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Published online: 13 Jun 2024.

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Non-human animals in forest bathing: an atmospheric perspective

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ABSTRACT

Although forest bathing has gained considerable attention as an emerging health trend, the role and related benefits of animals in this context are often overlooked in existing literature. Animals are typically perceived as part of nature, rather than recognized as individual entities with life characteristics. This study adopts an atmospheric perspective, considering atmosphere's potential to explore bodily communication between humans and non-humans. Examining recreationists' experiences with animals during forest bathing, we find that animals shape the forest's impression and atmosphere. Analyzing physical and emotional distances in animal encounters and subsequent behavioural modes reveals their impact on immersive experiences. This offers practical insights for managing multi-species interactions in recreational spaces.

1. Introduction

Forest bathing, characterized by its slow and contemplative nature, encourages participants to engage fully with their environment, employing all senses. This practice has garnered worldwide attention as a burgeoning wellness trend (Miyazaki, 2018). Contemporary studies often assess these benefits through medical or psychological perspectives (e.g. Li, 2018; Antonelli et al., 2019). While some studies aim to enhance the forest bathing programme by examining a holistic tourist experience (e.g. Farkic et al., 2021), the significance of non-human animals and their associated benefits has been neglected. Some studies with a holistic focus fail to acknowledge the role of animals altogether (e.g. Lim et al., 2020). A prevalent tendency in research is to prioritize the study of plants over animals. Despite evidence suggesting that encounters with animals enhance well-being (Bell et al., 2017; Arbieu et al., 2020), the role of animals in forest bathing remains underexplored. This study examines therefore forest bathing as a leisure activity, exploring how animal encounters shape well-being experiences.

Non-human animals play a crucial role in in leisure, enhancing individuals' physical, mental, and social well-being (Dashper, 2018). Literature, like Hill et al. (2014), Kline

(2018), and Richardson and Insch (2021), illustrates encounters with animals contributing to perpetual well-being. Sheldon (2020) suggests that integrating animal care and appreciation into leisure experiences can profoundly influence individuals' consciousness. Encounters with animals in a natural setting often trigger inner-transformations (Laing & Frost, 2017). Despite discussions on conceptualizing animals, the meaning of "the ways in which leisure spaces and practices are co-produced, shaped and experienced by human and non-human animals" (Danby et al., 2019, p. 291) has been overlooked. It requires a consensus on perceiving animals as independent entities rather than mere "cultural representation" and "anthropomorphized interpretation" (Buller, 2014), or as objects for humans to impose their desires upon (Philo & Wilbert, 2000). For example, Gorman (2017) research, adopting a post-human and multispecies approach, highlights that non-human animals' presence in therapeutic spaces is a co-constituent and co-participant of the therapeutic process by creating and facilitating therapeutic engagement with the environment. Consequently, Danby et al. (2019) recommend decentering humanity in analyzing the diverse lived experiences of being with animals as essential to comprehend the concept of multispecies leisure. This not only contributes to reflecting on the relationship between humans and animals but also helps us to construct forms of engagement that truly align with the mutual interests of humans and animals in the post-humanist era (Lorimer, 2015).

Lorimer et al. (2019) have recently introduced an atmospheric approach that aids in impartially considering the interrelationships among human, non-human animals, and other elements within the same context. The focus has shifted from examining the interaction between animals and human to exploring the atmospheric dynamics that mediate their encounters. Schmitz's (2007) New Phenomenology demonstrates that humans may adopt a passive stance when encountering atmospheric conditions. Several ontological studies (e.g. Latka, 2019; Griffero, 2020, 2022) juxtapose the quasi-objectivity of atmosphere, particularly its prototypical manifestation inherent to the environment, with Gibson's (2014) concept of affordance. They propose that emotions, stemming from embodied perception and behaviour, are shaped by the ambient atmosphere prior to any analysis of the perceiver's emotional state. Scholars term this phenomenon the "authority" (Griffero, 2017a, pp. 29–52) or "emotionally authoritative power" (Hasse, 2019, p. 90) of atmosphere on emotions.

This breaks down the dualistic human/animal framework from an ethological standpoint, situating all beings (including humans) within the context of environment-atmosphere-emotion/action. This facilitates pondering the nature of the relationship between humans and non-human animals in outdoor recreational activities from a non-anthropocentric viewpoint. This study provides a descriptive analysis of participants' encounters with animals during forest bathing, merging Lorimer et al.'s (2019) approach to animal's atmosphere with Schmitz's new phenomenological methodology of atmosphere. Animal descriptions are rooted in participants' narratives, "grounded in an ontology that works across species divides, enabling sympathetic analysis of the affective, felt and emotional dimensions of social behavior common to animals (including humans)" (2019, p. 27). Participant descriptions primarily relies on their narratives, representing a situational ontology that highlights subjective, experiential aspects within situations and atmospheres, rather than concentrating solely on objective elements or events (Latka, 2019). The analysis serves as an initial step for future research exploring the spatial heterogeneity of atmospheres as an intermediary between animals and humans in a leisure setting.

2. Literature review

2.1. What is an atmospheric methodology?

Atmosphere is considered as a pivotal concept in non-representational methodology, aiming to develop an affective theory of bodies and spaces that "attend to the often-taken-for-granted and implicit effects that encounters between human and non-human bodies can generate" (Anderson & Ash, 2015, p. 34). Atmospheres are normally described as a "ubiquitous backdrop" (Anderson & Ash, 2015), because "[o]ne is involved not so much by what is given but rather by *how* it is given (Griffero, 2020: viii, emphasis in original)". They are characterized as both personal and collective (Trigg, 2020), possessing both tangible presence and spiritual abundance (Anderson, 2009). In Griffero's words,

According to the pathic aesthetics the atmospheric perception should be understood as the first affective-synaestehtic impression of the expressive qualities (or affordances) ontologically rooted in things and quasi-things of the surrounding space (2017b, p. 71).

Such atmospheric theory comprises two fundamental points: (1) atmospheres represent extended emotions, namely, embodied affects, and (2) "felt-bodily communication" (2017b). That is, "[b]odies resonate and affectively engage with these atmospheres" (Volgger et al., 2020: 1). Furthermore, they are influenced by it through a felt-bodily "filtering/resonant" manner (Griffero, 2022), reacting spontaneously and directly in alignment with the immediate situation (Pang, 2017). At this perspective, atmosphere serves as a spatial affective "heuristic device" (Griffero & Tedeschini, 2019), seeking to influence the bodies of living beings and compel specific emotional and physical reactions, which can be intersubjectively shared and identified by those present. This entails that "every lifewordly human relation to the world is primarily emotional-atmospheric" (Griffero, 2022, p. 87).

Non-human animals, too, exhibit bodily communication with companions/other species in an emotional and expressive manner, as indicated by various studies (Montgomery, 2015; Vetlesen, 2022). Lorimer et al. (2019) ontologically delineate the factors shaping an animal's atmosphere (Table 1), highlighting: (1) An animal's atmosphere involves its sensory and embodied existence within its umwelt. The concept of umwelt eliminates the traditional division between the organism and the environment, examining how animals perceive their surroundings, their physiological characteristics, and their interactive relationships within their ecological surroundings. This theory

Table 1. A list of factors that configure an animal's atmosphere (Lorimer et al., 2019, p. 29).

Analytical focus	Atmospheric factor
Animal subject	Umwelt
	Emotional experience
	Individuality
Collective circumstances	Social relations
	Trophic relations
	Electro-magnetic energy
	Sounds
	Tastes and smells
	Weather
Space-time	Territory
	Rhythms and habits
	Spread or contagion
	Amplification and intensification

posits emotional experience as fundamental to animal existence, similar to Heidegger's notion of *Dasein*, whereby animals are attuned to and affected by their social and ecological circumstances. Consequently, animals are regarded as individuals within specific situations, rather than mere representatives of their species. (2) Collective circumstance reveals "how animals' atmospheres are shaped by social, ecological, meteorological and chemical forces (30)". Lorimer et al. (2019) provided examples of how social and trophic relations within animal groups significantly influence animals' atmospheric perception. For instance, they mentioned that changes in the overall emotional state of a wolf pack are expressed through variations in howling and different degrees of tail and ear movements, reflecting individual emotional changes. Another example demonstrated the distinct grazing, reproductive, and movement behaviours of elk in the presence and absence of a wolf pack, indicating different atmospheric perceptions. The former can be understood as an intra-group analysis of atmosphere, while the latter should be interpreted from an inter-group perspective. Moreover, they further explained that factors such as sound, taste, smells, and weather reflect innate differences in animals' sensory perception. This highlights the importance of analyzing specific individuals within a particular atmosphere. (3) "An atmosphere should be conceived as a specific space–time of an affective assemblage (31)". The focus of time–space reflects a situational ontology similar to that expressed by Schmitz. The same action can convey different meanings in different atmospheres and at different spatiotemporal points. Similarly, situations should not be viewed in isolation or statically. They illustrate this concept using "rhythms and habits" to express the transient fear an animal may experience when disrupted during an activity, or the reassuring yet somewhat dull atmosphere of daily territorial marking and management. This demonstrates the spatiotemporal continuity of atmospheres. Furthermore, as mentioned in (2) above, such atmospheres can be shared and transmitted. Just as the howling of the alpha wolf in a wolf pack signals the beginning of a hunting atmosphere.

