that govern human/other-than-human interactions in search of more just and balanced relationships has a direct and immediate impact on the spatial elements that mediate these interactions. An IIP aiming for a mutualistic relationship between species cannot be achieved if the architecture that facilitates their interaction does not consider the needs and characteristics of the various species involved in such interactions. Currently, the vast majority of IIPs deployed by humans

in built environments result in negative outcomes (either for the human side, the other-than-human side, or both).³² These IIPs are often unanticipated and improvised protocols, so primitive in many cases that humans resort to direct violence against other-than-human entities to resolve the encounter.

We still have a long way to go before we can achieve a conception of architecture in which the norm is the implementation of mutually beneficial IIPs, as seen in the analysed case studies. Before reaching that point, we must first ensure that the vast majority of architecture-mediated IIPs do not yield negative results. Xenoarchitectural principles, as derived from the case studies, advocate for the architectural design that seamlessly integrates various species as legitimate users of the built environment. This involves establishing clear IIPs, foreseeing potential encounters, and steering clear of negative outcomes through meticulous planning. Adaptive and flexible structures are recommended to accommodate the evolving needs of different species, fostering harmonious coexistence. We emphasise the role of architecture as a positive mediator in interspecies interactions, with sensitivity to the perspectives and requirements of other-than-human entities. Incorporating technology and sensors ensures optimal conditions for all species, while efforts need to be made to eliminate discriminatory barriers and create environments devoid of hierarchical distinctions. These principles for an interspecies architecture underscore the importance of education and raising awareness about multispecies coexistence, aiming for inclusive spaces that recognise and respect the diverse inhabitants of the built environment.

From utopia to reality

Reading Octavia E. Butler's work might lead us to think that the positive xenoarchitectures (that is, architectures that act as mediators in positive, mutualistic IIPs) are possible only in the most utopian science fiction. However, the case studies presented in this article demonstrate that xenoarchitectures are possible in real life. They can offer valuable knowledge about alternative forms of coexistence between human and other-than-human agents in built environments.

As we demonstrated throughout this article, architecture is indeed a key facilitator and mediator of IIPs. Architecture that has been designed to take into account the needs and capabilities of all agents that interact under its mediation will result in positive (or, at least, in less negative) IIPs. On the contrary, architecture that only considers the needs of humans will result in negative IIPs. Furthermore, architecture can deploy mechanisms to control interspecies bodies or, alternatively, inhibit practices that discriminate some bodies over others. It can either facilitate more equitable



Fig. 5: Detail. Photo: Ostill. Source: Istock.

ways of engaging with the other, or conversely, become an obstacle that hinders the implementation of protocols aimed at achieving those objectives.

In this article, we strongly argue for the principles of xenoarchitectures that tend towards the equal integration of all bodies in a coexistence, based on the model of human-built contexts that allow the voluntary association of the beings that inhabit them. It is precisely the understanding of architecture as a realm for the voluntary association that compels us architects to inevitably turn to literature. Taking the specific case of interspecies coexistence discussed in this article, Butler's work demonstrates that literature can serve as a springboard to reimagine the ways architecture engages with diverse life forms. By crafting narratives of symbiotic relationships between humans, aliens, and other creatures, Butler ignites sparks of inspiration that challenge conventional design paradigms. Her fiction engenders a profound shift in our perspective, urging us to contemplate spaces that consider the needs of all inhabitants, human and other-than-human alike. In this dynamic interplay, literature functions as a catalyst for architectural innovation, offering a platform to envision buildings as ecosystems of cohabitation. The tales woven by Butler create intricate connections between species and spaces, illuminating how the built environment can evolve into an inclusive tapestry where architectural structures nurture harmony and cooperation. As we navigate an era of ecological awareness, literature can guide us towards an architectural future that transcends the human-centric and embraces the richness of multispecies coexistence.