Imagine the emotions and moods of a shepherd or a sheepdog upon hearing the howling of wolves. "[W]e can very well feel threatened without identifying a single threatening element" (Griffero, 2020, p. 49). Their explanation of understanding animal atmospheres, Lorimer et al. (2019) first cited Despret (2013), suggesting that an "embodied empathy" methodology of attuning with animals, aids in grasping this collective, shared atmosphere. Secondly, to facilitate understanding, a vivid depiction of this emotional experience should be captured, whether through film, literature, or music, to evoke people's (bodily) sensations within this atmosphere. This is consistent with van Manen's (2016a, pp. 355–356) basic criteria for phenomenological research, emphasizing that a reliable phenomenological study should be:

Descriptive richness: Does the text contain rich and recognizable experiential material?

Interpretive depth: Does the text offer reflective insights that go beyond the taken-for-granted understandings of everyday life?

Distinctive rigour: Does the text remain constantly guided by a self-critical question of distinct meaning of the phenomenon or event?

Strong and addressive meaning: Does the text "speak" to and address our sense of embodied being?

Experiential awakening: Does the text awaken prereflective or primal experience through vocative and presentative language?

Inceptual epiphany: Does the study offer us the possibility of deeper and original insight, and perhaps, an intuitive or inspirited grasp of the ethics and ethos of life commitments and practices?

Hermann Schmitz's New Phenomenology, as a phenomenological methodology, has significantly contributed to the advancement of atmospheric theory (Pfister, 2019a). It simultaneously transcends (1) Husserl's pursuit of the universality and truth of the essence of things within the metaphysical framework of descriptive phenomenology, while neglecting emotional expression (Griffero, 2019a); and (2) Heideggerian phenomenology, which lacks consideration for the dimension of the body, portraying *Dasein* as a mind or soul rather than a living person (Pang & Feng, 2011). It aims to understand "anything that happens to humans in a felt manner without their having intentionally constructed it" (Schmitz, 2019, p. 41). That is, in a perspective of atmospheric methodology, be honest about the feeling of atmosphere that "the nonhuman materialities of atmospheres and how these come to shape human experience" (Lorimer et al., 2019, p. 27) – "[h]earing that 'cry' [of the non-human] – and not merely its cultural representation and anthropomorphized interpretation coming, as it were, from the 'other side'" (Buller, 2014, p. 312).

At this juncture, New Phenomenology's theory of felt-bodily communication shows its advantage in elucidating the identification of atmospheric feelings. This theory posits that individuals perceive environmental bridge-qualities (suggestions of movement and synaesthetic characters) immediately and accurately embody them in their lived bodies through a felt-bodily alphabet, which is rooted in an ongoing modification of the contraction-expansion relationship (Schmitz, 2007). It overturns the long-standing psychologistic-introjectivistic-reductionist paradigm, termed by Schmitz as a mind–body dualism framework, which delineates an internal world and an external world and assumes that the cognitive and affective aspects are merely projections of the internal world. People selectively choose certain features of things to abstract a static process or theory, often disregarding human sensation (Schmitz, 2007). This may also explain why in constructivist cultural representation studies, emotions are often seen as mere stimulus responses, while atmospheres are largely ignored. Instead, in New Phenomenology, an atmosphere is described as the extended emotions/embodied affects, which affectively "poured out into the perceiver's pericorporeal (lived, pre-dimensional) space, and 'tinges' their situation to the point that it felt-bodily influences their attitude, behavior and (even) thought" (Griffero, 2019b, p. 24). It entails that one is connected with environment by atmospheres. Based on the previous discussion about Lorimer et al. (2019), animals are considered to be similarly connected with their own umwelt and collective circumstances through atmospheres. As Merleau-Ponty's (2012) insight that emotion are modes of comportment rather than mental states. Hence, an atmospheric and felt-bodily communication between humans and non-human animals seems feasible.

In summary, an atmospheric methodology in this study describes encounters and ensuing interactions during forest bathing, considering the felt-bodily perspectives of both the participants and encountered animals. By analyzing the described atmospheres, the study aims to comprehend the nature of these encounters in the current context. This approach aims to understand the role of animals in forest bathing, considering their impact on participants' well-being and enjoyment. Before proceeding, it is important

to elucidate the disparities between the atmospheric approach and conventional methods, and delineate why the former holds a comparative advantage in forest bathing.

2.2. Why using an atmospheric methodology in forest bathing?

Forest bathing as a form of well-being leisure (Konu, 2015), gained traction in Japan since 1982 (Ueda, 1995), involving meditative forest walking with breaks for rest, breathwork, and nature immersion (Antonelli et al., 2019). The focus of forest bathing has been described as an immersive state (Lim et al., 2020). It is not the same as hiking. "The destination in forest bathing is 'here', not 'there'. The pace is slow" (Clifford, 2018, p. 2). Recently, the research of forest bathing has emphasized the state or process of "silence" and "slowness" (Farkic et al., 2021). However, it is important that there are some conceptual and practical distinctions between forest bathing and another forest-based programme: forest therapy. For forest bathing, the focus of the practice is to completely immerse oneself in a forest environment without engaging in prescribed activities, relying solely on participants' spontaneous feelings. Conversely, forest therapy procedures rely heavily on therapist guidance (Gleeson et al., 2020). Thus, in this study, immersion in forest bathing should be described as a spontaneous situation rather than guided. Unlike wellness or eco-tourism, it caters more to individuals seeking immersive leisure activities in forest settings.

In this forest bathing aimed at immersion, animal contact and encounters are deemed pivotal (Zhang & Ueda, 2023). However, research investigating the role of non-human in forest bathing, or other nature-based leisure activities, remains limited. Gorman (2017) assertion that "animals have instead been subsumed into the broader concept of 'nature' (321)" persists, reflecting an anthropocentric viewpoint that considers animals solely in terms of risks or benefits (Hanrahan, 2014). Recognizing the social and moral equality between humans and animals is crucial, especially given the significance of zoonotic diseases for both human and animal health (Hodgson & Darling, 2011). While animals undoubtedly provide physical and mental benefits (e.g. Berget & Braastad, 2008; Urbanik, 2012), it is important to realize that the emotional and mental states of non-human animals can also impact surrounding humans (e.g. Howell & Kean, 2018; Tang et al., 2018). Current approaches involving both human and non-human animals include Actor Network Theory and human-animal studies (Dashper & Brymer, 2019). The former aims to describe network relationships with equal treatment of all actors (van der Duim et al., 2017), while the latter focuses on human-animal interactions and relationships (Danby & Grajfoner, 2020), both grounded in ethnography (Dashper & Brymer, 2019). Thus, the advantages of the atmospheric methodology over ethnography in exploring the human-animal relationship need elucidation.

Ethnography is commonly utilized in the exploration of cultural systems and meanings (Goulding, 2005). Its objective is to acquire firsthand understanding and investigate particular social or cultural contexts primarily through participate observation (Atkinson et al., 2007). "The ethnographer wants to understand what one has to know, acceptably as a member of a particular group, to behave acceptably as a member of that group" (van Manen, 2016a, p. 43). This underscores the importance of analyzing behaviour patterns. Consequently, ethnography is intertwined with culture theory and emphasizes how experiences are interpreted within a society or community (Holloway et al., 2010). It is

well-established that individuals' emotions are heavily influenced by their cultural backgrounds (Edensor, 2012), with some suggesting that "while emotions are experienced at the individual level, they are collectively framed" (Picard, 2016, p. 3). This underscores the initial perspective within a cultural framework, rather than a pre-personal standpoint. However, this does not imply a disconnect between cultural perspective and emotions but rather suggests that the atmosphere should not be approached purely from a representative perspective (Anderson & Ash, 2015). For instance, "black is lugubrious even before being black" – "a general and quasi-objective atmosphere" (Griffero, 2022) should be treated fairly. This study aims not to explore the "culture-sharing group's shared patterns of behaviours" (Creswell, 2002, p. 481) when encountering animals but rather to examine the fundamental experiences of humans encountering animals in forest bathing using a non-representational methodology. This comprehension of basic experiences, grounded in Schmitz's theory of atmosphere, aims to contemplate the relative positions of humans and animals within a shared context. Therefore, ethnography and ethnography-based research methods are considered inappropriate for this study.

Meanwhile, animals are not a homogenous group; instead, they encompass a wide variety of species, each with unique characteristics and behaviours, and their interactions with humans can vary greatly (Bear, 2011). Drawing from Shaw et al.'s (2013:, p. 263) framework, individuals are encouraged to focus on "an immanent set of signs unique to [an animal's] standpoint, which in turn triggers a set of sensory and affective responses". This "standpoint ontology" that "is not located within thought or reason, but within the molecular relationship between an organism and its umwelt", which "is to the feminist standpoint theories that discern all knowledge as socially situated, contextual, and highly uneven in both its production and distribution". This approach stands in contrast to constructivist, anthropocentric methodologies such as ethnography, which predominantly examine the status of animals through the cultural framework of humans, an inherently unequal framework (Lobo et al., 2022). In contrast, rooted in the atmospheric approach of New Phenomenology, it acknowledges the environmental contexts individuals face in each moment of their experiences, aiming to understand human fundamental experiences by delineating the specific life situations individuals encounter. Guided by Schmitz's New Phenomenology, this study adopts a descriptive phenomenological perspective to explore human encounters with animals in forest bathing.

3. Method

The existing gaps can be described as: what role do animals play in forest bathing? Consequently, the exploratory objective of this study is to identify the atmospheres within forest bathing where human and non-human coexist. As this atmosphere arises from emotional and embodied interaction, an Embodied Research Methodology principle has been incorporated into this study. This methodology aims to generate "the knowledge *through* the body, rather than *of* the body" (Liu, 2023, p. 161, emphasis in original). It acknowledges an "inter-corporeality", wherein an individual "perceives [their] intentions in [their] body, perceives my body with [their] own, and thereby perceives my intentions in [their] body" (Merleau-Ponty, 2012, p. 368). This same principle applies to bodily communication between humans and non-humans.

3.1. Data collection

The chosen site, Qingshan Lake National Forest Park in Hangzhou City, China, boasts a distinctive water forest landscape in its northern region, abundant in pond cypress and coastal redwood. This ecosystem offers visitors to encounter approximately 240 different wildlife (Zhejiang Provincial Forestry Bureau, 2017). Accessible areas located above the lake surface are equipped with wooden boardwalks, facilitating both recreational activities and wildlife observation. Consequently, participants are effectively separated from aquatic animals inhabiting the lake, which was a primary consideration in establishing this protected area. The park features trails with feeding stations, enhancing visitor opportunities for animal interaction.

Data collection was undertaken in September 2023 over three randomly selected days. Given the need to recruit participants who shared the central experience under investigation and exhibited minimal demographic variation (Langdridge, 2007), convenience sampling was employed. The aim was to assemble a sample representative of this specific group and their collective experience (Langdridge, 2007). Following consent, sampling took place on-site and immediately after the activity among participants. Inclusion criteria specified non-local individuals who had visited the park at least twice. Additionally, according to Lim et al.'s (2020) proposal that guided forest bathing typically ranges between 2 and 4 hours, each session in this study had a duration of approximately 2–2.5 hours.

To ensure participants "[use] all of one's senses when immersed in the field to conduct participant observation or during the interviews" (Liu, 2023, p. 163), they were recorded and photographed with their consent. To avoid influencing the participants behaviour, recordings were made covertly, and the videos and photos were shown to participants following the initial interview. As Zhang's (2015) recommendation, introducing artifacts into the interview stimulates multi-sensory narratives, potentially reconnecting participants with primal impressions (van Manen, 2016a). Following the initial interview focused on uncovering the fundamental structures shaping participants' perception of phenomenon, recorded videos were presented to them. While observing participants' reactions and references to the initial interview during video playback, researchers facilitated discussions on animal-related topics and conducted follow-up interviews. This process aimed to enrich specific experiential nuances while affording opportunities to elucidate other phenomena. Each interview session lasted approximately 10-20 minutes, with a total interview duration (including video viewing) ranging from 30 to 50 minutes per participant.

Phenomenological interviews were conducted for data collection. The criterion of phenomenological interviews encourages participants to feel comfortable and share their feeling rather than leads the interview (Richardson & Insch, 2021). Although the interviews were unstructured, they were guided by 5 questions related to the research inquiry, including: (1) How often have you visited this location and why? (2) What were your expectations? (3) Any memorable experiences with animals and how did you feel? (4) Will you reflect on these experiences when you return home? and (5) Do you believe you gained something from these experiences? Following the conclusion of their forest bathing activity, participants were invited to conduct interviews at the café located in the nearby tourist service centre. These interviews were recorded with consent and later utilized for analysis.

Data collection and analysis occurred concurrently, continuing until no new themes emerged, indicating data saturation (Englander, 2012). Given the principle that descriptive phenomenological inquiries typically entail a small sample of three to six participants (Englander, 2012), twelve interviews were eventually conducted with twelve participants (Table 2), and pseudonyms were assigned to safeguard participant confidentiality. One additional participant was enlisted to review the final report, ensuring the accuracy of her personal experience portrayal. Twelve audio files in Chinese were transcribed and translated into English verbatim.

3.2. Data analysis

Throughout the analysis phase, researchers adhereed to the principle that "the situation provides a context and meanings are context dependent" (Englander, 2012, p. 26), emphasizing the contextual significance of interviewees' discourse. To closely align narration with experience, researchers adopted the participants' perspective, endeavouring to utilize their own words extensively and accurately convey the described reality (van Manen, 2016b).

Participants primarily reported sightings of swans, ducks, lizards, fish, and various insects over the course of three days. Swans, ducks, and fish in the lake area were observed to maintain distance from humans, who were typically perceived as initiators of contact. Consequently, the analysis of these animals predominantly relies on participants' personal narratives. Conversely, lizards and various insects were frequently described as "intrusive", appearing suddenly. Therefore, the analysis primarily focuses on human encounters with these wildlife.

When the study shifts its focus to animals as perceiving subjects within the atmosphere, the analysis will prioritize descriptions provided by interviewees regarding their encounters with animals and observations of the animals' posture, behaviour, and demeanour while they are "present", rather than constructive interpretations. This approach acknowledges both humans and non-human animals as equal individuals engaging in intersubjective communication, emphasizing the concept proposed by Lobo et al.'s (2022), which underscores the capacity for activity and responsiveness (Haraway, 2016, 2018). Animals, regarded as "subjects or receptors of atmospheres Lorimer et al., 2019, p. 27)" are "thinking-feeling subject with agency (Lobo et al.,

Table 2. Profile of participants.

	Participant	Age	Gender	Residence (City)
1	Wu	25	Female	Huzhou
2	Qian	31	Male	Shaoxing
3	Yuan	21	Female	Ningbo
4	Jiang	29	Female	Wenzhou
5	Wang	26	Male	Dezhou
6	Shi	24	Male	Wuxi
7	Pan	35	Female	Huangshan
8	Qu	24	Female	Jiaxing
9	Xu-a	26	Female	Jinhua
10	Yao	28	Female	Bengbu
11	Xu-b	30	Female	Yancheng
12	Yang	24	Female	Ningbo

2022, p. 742)", embodying the definition of animals "in terms of their ability to affect and be affected by the world" (Shaw et al., 2013, p. 263).

For exploring humans' atmospheric experience, this study mainly followed Schmitz's (1989, pp. 30–31, own translation) threefold method, which includes (1) descriptive stage: an object area is singled out from the relatively trivial experience of life in the specified sense by labelling it as precisely as possible with the means of common language; (2) analytical stage: recurring and intertwining basic features of the domain are singled out and fixed terminologically; and (3) combinatorial stage: by suitable combination of the basic features in the fixed language, complex components of the domain are reconstructed, also as a test of the sufficiency of the analysis. Furthermore, when analyzing descriptions of animal atmospheres, van Manen's (2016a) five fundamental lifeworld themes were employed, covering relationality, corporeality, spatiality, temporality, and materiality. These lifeworld dimensions, fundamental to every experience (Edelheim, 2015), transcend cultural interpretative frameworks, reflecting unfolding phenomena as perceived in individuals' current situations. The rationale behind these analytical methods lies in the commitment to the principle of phenomenological bracketing (Wassler & Kirillova, 2019), which recognizes how the presence of animals prereflectively influences individuals' intentional perceptions.

4. Findings

This study identifies three themes from forest bathers' encounters with animals: (1) An atmosphere of vital background, (2) An atmosphere of astonishing intrusion, and (3) Atmospheric communication between host and guest. The first and second themes are derived from participants' narratives recounting encounters with animals in the forest, where limited mutual awareness or bodily interaction occurred, thus predominantly described from the human perspective. The first theme encapsulates participants' perception of animals, such as swans, as integral to the forest's aesthetic appeal. The second theme predominantly reflects participants' reactions to the sudden presence of animals, such as insects. The third theme emerges when animals and humans mutually acknowledge each other's presence, coexisting in a shared space and engaging in bodily communication through inter-corporeality.