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Notes

1. Octavia E. Butler, *Lilith's Brood* (New York: Grand Central Publishing, 2000) comprises three books: *Dawn*, *Adulthood Rites*, and *Imago*. The three volumes were formerly compiled in a now-unavailable volume called *Xenogenesis*.
2. The author plays here with a change of perspective according to which, for the Oankali, the humans are being rescued, while, for the latter, the alien species has captured them against their will. There is an interesting parallel here with the perspectivist ideas of Tânia Stolze Lima and Eduardo Viveiros

de Castro that we explore later in this article.

3. Butler, *Lilith's Brood*, 35.
4. *Ibid.*, 528.
5. All architecture plays a role of mediator in the interaction between species, as we will see in this article, whether these interactions are designed or not. These interactions can result in negative, neutral or positive experiences for the different species involved. In this article, we focus mostly on mutually positive interactions. Our research is greatly influenced by Sue Donaldson and Will Kymlicka's *Zoopolis*, which explores questions about mutually beneficial human-animal relations and the positive obligations humans owe to animals; Sue Donaldson and Will Kymlicka, *Zoopolis: A Political Theory of Animal Rights* (New York: Oxford University Press, 2011), 49. In Butler's text, the Lo entities are described as interspecies mediators engaging in mutualistic interactions with species other-than-humans; Butler, *Lilith's Brood*, 528–29.
6. The term 'xenoarchitecture' was introduced in the preface of the book by Markus Miessen, *Crossbenching, Toward Participation as Critical Spatial Practice* (London: Sternberg Press, 2016).
7. Armen Avanessian et al., *Perhaps it is High Time for a Xeno-Architecture to Match* (London: Sternberg Press, 2018).
8. See, for example, Paula Arcari, Fiona Probyn-Rapsey and Haley Singer, 'Where Species Don't Meet: Invisibilized Animals, Urban Nature and City Limits', *Environment and Planning E: Nature and Space* 4, no. 3 (2021): 940–65, <https://doi.org/10.1177/2514848620939870>; and Manuel Bello-Marcano, Marianne Celka and Mathias Rollet, 'Contributions Towards Interspecific Architectural Theory', *Les Cahiers de la recherche architecturale urbaine et paysagère* 14 (2022): 1–10.
9. We want to mention here some other literary works of great courage and immeasurable impact on a new generation of thinkers, such as Ursula K. Le Guin's *The Left Hand of Darkness* (New York: Ace Books, 1969), Joana Russ's *The Female Man* (New York: Bantam Books, 1975), or Wittig Monique's *The Lesbian Body* (New York: William Morrow & Company, 1975). It is also worth mentioning Mary Wollstonecraft, *A Vindication of the Rights of Woman* (Philadelphia: William Gibbons, 1792). Finally, it is necessary to refer to Carolyn Merchant's *The Death of Nature* (San Francisco: Harper & Row, 1983).
10. The Royal Building of Mafra, also known as the Palace-Convent of Mafra, is a grand palace-monastery situated in Mafra, Portugal, approximately twenty-eight kilometres away from Lisbon. Its construction was initiated in 1717 by King John V of Portugal and was completed in 1755. Recently, on 7 July 2019, the Royal Building of Mafra was added to the UNESCO World Heritage Site list. See 'Six Cultural Sites Added to UNESCO's World Heritage List', Unesco World Heritage Convention, <https://whc.unesco.org/en/news/2005/>.

The Joanina Library is recognised as one of the finest examples of the Portuguese Baroque. It was named in tribute to King John V, and contains a collection of sixty thousand books dating from the sixteenth to the eighteenth century. See 'Baroque Library', Universidade d Coimbra, <https://visit.uc.pt/en/space-list/joanina>; Julie H. Case, 'These Portuguese Libraries Are Infested With Bats – and They Like It That Way', *Smithsonian Magazine*, 7 June 2018, <https://www.smithsonianmag.com/travel/these-portuguese-libraries-are-infested-batsand-they-it-way-180969276/>.