4.1. An atmosphere of vital background

This atmosphere almost immediately envelops individuals when they step into the forest, to the point that they may not even find it strange. The chirping of insects, the constant movement of fish in the streams, and the occasional bird call in the air … collectively shape the forest's atmosphere, seamlessly blending into its natural fabric. Like Pan said: "You can think of the chirping of cicadas as part of the forest, especially in the summer, it's the sound of the forest". Similarly, Jiang articulated: "It (the swan) is not noisy either, it feels quite integrated into the environment, living there freely, which makes me feel very ecological and harmonious". These animals are considered part of the current natural aesthetics, as individuals lack close contact with them. An atmosphere at this moment through describing the relationship between the swan and the people can be illustrated. Because the swan can be seen by people primarily as a more visual

appreciation, which highlights its quality of an "encorporation (*Einleibung*)" more than the chirping of cicadas, as "the acoustic space is [merely] related to the bodily directional space" (Schmitz, 1989, p. 16, own translation). Encorporation means a phenomenon that transcends one's felt-bodily sensations, yet can directly perceive the object (Schmitz, 2007), it is "always concentration on a counterpart" (139, own translation).

The swan gracefully tends to its feathers on the tranquil waters, its neck curving elegantly (Figure 1). Lifting a webbed foot, it delicately preens its wings. As ordinary observers and non-professionals, they perceive a sense of tranquility and ease in its posture, seemingly devoid of threats from its natural environment. Observers were immersed in a serene tableau: a swan serenely grooming itself amidst the peaceful forest and placid waters. Through this atmosphere, observers are passively drawn into a comforting

Figure 1. A black swan leisurely preening its feathers. Source: Author 1.

and peaceful state. Importantly, this mode of communication is unilateral (Schmitz, 2019); observers cannot discern the swan's emotional state solely through observation – whether it is grooming anxiously or calmly is beyond their knowledge. Nevertheless, as exemplified by Lorimer et al. (2019), simply based on the soothing rhythm of its movements, observers unconsciously enter a tranquil and comfortable ambiance. This experience should not be conflated with projection or subjective empathy (Bear, 2017). Instead, it represents a quasi-embodiment that transcends sensory perception, resonating with the being-in-the-world and the delivered body schema – "namely in all routine-based, spontaneous enactions which we share to a significant degree with animals" (Schmitz, 2019, p. 66). It is not the result of the stimulus, but rather be grasped by something before entering this state.

Similarly, while the cicadas' chirping may not be directly observable, its amalgamation with the surrounding forest subtly convinces individuals of the forest's vitality, echoing Pan's sentiment:

> If you were in this forest and there were no animals at all, you would actually feel very scared! It's too quiet! The cicadas' chirping makes me feel that this is a vibrant place, making me feel the presence of life, and helps me feel more vivid. They have their own way of life.

The existence of cicadas, which cannot be easily seen, leads people to subconsciously ignore their presence. Therefore, their chirping, as mentioned earlier, is just a "natural part". This characterization, however, fails to capture the profound impact of their rhythmic and dynamic sounds on everyone in the forest. For instance, "truth be told, the rapid sound actually amplifies my restlessness, so I can't calm down (Shi)"; "you'll find that their chirping is actually rhythmic, when your footsteps sync up with their sound, you'll feel like, wow, it's keeping the beat for you (Yang)!" While Shi may have sought solace and tranquility in the forest, the reality is that the cicadas' chirping only serves to heighten his inner turmoil, adversely affecting his forest bathing experience.

In summary, individuals encounter a "vital and ecological beauty (Qu)" within this atmosphere, characterized by an interactionist, multisensory aesthetics (Kirillova & Wassler, 2019). They not only perceive visually picturesque scenes (Knudsen et al., 2015), but also engage with elements such as the chirping of cicadas, the rustling of leaves in the wind, and the unique fragrance of the trees, all of which collectively contribute to a holistic, vibrant forest experience. However, it is important to acknowledge that the presence of animals can occasionally disrupt individuals' appreciation of this beauty. When attempts to immerse oneself in the forest are disturbed, this vitality may be perceived as excessive noise. Therefore, the awareness of animals' presence, without direct interaction, is considered a vital background that can both facilitate and hinder immersion.

4.2. An atmosphere of astonishing intrusion

In forest bathing, individuals tend to avoid crowds to immerse themselves in the forest environment. The narrow trails and the dim setting in forest catalyze this immersion, which allows emotion constantly to be "repressed" (Figure 2). Here, "repression" does not mean stress or depression among participants. Rather, it describes a temporary, all-encompassing state where both the body and emotions are deeply engaged. As Jiang articulated, "It felt like the forest environment was like a cage and I was enveloped
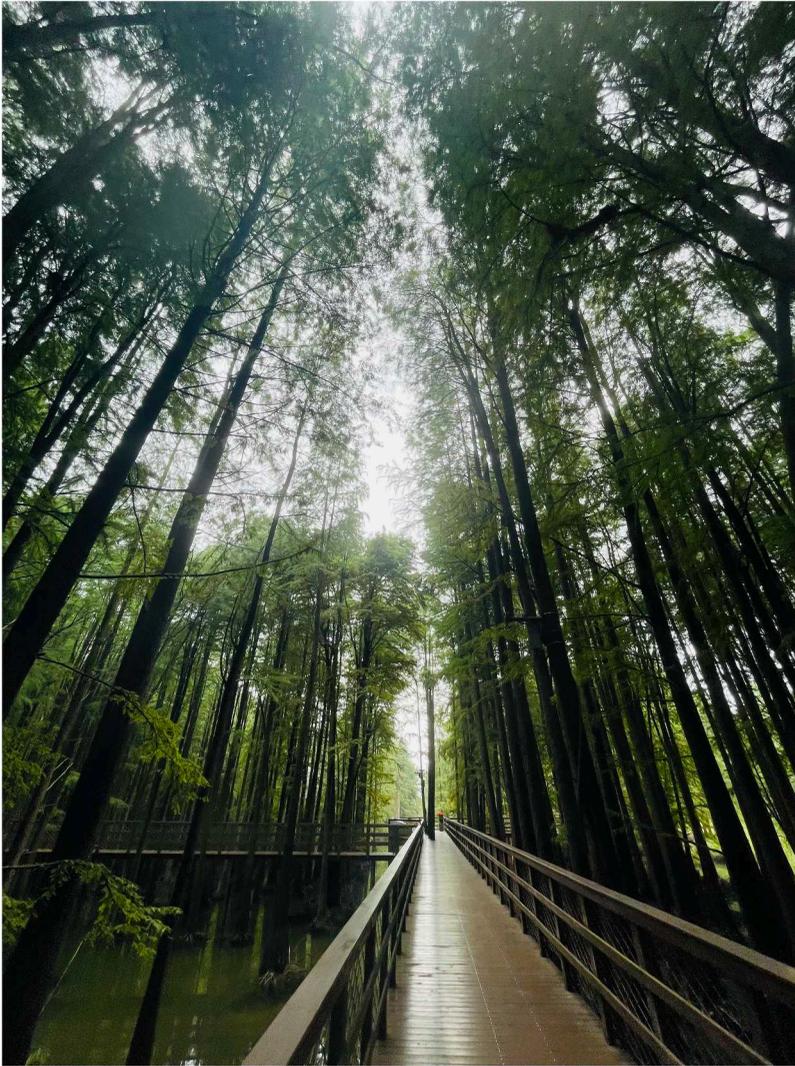
Figure 2. An image of the site. Source: Author 1.

in it with a sense of security". Likewise, Shi remarked, "The forest gives me a feeling of stillness[…] It feels like the whole person is wrapped up in it". Immersion is a key aspect of forest bathing experience. However, encounters with animals disrupt this sense of immersion. It replaced by an "animal presence" invading the vicinity of their body that was "boundaryless" (Yuan). Yao's narrative illustrates this:

> I can't help but pay attention to it, like that swan that just appeared, and the ducks, they come out of nowhere! You don't even know when they're going to show up, sometimes it's a surprise, other times it's a shock.

Drawing from the preceding account, this atmosphere can be characterized by the experience of immersing oneself in the forest, only to have animals unexpectedly enter one's boundaries of perception. Furthermore, this boundary varies depending on the

individual animal. For example, encountering a duck mere steps away may evoke a startle response, whereas the presence of an insect at the same distance might go unnoticed, without causing disruption akin to that of a sudden appearance by a duck. Similar to the previous atmosphere, these distant insects are simply regarded as part of the natural surroundings. Individuals instinctively regulate their proximity to others, a behaviour that can give rise to a sense of astonishment when encountering animals.

Interestingly, individuals often refrain from using terms like "astonishment" to purely describe a state of wonder afterwards, but rather use words like "surprised" or "frightened" that clearly carry evaluative connotations. The focus of evaluation lies in the "encounter with animals" as an event, rather than the assessment of the animals per se. In the moment of encountering an animal, its state as an object cannot be described, as people's thoughts are completely overwhelmed by astonishment, rendering coherent thought impossible. However, these evaluative words terms offer a means of articulation. While the object of astonishment remains consistent, such as a swan, it can elicit varied reactions, either "surprised" or "frightened". The variance stems from their understanding of this species, described as "emotional distance". Following an experience of "astonishment", individuals assess the species based on their cognitive understanding derived from personal encounters. Those familiar with a species and feeling secure have a shorter "emotional distance", irrespective of physical proximity. Individuals with a closer emotional distance may spontaneously approach the animal, whether it be a bug or a lizard. Conversely, those harbouring fear and aversion maintain a greater emotional distance and are inclined toward swift retreat or circumvention, regardless of whether it is a swan or a duck. As Wu's narrative:

> I saw a lizard by the roadside, and although I was a bit startled at first, I wasn't very scared because I had previous experience with handling similar reptiles as pets. I even used a twig to gently touch it. Looking back, it was more like a surprise.

Wu's willingness to approach the wild lizard in a state of astonishment can be attributed to her prior positive interactions with pet reptiles, rendering this encounter a memorable "surprise" for her.

This "emotional distance" applies equally to animals. Recreationists have historically sought proximity to animals for observation, photography, and potential interaction (Winter, 2020). Various means have been employed to facilitate human-animal closeness: pigeons flocking to individuals in squares for food; pet dogs forming stronger bonds with humans through companionship; and even neighbourhood squirrels visiting due to human kindness. Conversely, animals may develop fear of humans, avoid them, or even resort to aggression due to mistreatment or misunderstanding of human behaviour. This interaction is inherently dynamic; for animals, human's presence is likewise an astonishing intrusion. As detailed in the subsequent subsection, the relationship between humans and non-human animals in forest bathing is likened to a metaphorical bodily-level interaction between host and guest.

4.3. An atmospheric communication between host and guest

Encounters between humans and animals bring them together in shared spaces, where they acknowledge each other's presence and react to each other's behaviours. Unlike

the first two atmospheric themes characterized by one-sided encorporation, this represents a form of antagonistic encorporation, defined as "[e]mbodied communication in which a shared vital drive arises as a result of attending to a partner in communication" (Schmitz, 2019, p. 138). The "emotional distance" becomes the basis for these mutual behavioural communications. According to Merleau-Ponty's (2012), emotions are modes of comportment rather than mental states, and contrasting attitudes and behaviours toward animals reflect varying degrees of emotional distance. Thus, depending on the degree of antagonistic encorporation and resulting behaviours, three distinct dynamic behavioural modes can be distinguished, akin to points on an axis representing emotional distances, ranging from close to distant: (1) Engaging mode, (2) Gazing mode, and (3) Fleeing mode. Individuals' emotional distances fluctuate along this axis in response to interactions with animals.

In the Engaging mode, individuals seek interaction with animals based on their personal preferences for specific species. When describing animal encounters, they repeatedly mentioned: "wanting to see their reactions", as Wang's words: "I would like to have some interaction with animals. When an animal suddenly comes into your view, it's quite a surprise, as long as it's not a wild animal with aggressive tendencies". This inclination toward interaction with animals is indicative of an enhanced sense of happiness. Bertella (2017) explored this phenomenon through the concept of empathic well-being, defining it as "a sense of happiness and meaningfulness when witnessing the animal's well – being and, at the same time, a sense of being partly responsible for such a state" (24). Similarly, the participants in this mode immerse themselves in situation that establish connections with animals, ensuring their well-being while also experiencing personal happiness. For instance, Qu expressed a desire to establish an emotional connection with animals through interaction, stating,

> Even though I know they probably don't have any feelings for me, I long to establish that emotional connection through interaction with them in the present moment. […] Just like when we were walking in that forest by the water earlier, you can sense these animals, they do seem to be enjoying this environment, you can just feel it.

In the Fleeing mode, individuals seek to quickly distance themselves from the presence of animals, aiming to return to the immersive state they were experiencing just moments before. For example, certain participants recounted their experiences,

> A moment ago, there was an insect near me, and it startled me so much that I immediately ran away, […] even if it's just a fly landing on my hand, I find it more terrifying than having a snake on my hand (Yang). I felt like I was targeted by that bug, it kept flying straight for my face! No matter how much I ran, it was relentless (Qian).

In these narrative, the sensation of being "targeted" compels respondents to flee from the perceived "threat". Despite potential misunderstanding, participants react impulsively, seeking to restore the peaceful and immersive state they had previously enjoyed.

In the Gazing mode, individuals neither feel a desire to approach the animals nor an urge to flee quickly. They perceive themselves as mere "outsiders", observing the animals in their habitat as entirely unrelated to them. As Yuan expressed:

> It really felt like I was just visiting. Yes, just there to observe. I am not trying to blend in with the locals, I am just there to see how the locals live; It's quite similar, I'm just here to observe the animals, I don't need to have any connection or interaction with them, so I'd rather be an observe.

If we consider the previous two modes as representing opposite ends of emotional distance, then this mode reflects an intermediate value. From the narrative above, it became evident that participants anthropomorphized the animals they encountered, not vividly, but with an indifferent attitude treating them like strangers and local hosts.

Exactly, the descriptions of the three modes illustrate a dynamic of felt-bodily communication between humans and animals in the forest, resembling a recreationist acting as an outsider engaging with the local hosts, the non-human, within an unfamiliar environment. The forest serves both as a site for immersive human activities and as the habitat for non-humans. Importantly, these modes are intricately linked to two states corresponding to Schmitz's classifications of atmosphere: one where individuals are compelled by the atmosphere's force, and the other where individuals identify with the atmosphere and engage in dialogic bodily interactions with their surroundings (Nörenberg, 2020). These states are not fixed but can transition between each other. For instance, Yuan initially felt the "inviting" atmosphere from the animals but chose to resist this invitation, aiming to maintain a particular atmosphere exclusive to herself, perhaps tranquil or solemn. However, gradually, this standoff was infiltrated by the interactive atmosphere conveyed by the animals: "Perhaps initially, you just wanted to maintain an observant stance and didn't intend to participate in this interaction. However, you gradually began to experience the joy of this interaction".

Similarly, animals, like humans, are also inadvertently involved in this communication process. As Wu's description:

> [The lizard] *was just fine there, but it moved so quickly only after I approached. Maybe it wouldn't have been so startled otherwise. I feel like I brought them some "trouble". I just think it's better not to disturb them like this.*

From the initial lizard's panic to its eventual close encounter with Wu, this interaction highlights the dynamic nature of their relationship. It underscores the atmospheric quality as a bridge connecting the communication between humans and non-humans, with animals acting as active participants who can influence or be influenced by their surroundings. Metaphorically, this can be interpreted as a form of host–guest interaction based on the atmosphere and embodiment.

5. Discussion

This study intended to provide insights into pivotal atmosphere of humans encountering non-human animals that occur during forest bathing, shedding light on the dynamic inter-corporeality process and the contextual relationship underlying these emotional moments. This research shifts its focus to the atmosphere, examining how individuals perceive forest bathing in the presence of animals. While striving for a non-anthropocentric perspective and recognizing the equality between animals and humans, the recreational subject of forest bathing remains human. Therefore, the presentation of results emphasizes how humans interpret these encounters with animals. We separated two main situations: one where recreationists treat animals as a part of the *Gestalt* landscape, evoking the "ecstasies of the thing" (Böhme, 2017) toward nature when contact is

deficient, while the other involves an encounter, revolving around an astonishing moment and the subsequent behavioural modes.

The former undoubtedly remains an anthropocentrism, where animals are perceived unilaterally as part of the landscape, allowing individuals to reflect on their emotions and feelings (Rose, 2012). Also, as Gorman (2017) states, personal situations and conditions can lead to negative impacts when individuals interact with animals. For example, Gorman describes how a bird-fearing woman who, upon seeing a chicken, became so distressed that she had to leave. Similarly, in forest bathing, individuals' interpretations of animals indirectly influence their mood and perception of the environment. For instance, Coble et al. (2003) documented that encountering bear tracks instilled fear in recreationists throughout their journey, while another study found that participants felt excitement upon discovering pinecones scattered by squirrels (Zhang & Ueda, 2023). This atmosphere becomes integral to the forest ambiance perceived by the current participants, shaping subjective impressions such as "apprehension", "filled with hope", or "I can't go anywhere near" (Gorman, 2017, p. 21). The indirect perception of animals thus becomes emblematic of the entire forest, influencing individuals' experiences. "[A]ttunements are the 'presupposition' for, and 'medium' of thinking and acting" (Heidegger, 1996, p. 68). Bear tracks cast a foreboding shadow over the forest, while squirrel traces evoke a sense of exploration. Given that forest bathing requires immersion, the presence of animals establishes a more-than-human world, emphasizing the forest's inviting essence (Clifford, 2018). Namely, individuals' immersive experiences are shaped by the forest's atmosphere, redirecting their attention to the environmental dynamics (Clifford, 2018). Despite considering ourselves as subjects, we are actually influenced by the ambiance created by the animals the moment we enter the forest. Our perception of the forest is reliant on the atmosphere created by the animals within it.