11. Karni Mata is a temple located in Rajasthan, India, dedicated to the Hindu Goddess Karni Mata, where a healthy population of more than twenty thousand rats lives, documented in Kyle J. Trembley, 'Jatikan: Caste, Rats, and the Control of Space at the Karni Mata Mandir', *Nature and Space* (April 2022): 1–19. According to Trembley, these rats are venerated and cared for by the Charan community, and admired by thousands of tourists and pilgrims who travel to the region to hold and feed these animals.
12. This line of thought directly connects with the work of multiple thinkers from the field of postcolonial studies, such as Olaf Kaltmeier, who emphasises that a postcolonial approach underscores the mutual creation of the colonised and the colonisers through processes of hybridisation and transculturation; Olaf Kaltmeier, 'Postkoloniale Geschichte(n): Repräsentationen, Temporalitäten und Geopolitiken des Wissens', in *Schlüsselwerke der Postcolonial Studies*, ed. Julia Reuter and Alexandra Karentzos (Wiesbaden: VS Verlag für Sozialwissenschaften, 2012), 203–214, https://doi.org/10.1007/978-3-531-93453-2_16.
13. Tânia Stolze Lima and Eduardo Viveiros de Castro coined the term 'Amerindian perspectivism' to describe a concept that encompasses the indigenous beliefs present in various ethnographies of Amerindian peoples from lowland South America. Perspectivism pertains to recurring features observed in Amerindian mythology and cosmology. Tânia Stolze Lima, 'O dois e seu múltiplo: reflexões sobre o perspectivismo em uma cosmologia tupi', *Mana* 2, no. 2 (1996): 21–47, <https://doi.org/10.1590/S0104-93131996000200002>; Eduardo Viveiros de Castro, 'Os pronomes cosmológicos e o perspectivismo ameríndio', *Mana* 2, no. 2 (1996): 115–44, <https://doi.org/10.1590/S0104-93131996000200005>.
14. Catia Faria, 'Muerte entre las flores', in *Más allá de lo humano*, ed. Antonio Giráldez López, Pablo Ibáñez Ferrera (Vigo: Bartlebooth, 2018), 97–107.
15. A notable early example of research on the evolution of the self-granted right of humans to decide over other living species can be found in E.P. Evans, *The Criminal Prosecution and Capital Punishment of Animals* (New York: E.P. Dutton, 1906). Evans compiles an exhaustive list of real-life cases of ecclesiastical trials against a range of animals, mostly non-domesticated, caused by overlapping habitats. In the middle ages, the eradication of 'problematic' animals (or 'pests') was not taken for granted, since punishing a creature for doing what God had created it to do constituted a direct infringement of the divine design. In contrast to this perspective, in *Zoopolis* Sue Donaldson and Will Kymlicka point out how numerous scholars indicate a religious origin of the self-asserted right of humans to dispose of other living beings: 'the sacred texts of many faiths, including Judaism, Christianity, and Islam, state that God gave humans dominion over animals, including the right to use them for our benefit'; Donaldson and Kymlicka, *Zoopolis*, 25.
16. We encounter this perspective in Donna Haraway's concept of the Chthulucene, in Rosi Braidotti's 'becoming-world', and in the 'anthropology beyond the human' articulated by Eduardo Kohn in his book *How Forests Think*. Donna Haraway, *Staying with the Trouble, Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 30–57; Rosi Braidotti, 'Becoming-World', in *After Cosmopolitanism*, ed. Rosi Braidotti, Patrick Hanafin and Bolette Blaagaard (New York: Routledge, 2013), 8–27; Eduardo Kohn, *How Forests Think: Toward an Anthropology Beyond the Human* (Berkeley: University of California Press, 2013). One of the most intriguing contemporary inquiries regarding the assumption of what humanity has historically taken for granted as exclusive to its species is Hollis Taylor's groundbreaking work in the emerging field of zoömusicology. In her article 'Marginalized Voices', Taylor provides us with a comprehensive exploration of birdsong, particularly that of Australian pied butcherbirds. Hollis Taylor, 'Marginalized Voices', in *Participatory Research in More-Than-Human Worlds*, ed. Michelle Bastian et al. (New York: Routledge, 2017), 38–53. Taylor challenges the prevailing methodology employed by biologists studying a limited set of songbird species in captivity. Instead, she introduces a participatory ethnographic approach involving the study of free-living birds, led by musicologists. Drawing parallels with participatory approaches in music, such as jazz and music therapy, Taylor reflects on her own practices. Through various participatory research approaches, she addresses challenges related to determining avian consent and collaborative research outcomes. In her conclusion, Taylor issues a challenge to human exceptionalism within the realm of music, advocating for a nuanced appreciation of individual capacities and the creativity exhibited by other-than-human songsters.
17. To illustrate the discomfort of urban space when interacting with 'wild' animals, see the following articles: Marie Carmen Shingne, 'The More-Than-Human Right to the City: A Multispecies Reevaluation', *Journal of Urban Affairs* 44, no. 2 (2022): 137–55; Milena Stillfried et al., 'Do Cities Represent Sources, Sinks or Isolated Islands for Urban Wild Boar Population Structure?', *Journal of Applied Ecology* 54 (February 2017): 272–81; and Michael H. Parsons et al., 'Trends in Urban Rat Ecology: A Framework to Define the Prevailing Knowledge Gaps and Incentives for Academia, Pest Management Professionals