Furthermore, the latter emphasizes the moment of interaction between humans and non-human beings. Drawing from the perspective of animal geography, this study introduces the concept of emotional distance and its associated behavioural modes. This concept elucidates the behavioural responses arising from mutual inter-corporeal communication and the perception of the current atmosphere between animals and humans, shaping their actions. While numerous studies have documented instances of individuals being astonished by unexpected encounters with animals (e.g. Curtin & Kragh, 2014; Laing & Frost, 2017; Richardson & Insch, 2021), there has been a notable absence in the literature regarding the analysis of the implications of such astonishment. In this context, the concept of emotional distance becomes a noteworthy perspective to consider. Bertella (2017) cites Midgley's (2020) assertion that "The more we know about their [the animals'] detailed behavior, the clearer and more interesting [the] continuity [between human and non-human animals] becomes" (Midgley, 2020, 14) (24). She further explains that continuity entails being "willing to give time and attention to animals, [which] allows them the potential for understanding" (Bertella, 2017, p. 24). Returning to the participants' narratives, Wu's surprise experience about lizard entails that sustained investment of time and attention towards a particular species fosters a deeper comprehension of it. As individuals develop a greater understanding of a species, their emotional distance to it diminishes. This willingness to approach the species, even in the wild without any safety measures (though subjects may not be consciously aware), arises from the reduced emotional distance.

Meanwhile, as interactions with animals become more successful and profound, the empathic Engaging mode gradually takes precedence. This thereby exemplifies both hedonic pleasure and eudaimonic meaning. Hedonia involves pursuing pleasure and happiness, while eudaimonia focuses on experiencing meaning and self-realization in well-being (Bertella, 2017). As shown in Huta (2015), hedonia is correlated with the concept of having rights, whereas eudaimonia is associated with having responsibilities, indicating their complementary natures. Forest bathing, unlike activities like hiking and mountaineering, aims for an immersive connection with the natural environment rather than specific goals (Lim et al., 2020; Farkic et al., 2021). Such activity exhibits therefore both hedonic and eudaimonic attributes – "feeling" the pleasure derived from connecting with nature, and "behaving" itself aimed at such connection is meaningful (Huta & Ryan, 2010). Without this immersive experience, the significance of astonishment diminishes (in contrast to encounters with animals during mountain climbing, where the instinct is primarily to leave quickly). Following these encounters, three different modes can be seen as extensions of the immersive experience. Echoing Murdoch (2020, cited in Vetlesen, 2022, p. 1), "there is nothing now but kestrel". Encounters with animals in the forest transcend mere isolated incidents within an objective-driven process, as often found in hiking; instead, they become integral to this nature-immersed experience.

In forest bathing, animals play a pivotal role in refining individuals' immersive experiences and shaping their perception of the forest. Rather than merely being viewed as components of nature, animals themselves embody the impression bestowed upon people by nature. Simultaneously, encounters with animals are deemed essential elements of the forest bathing experience, fostering enhanced interactions among participants and contributing to the well-being of both humans and non-humans to some degree.

6. Conclusions

This study methodologically challenges a human-centric perspective within a cultural framework. Since within this framework, while acknowledging the importance of non-human perspectives such a distinction often leads to bias towards another viewpoint, thus perpetuating another form of inequality (Birke & Hockenhull, 2012). The atmosphere lens explains relationships among organisms within a shared context. Particularly in the multispecies leisure realm, especially within emotional contexts, this approach offers a more equitable method than a cultural perspective for discussing interactions among all organisms. Furthermore, this impartial viewpoint holds relevance in the domain of leisure education. Mezirow (1997) highlights the significance of evaluating and comprehending particular contexts and surroundings for adult educational endeavours. Emphasizing the encounter of an equitable atmospheric outlook within forest settings not only enables participants to engage with the more-than-human environment but also fosters the development of a broader, fairer mindset.

By conceptualizing atmosphere as a bridge-quality of bodily communication between humans and non-humans, we explore the underappreciated role of animals' affectively perceived positions in shaping spatial impressions. We particularly examine how both physical and emotional distance contribute significantly to the atmospheric qualities of forest bathing circumstances. Edensor's (2012) metaphorically likens atmosphere to Csíkszentmihályi's *flow*, describing it as "a temporal, rhythmic process in which a

sequence of events and sensations successively provoke immersion, engagement, distraction, and attraction" (1110). Individuals respond to environmental affordances through a mirroring feature of encorporation, which operates beyond conscious awareness and should not be considered merely as subjective projections (Buller, 2014). Simultaneously, these affordances are inseparable from the behaviour and action of living organisms, as "the environment is described in terms of what a particular animal can do in it" (Withagen, 2022, p. 31). Since the presence of animals significantly influences individuals' experiences in nature-based leisure environment, it is essential to consider spatial arrangements from both animal and human perspectives in designing shared environments. For example, a butterfly trail in Taiwan was planned with careful consideration of the ecological habits of various butterfly species, ensuring diverse and engaging experience for visitors each time they enter different sections of the park (The Butterfly Conservation Society of Taiwan, n.d.).

Additionally, considering "[t]he total effect of a local atmosphere results from the interaction of the characteristics of a long-term stable place atmosphere (architecture, landscape architecture, interior design, etc.) and a short-term variable situation atmosphere (people, living beings, activities, etc.)" (Pfister, 2019b, p. 49). This study provides empirical evidence to emphasize the significance of developing interpretating programmes involving animals. The concept of emotional distance suggests that individuals, when unfamiliar with animals, may postpone or overlook opportunities to connect with them. Hence, therapeutic trails, such as animal-assisted therapeutic trails aimed at promoting healing, should incorporate animal interactions at sites where animals are frequently encountered. These encounters should be illustrated not only through textual descriptions but also through visual aids. Such an approach helps shape expectations regarding animal encounters in subsequent activities and reduces emotional distance from animals, ultimately leading to enhanced well-being.

This study exhibits several limitations. Primarily, due to geographical constraints, participants encountered animals infrequently, constraining the breadth of the study's data (analysis revolved primarily around animals such as swans, insects, and ducks). Future research should broaden the participant pool to acquire a more diverse dataset. Secondly, this research did not delve into the participants' cultural backgrounds. Despite sharing Chinese nationality, regional cultural disparities in attitudes toward animals may exist. Future research could use statistically representative sampling methods based on statistical theory to explore how cultural backgrounds influence experiential interpretations. Finally, given the current dearth of empirical research based on Schmitz's methodology, this study, despite grounding itself in Schmitz's texts and methodologies along with those of other phenomenologists (e.g. van Manen, 2016a, 2016b), may still possess inherent limitations. Therefore, further research is needed to apply a New Phenomenological perspective in examining the contexts of individuals' episodes during leisure activities.

(8,459 words)

Acknowledgements

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Ethical approval

This study, which does not involve participant privacy concerns and obtained signed consent forms prior to data collection, has been deemed exempt from ethics approval by the Graduate School of International Media, Communication, and Tourism Studies, Hokkaido University.

Author contributions

Yiqin Zhang: Initial idea, conceptualization, methodology, data curation, manuscript writing and editing. **Hirofumi Ueda:** Supervision. **Mengde Wang:** Data curation.

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Reference

Anderson, B. (2009). Affective atmospheres. *Emotion, Space and Society*, *2*(2), 77–81. https://doi.org/10.1016/j.emospa.2009.08.005

Anderson, B., & Ash, J. (2015). Atmospheric methods. In P. Vannini (Ed.), *Non-representational methodologies: Re-envisioning research* (pp. 34–51). Routledge.

Antonelli, M., Barbieri, G., & Donelli, D. (2019). Effects of forest bathing (Shinrin-yoku) on levels of cortisol as a stress biomarker: A systematic review and meta-analysis. *International Journal of Biometeorology*, *63*(8), 1117–1134. https://doi.org/10.1007/s00484-019-01717-x.

Arbieu, U., Albrecht, J., Mehring, M., Bunnefeld, N., Reinhardt, I., & Mueller, T. (2020). The positive experience of encountering wolves in the wild. *Conservation Science and Practice*, *2*(5), 2: e184. https://doi.org/10.1111/csp2.184.

Atkinson, P., Coffey, A., Delamont, S., Lofland, J., & Lofland, L. (2007). Editorial introduction. In P. Atkinson, A. Coffey, S. Delamont, J. Lofland, & L. Lofland (Eds.), *Handbook of ethnography* (pp. 1–7). SAGE Publications.

Bear, C. (2011). Being Angelica? Exploring individual animal geographies. *Area*, *43*(3), 297–304. https://doi.org/10.1111/j.1475-4762.2011.01019.x

Bear, C. (2017). Assembling ocean life: More-than-human entanglements in the Blue Economy. *Dialogues in Human Geography*, *7*(1), 27–31. https://doi.org/10.1177/2043820617691635

Bell, S. L., Westley, M., Lovell, R., & Wheeler, B. W. (2017). Everyday green space and experienced well-being: The significance of wildlife encounters. *Landscape Research*, *43*(1), 8–19. https://doi.org/10.1080/01426397.2016.1267721

Berget, B., & Braastad, B,O. (2008). Theoretical framework for animal-assisted Interventions – Implications for practice. *Therapeutic Communities*, *29*(3), 323–337.

Bertella, G. (2017). Well-being in wildlife experiences: Feeling good for the animals? In J. Chen & N. Prebensen (Eds.), *Nature tourism* (pp. 23–33). Routledge.

Birke, L., & Hockenhull, J. (2012). Investigating human-animal bonds: Realities, relating, research. In L. Birke & J. Hockenhull (Eds.), *Crossing boundaries. Investigating human-animal relationships* (pp. 15–36). Koninklijke Brill.

Böhme, G. (2017). *The aesthetics of atmosphere*. J-P. Thibaud (Ed.) Routledge.

Buller, H. (2014). Animal geographies I. *Progress in Human Geography*, *38*(2), 308–318. https://doi.org/10.1177/0309132513479295

The Butterfly Conservation Society of Taiwan. (n.d.). *The first butterfly garden in Taipei City – Jiannan Butterfly Trail*. Retrieved February 5, 2024, from https://butterfly.org.tw/%E2%9D%A4%E5%8F%B0%E5%8C%97%E5%B8%82%E7%AC%AC%E4%B8%80%E5%BA%A7%E8%9D%B6%E5%9C%92-%E5%8A%8D%E5%8D%97%E8%9D%B4%E8%9D%B6%E6%AD%A5%E9%81%93%E2%9D%A4/.

Clifford, M. A. (2018). *Your guide to forest bathing: Experience the healing power of nature*. Red Wheel Books.

Coble, T. G., Selin, S. W., & Erickson, B. B. (2003). Hiking alone: Understanding fear, negotiation strategies and leisure experience. *Journal of Leisure Research*, *35*(1), 1–22. https://doi.org/10.18666/jlr-2003-v35-i1-608

Creswell, W. J. (2002). *Educational research-planning, conducting, and evaluating quantitative and qualitative research*. Pearson Education.

Curtin, S., & Kragh, G. (2014). Wildlife tourism: Reconnecting people with nature. *Human Dimensions of Wildlife*, *19*(6), 545–554. https://doi.org/10.1080/10871209.2014.921957

Danby, P., Dashper, K., & Finkel, R. (2019). Multispecies leisure: Human-animal interactions in leisure landscapes. *Leisure Studies*, *38*(3), 291–302. https://doi.org/10.1080/02614367.2019.1628802

Danby, P., & Grajfoner, D. (2020). Human–equine tourism and nature-based solutions: Exploring psychological well-being through transformational experiences. *Journal of Hospitality & Tourism Research*, *46*(3), 607–629. https://doi.org/10.1177/1096348020978555.

Dashper, K. (2018). Moving beyond anthropocentrism in leisure research: Multispecies perspectives. *Annals of Leisure Research*, *22*(2), 133–139. https://doi.org/10.1080/11745398.2018.1478738

Dashper, K., & Brymer, E. (2019). An ecological-phenomenological perspective on multispecies leisure and the horse-human relationship in events. *Leisure Studies*, *38*(3), 394–407. https://doi.org/10.1080/02614367.2019.1586981

Despret, V. (2013). Responding bodies and partial affinities in human–animal worlds. *Theory, Culture & Society*, *30*(7-8), 51–76. https://doi.org/10.1177/0263276413496852

Edelheim, J. R. (2015). *Tourist attractions: From object to narrative*. Channel View Publications.

Edensor, T. (2012). Illuminated atmospheres: Anticipating and reproducing the flow of affective experience in Blackpool. *Environment and Planning D: Society and Space*, *30*(6), 1103–1122. https://doi.org/10.1068/d12211

Englander, M. (2012). The interview: Data collection in descriptive phenomenological human scientific research. *Journal of Phenomenological Psychology*, *43*(1), 13–35. https://doi.org/10.1163/156916212X632943

Farkic, J., Isailovic, G., & Taylor, S. (2021). Forest bathing as a mindful tourism practice. *Annals of Tourism Research Empirical Insights*, *2*(2), 10028. https://doi.org/10.1016/j.annale.2021.100028.

Gibson, J. J. (2014). *The ecological approach to visual perception*. Psychology Press.

Gleeson, S., O'Keeffe, D., & Gesse, A. (2020). Feasibility and experience of a forest therapy intervention for adults enduring stress. In C. Gallis & S. W. Shin (Eds.), *Forest for public health* (pp. 116–157). Cambridge Scholars Publishing.

Gorman, R. (2017). Therapeutic landscapes and non-human animals: the roles and contested positions of animals within care farming assemblages. *Social & Cultural Geography*, *18*(3), 315–335. https://doi.org/10.1080/14649365.2016.1180424

Goulding, C. (2005). Grounded theory, ethnography and phenomenology. *European Journal of Marketing*, *39*(3/4), 294–308. https://doi.org/10.1108/03090560510581782

Griffero, T. (2017a). *Quasi-things: The paradigm of atmospheres*. Suny.

Griffero, T. (2017b). Felt-bodily communication: A neophenomenological approach to embodied affects. *Studi di estetica*, *45*(2), 71–86. https://doi.org/10.7413/18258646019

Griffero, T. (2019a). Introduction: How do you find yourself in your environment? Hermann Schmitz's new phenomenology. In H. Schmitz (Ed.), *New phenomenology: A brief introduction* (pp. 6–40). Mimesis International.

Griffero, T. (2019b). Is there such a thing as an 'atmospheric turn'? Instead of an introduction. In T. Griffero & M. Tedeschini (Eds.), *Atmosphere and aesthetics: A plural perspective* (pp. 11–62). Springer Nature.

Griffero, T. (2020). *Places, affordances, atmospheres: A pathic aesthetics*. Routledge.

Griffero, T. (2022). They are there to be perceived: Affordances and atmospheres. In Z. Djebbara (Ed.), *Affordances in everyday life* (pp. 85–95). Springer.

Griffero, T., & Tedeschini, M. (2019). Introduction. In T. Griffero & M. Tedeschini (Eds.), *Atmosphere and aesthetics: A plural perspective* (pp. 1–7). Springer Nature Switzerland AG.

Hanrahan, C. (2014). Integrative health thinking and the one health concept: Is social work all for 'one' or 'one' for all? In T. Ryan (Ed.), *Animals in social work: Why and how they matter* (pp. 32–47). Palgrave Macmillan.

Haraway, D. (2016). *Staying with the trouble: Making kin in the chthulucene*. Duke University Press.

Haraway, D. (2018). Staying with the trouble for multispecies environmental justice. *Dialogues in Human Geography*, *8*(1), 102–105. https://doi.org/10.1177/2043820617739208

Hasse, J. (2019). Atmospheres and moods: Two modes of being-with. In T. Griffero & M. Tedeschini (Eds.), *Atmosphere and aesthetics: A plural perspective* (pp. 77–92). Springer Nature Switzerland AG.

Heidegger, M. (1996). *The fundamental concepts of metaphysics: World, finitude, solitude*. Indiana University Press.

Hill, J., Curtin, S., & Gough, G. (2014). Understanding tourist encounters with nature: A thematic framework. *Tourism Geographies*, *16*(1), 68–87. https://doi.org/10.1080/14616688.2013.851265

Hodgson, K., & Darling, M. (2011). Zooeyia: An essential component of "One Health". *The Canadian Veterinary Journal*, *52*(2), 189–191.