- (PMPs) and Public Health Agencies to Participate', *Journal of Urban Ecology* 3, no. 1 (2017): 1–8.
18. The term 'Agrologistics' was introduced by Timothy Morton to describe an agricultural system that has been in practice since the beginning of the Holocene, approximately ten thousand years ago: 'Agrologistics arose as follows. About twelve thousand five hundred years ago, a climate shift experienced by hunter-gatherers as a catastrophe pushed humans to find a solution to their fear concerning where the next meal was coming from'. Timothy Morton, *Dark Ecology: for a logic of future coexistence* (New York: Columbia University Press, 2018), 43. According to Deborah Danowski and Eduardo Viveiros de Castro, before the end of the eighteenth century, the term 'wilderness' referred to landscapes that were uninhabited, infertile, hopeless, and uncivilised, arousing negative emotions such as desolation, perplexity, and dread of falling under demonic influence. Deborah Danowski and Eduardo Viveiros de Castro, *The Ends of the World* (Cambridge: Polity Press, 2017), 23–24. They argue that Milton's *Paradise Lost* portrays the wilderness as the surrounding landscape that serves as a barrier to the Garden of Eden, protecting it from any external intrusions. See John Milton, *Paradise Lost* (London: Samuel Simmons, 1667), 132–35. On the other hand, Timothy Morton offers us a vision of the wild from the perspective of agrologistics, which has created a view of the term as something outside of the human. See Timothy Morton, 'Where the Wild Things Are', *LA+: Interdisciplinary Journal of Landscape Architecture* 1 (2015): 60–65.
 19. Vinciane Despret, *What Would Animals Say If We Asked the Right Questions?* (Buenos Aires: Cactus, 2018); Taylor, 'Marginalized voices'.
 20. Recently, the field of urban ecology has dedicated notable efforts to study the effects of urban expansion on wildlife. See Kim Birnie-Gauvin et al., 'Sublethal Consequences of Urban Life for Wild Vertebrates', *Environmental Reviews* 24, no. 4, (June 2016): 416–25; Gad Perry et al., 'Good and Bad Urban Wildlife', in *Problematic Wildlife II*, ed. Francesco Maria Angelici and Lorenzo Rossi (Rome: Springer, 2020), 141–70; Shingne, 'More-Than-Human Right', 137–55. These articles examine the role that mammals, reptiles and birds play in the urban context and attempt to evaluate the (mostly negative) effects that this urban coexistence has on both other-than-human and human agents.
 21. Parsons et al., 'Trends in urban rat ecology', 1–8.
 22. This is a formula that has been proposed, debated and scrutinised by numerous scholars in the context of multi-species urban studies. It is worth mentioning the citizenship theory proposed by Sue Donaldson and Will Kymlicka, suggesting that other-than-human animals, particularly domesticated ones, should be considered as members of a political community with corresponding rights and responsibilities, rather than as mere property; Donaldson and Kymlicka, *Zoopolis*. While our article does not align with restricting citizenship recognition to domesticated animals and excluding wild animals, we are convinced that this is a necessary and promising discussion that can pave the way forward. Building upon this starting point, the acknowledgment of the legitimate agency of all kinds of other-than-human beings in built environments has the potential to bring about and normalise radically different forms of human/other-than-human coexistence. Indeed, the case studies presented in this article serve as an illustrative example of this assertion.