Holloway, I., Brown, L., & Shipway, R. (2010). Meaning not measurement: Using ethnography to bring a deeper understanding to the participant experience of festivals and events. *International Journal of Event and Festival Management*, *1*(1), 74–85. https://doi.org/10.1108/17852951011029315

Howell, P., & Kean, H. (2018). The dogs that didn't bark in the Blitz: Transpecies and transpersonal emotional geographies on the British home front. *Journal of Historical Geography*, *61*, 44–52. https://doi.org/10.1016/j.jhg.2018.06.001

Huta, V. (2015). The complementary roles of Eudaimonia and Hedonia and how they can be pursued in practice. In S. Joseph. (Ed.), *Positive psychology in practice: Promoting human flourishing in work, health, education, and everyday life.* (pp. 159–182). https://doi.org/10.1002/9781118996874.ch10

Huta, V., & Ryan, R. M. (2010). Pursuing pleasure or virtue: The differential and overlapping well-being benefits of hedonic and eudaimonic motives. *Journal of Happiness Studies*, *11*(6), 735–762. https://doi.org/10.1007/s10902-009-9171-4

Kirillova, K., & Wassler, P. (2019). Travel beautifully: The role of aesthetics in experience design. *Advances in Culture, Tourism and Hospitality Research*, *16*(11), 153–163. https://doi.org/10.1108/S1871-317320190000016017

Kline, C. (2018). *Tourism experiences and animal consumption: Contested values, morality and ethics*. Routledge.

Knudsen, D., Metro-Roland, M., & Rickly, J. (2015). Tourism, aesthetics, and touristic judgment. *Tourism Review International*, *19*(4), 179–191. https://doi.org/10.3727/154427215X14456408880957

Konu, H. (2015). Developing a forest-based wellbeing tourism product together with customers – An ethnographic approach. *Tourism Management*, *49*, 1–16. https://doi.org/10.1016/j.tourman.2015.02.006

Laing, J., & Frost, W. (2017). Nature and well-being: Explorer travel narratives of transformation. In J. Chen & N. Prebensen (Eds.), *Nature tourism* (pp. 11–22). Routledge.

Langdridge, D. (2007). *Phenomenological psychology: Theory, research, and method*. Pearson Education.

Latka, T. (2019). Philosophy of the atmospheric turn. *Advances in Culture, Tourism and Hospitality Research*, *16*, 15–29. https://doi.org/10.1108/S1871-317320190000016006

Li, Q. (2018). *Shinrin-Yoku: The art and science of forest bathing*. Penguin Life.

Lim, P. Y., Dillon, D., & Chew, P. K. H. (2020). A guide to nature immersion: Psychological and physiological benefits. *International Journal of Environmental Research and Public Health*, *17*(16), 5989. https://doi.org/10.3390/ijerph17165989.

Liu, L. (2023). Embodied research methodologies. In J. M. Okoko, S. Tunison & K. D. Walker (Eds.), *Varieties of qualitative research methods: Selected contextual perspective* (pp. 161–166). Springer Texts in Education.

Lobo, M., Alam, A., & Bandyopadhyay, S. (2022). Tiger atmospheres and co-belonging in mangrove worlds. *Environment and Planning E: Nature and Space*, *6*(2), 736–755. https://doi.org/10.1177/25148486221079465

Lorimer, J. (2015). *Wildlife in the anthropocene: Conservation after nature*. University of Minnesota Press.

Lorimer, J., Hodgetts, T., & Barua, M. (2019). Animals' atmospheres. *Progress in Human Geography*, *43*(1), 26–45. https://doi.org/10.1177/0309132517731254

Merleau-Ponty, M. (2012). *Phenomenology of perception*. Routledge.

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, *1997*(74), 5–12. https://doi.org/10.1002/ace.7401

Midgley, M. (2020). *Animals and why they matter*. Athens: University of Georgia Press.

Miyazaki, Y. (2018). *Shinrin-yoku: The Japanese way of forest bathing for health and relaxation*. Aster.

Montgomery, S. (2015). *The soul of an octopus: A surprising exploration into the wonder of consciousness*. Atria Books.

Murdoch, I. (2020). *The sovereignty of good*. Routledge.

Nörenberg, H. (2020). Hermann Schmitz. In T. Szanto & H. Landweer. (Eds.), *The routledge handbook of phenomenology of emotion* (pp. 215–223). London: Routledge. https://doi.org/10.4324/9781315180786.

Pang, X. Q. (2017). The "New" in new phenomenology: On the main theoretical contributions of new phenomenology. *Zhejiang Academic Journal*, *04*(3), 21–28. https://doi.org/10.16235/j.cnki.33-1005/c.2017.04.003.

Pang, X. Q., & Feng, F. (2011). "Being-in-the-world" under the horizon of the new phenomenology. *Journal of Zhejiang University (Humanities and Social Sciences)*, *41*(1), 55–62. https://doi.org/10.3785/j.issn.1008-942x.2010.01.192.

Pfister, D. (2019a). The concept of atmosphere from a multidisciplinary perspective. *Advances in Culture, Tourism and Hospitality Research*, *16*(3), 31–43. https://doi.org/10.1108/S1871-317320190000016007

Pfister, D. (2019b). Describing and creating atmospheres. *Advances in Culture, Tourism and Hospitality Research*, *16*(4), 45–62. https://doi.org/10.1108/S1871-317320190000016009

Philo, C., & Wilbert, C. (2000). *Animal spaces, beastly places*. Routledge.

Picard, D. (2016). Tourism, awe and inner journeys. In M. Robinson & D. Picard (Eds.), *Emotion in motion: Tourism, affective and transformation* (pp. 1–19). Routledge.

Richardson, N., & Insch, A. (2021). Enabling transformative experiences through nature-based tourism. *Tourism Recreation Research*, *48*(2), 311–318. https://doi.org/10.1080/02508281.2021.1952396

Rose, E. (2012). Encountering place: A psychoanalytic approach for understanding how therapeutic landscapes benefit health and wellbeing. *Health & Place*, *18*(6), 1381–1387. https://doi.org/10.1016/j.healthplace.2012.07.002

Schmitz, H. (1989). *Leib und Gefühl: Materialien zu einer philosophischen Therapeutik*. Junfermann.

Schmitz, H. (2007). *Der unerschöpfliche Gegenstand: Grundzüge der Philosophie*. Bouvier Verlag.

Schmitz, H. (2019). *New phenomenology: A brief introduction*. Mimesis International.

Shaw, I. G. R., Jones, J. P., & Butterworth, M. K. (2013). The mosquito's umwelt, or one monster's standpoint ontology. *Geoforum; Journal of Physical, Human, and Regional Geosciences*, *48*, 260–267. https://doi.org/10.1016/j.geoforum.2012.11.028

Sheldon, P. J. (2020). Designing tourism experiences for inner transformation. *Annals of Tourism Research*, *83*, 102935. https://doi.org/10.1016/j.annals.2020.102935

Tang, G., Zhang, J., Zhu, S., Peng, H., & Hu, H. (2018). Co-dwelling, mix-dwelling and dis-dwelling: The diversity among three human and livestock dwelling forms in rural China. *Chinese Geographical Science*, *28*(4), 555–570. https://doi.org/10.1007/s11769-018-0941-y

Trigg, D. (2020). Introduction. In D. Trigg (Ed.), *Atmospheres of shared emotion* (pp. 1–14). Routledge.

Ueda, M. (1995). The recreational activities in the forest. *Japanese Journal of Biometeorology*, *32*(1), 39–42. https://doi.org/10.11227/seikisho1966.32.39.

Urbanik, J. (2012). *Placing animals: An introduction to the geography of human-animal relations*. Rowman & Littlefield Publishers.

van der Duim, R., Ren, C., & Jóhannesson, G. T. (2017). ANT: A decade of interfering with tourism. *Annals of Tourism Research*, *64*, 139–149. https://doi.org/10.1016/j.annals.2017.03.006

van Manen, M. (2016a). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Routledge.

van Manen, M. (2016b). *Researching lived experience: Human science for an action sensitive pedagogy*. Routledge.

Vetlesen, A. J. (2022). *Animal lives and why they matter*. Routledge.

Volgger, M., Pfister, D., & Dirksmeier, P. (2020). Quo vadis research on spatial atmospheres?. *Tourism Geographies*, 1–14. https://doi.org/10.1080/14616688.2023.2270980

Wassler, P., & Kirillova, K. (2019). Hell is other people? An existential-phenomenological analysis of the local gaze in tourism. *Tourism Management*, *71*(10), 116–126. https://doi.org/10.1016/j.tourman.2018.10.005

Winter, C. (2020). A review of research into animal ethics in tourism: Launching the annals of tourism research curated collection on animal ethics in tourism. *Annals of Tourism Research*, *84*, 102989. https://doi.org/10.1016/j.annals.2020.102989

Withagen, R. (2022). *Affective Gibsonian psychology*. Routledge.

Zhang, L. (2015). Sensory ethnography: Theory, practice, and representation. *Ethno-National Studies*, *2*(5), 55–67.

Zhang, Y.-Q., & Ueda, H. (2023). A phenomenological explication of immersion in forest bathing. *Tourism Recreation Research*, 1–13. https://doi.org/10.1080/02508281.2023.2286563.

Zhejiang Provincial Forestry Bureau. (2017). Retrieved September 29, 2023, from http://lyj.zj.gov.cn/art/2017/2/9/art_1297176_5513139.html.