 23. Donaldson and Kymlicka, *Zoopolis*, 303, 313 and 528.
 24. Case, 'These Portuguese Libraries'.
 25. Trembley, 'Jatikaran'.
 26. From the perspective of the human caretakers overseeing the temple and its sacred inhabitants, allowing the rats to escape entails subjecting them to hardships and depriving them of proper care. As elaborated later in this article, humans do not regard the temple-dwelling rats merely as 'common rats'; instead, they perceive them as reincarnated humans. Allowing them to roam the streets would be akin to leaving them in destitution and devoid of care, exposed to a lot of danger. Trembley, 'Jatikaran'.
 27. For instance, although recent studies appear to compellingly indicate that the cause of the Black Death were not rats but rather human beings (with rats actually being victims), humanity still holds rats accountable for all the hardships caused by this pandemic. See: Katharine R. Dean et al., 'Human Ectoparasites and the Spread of Plague in Europe during the Second Pandemic', *PNAS* 115, no. 6, (16 January 2018): 1304–09.
 28. Trembley, 'Jatikaran'.
 29. Butler, *Lilith's Brood*, 528.
 30. This concept was first introduced by Michel Foucault in his lectures at the Collège de France in the 1970s, and later developed in *The Birth of Biopolitics*, ed. Michel Senellart, trans. Graham Burchell (London: Palgrave Macmillan, 1979). According to Foucault, biopolitics is a form of power that seeks to control and regulate life processes such as reproduction, health and disease, as well as the populations that they affect. Here we cannot fail to mention Donna Haraway's account of an association between French bulldogs and lesbians proposed by Paul B. Preciado: 'fabricated at the end of the nineteenth century, French bulldogs and lesbians co-evolve from being marginal monsters into becoming media creatures and bodies of pop and chic consumption. Together, they invent a way of surviving and create an aesthetics of human–animal life'. Donna Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2008), 303.
 31. Trembley, 'Jatikaran'.
 32. Jonathan Metzger, 'The City is Not a Menschenpark: Rethinking the Tragedy of the Urban Commons beyond the Human/Non-Human Divide,' in *Urban Commons: Rethinking the City*, ed. Christian Borch and Martin Kornberger (New York: Routledge, 2017), 22–46.

Biography

Aitor Frías-Sánchez and Joaquín Perales-Santiago are both architects, co-founders of afab architecture, and researchers at Universidad de Málaga. They both have been guest researchers at ALICE (Atelier de la Conception de l'Espace) of the École Polytechnique Fédérale de Lausanne (EPFL). Their work, both in research and in the professional practice of architecture, focuses on the pursuit of more equitable forms of coexistence between human agents and other-than-human entities.

Diego Jiménez-López is an architect and co-founder of DJarquitectura; he is renowned for achieving four first prizes in international competitions and receiving three nominations for the Mies van der Rohe European Awards. He holds the position of associate professor at the School of Architecture in Málaga and is a researcher within the HUM1065 group: All Possible Lives_Design and Critique of Contemporary Domesticity. His research focuses on typological reflections on dwellings and their adaptation to the human body, as well as the construction of inhabited landscapes through mediating the relationship between humans and the environment.

