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Embodiment and the Animal in Guadalupe Nettel's *El matrimonio de los peces rojos*

La personificación y el animal en *El matrimonio de los peces rojos* de Guadalupe Nettel

Resumen

En este trabajo se aborda una interacción entre los discursos cognitivos y posthumanos en la obra de la autora mexicana Guadalupe Nettel. Se pretende reinterpretar el motivo central de su antología de historias cortas: *Natural Histories* (2014), cuyos animales 'son como un espejo que refleja emociones o comportamientos subterráneos que no nos atrevemos a ver' (9). Propongo que esta 'reflexión' es un espejo de dos vías: no simplemente una imagen del humano reflejado en la opaca superficie del animal, sino que los humanos también actúan como un espejo y reflejan el comportamiento de los animales con quien habitan. La simulación entre los humanos y los animales representa un fenómeno que tiene lugar en el mundo real, llamado variadamente 'la resonancia motora' o 'la simulación encarnada'. Esto es una imitación inconsciente que ocurre cuando alguien lo mira a otro, recreando sus acciones, movimientos o expresiones. (Gazzola et al.; Iacoboni; Landmann et al.; Uithol et al.). Aunque discutiré brevemente todas las narrativas, me centro en particular en la primera historia de la antología: 'El matrimonio de los peces rojos', que demuestra una resonancia encarnada entre los humanos y no humanos que atraviesa niveles lingüísticos y caracterológicos. Un planteamiento cognitivo a esta resonancia en la narrativa revela la intersección entre paradigmas en la ciencia cognitiva, estudios de los animales, y posthumanismo en la antología.

Palabras claves

simulación encarnada, cognición, animales, posthumanismo, Guadalupe Nettel.

Abstract

This article explores an interaction between posthumanist and cognitive discourses through the work of award winning Mexican author, Guadalupe Nettel. I focus on her 2014 anthology of short stories, *Natural Histories*, rereading the central motif of the narrative, that animals ‘are like a mirror that reflects submerged emotions or behaviours that we don’t dare to see’ (Nettel, 9). This ‘reflection’ is not simply the image of the human reflected off the opaque surface of the animal, but rather the humans themselves act as a mirror, simulating the behaviour of the animals with which they cohabit. This can be read as a literary representation of a neurophysiological phenomenon — embodied simulation, an internal mimicry, either perceptible or imperceptible, performed when watching others completing certain tasks, movements or expressions (Gazzola et al.; Uithol et al.; Iacoboni). Although I will discuss each of the narratives briefly, I will focus on the first story, ‘El matrimonio de los peces rojos’, which depicts a profound Human–nonhuman embodied resonance that moves between linguistic, narratological and characterological levels. A cognitive critical approach to the mirroring between animals and humans in the stories reveals the particular intersection between new paradigms in cognitive science, animal studies, and posthumanism that the anthology develops, each of its narratives intertwining mind, body and nonhuman other in a non-hierarchical network.

Keywords

Embodied simulation, cognition, animals, posthumanism, Guadalupe Nettel.

Moving in the opposite direction to Shklovskian defamiliarisation, Guadalupe Nettel’s literary works encounter familiarity in the unfamiliar, the flicker of recognition in the confrontation with the unknown. Nettel’s first book, *Natural Histories* (2014)¹, is an anthology of short stories, each of which orbit around a human-animal relationship: in the first, ‘El matrimonio de los peces rojos’ (‘The marriage of the red fish’, hereafter ‘Los peces rojos’), an unnamed narrator watches in horror as first her fishes’ relationship, and then her own, disintegrates. In the second, a family predate on their cockroach cohabitants; in the third, a woman’s deliberations over spaying her cat, and procuring an abortion for herself, parallel, leading to human and feline enduring pregnancy together; in another, a fungus becomes the third member of an illicit affair; and in the final, a snake slithers

¹ The Spanish version of the anthology was published with the English title.

through the cracks in a family's relationships. The plot of each of the stories turn on its animals: the fish, the cockroaches, the fungus, the cats, the snake. In each, there are explicit parallels between the human and nonhuman lives — operating, according to different critics, as 'synecdoche' (Matschke),² 'figurative parallelism' (Quezada 74),³ 'analogy' (Valverde 137),⁴ 'symbolism' (Curtis), or 'a vehicle for Nettel's theory of emotion', where in each story the animal 'comes to represent the emotion as its core' (Christ 515). These interpretations are in keeping with Henríquez's assessment of critical approaches to animals in Hispanic literature⁵: 'when they don't speak, the majority of the time animals in literature are symbols of something, or metaphors, or similes' (Henríquez 269).⁶ That is, these critics read the parallel between human and animal lives as a metaphorical device used to convey something about human nature.

Yet taking their relationship to be metaphorical reinstates the separation between animal and human, a move antithetical to the project of the novel. In contrast, I argue that *Natural Histories* explores a particular intersection between cognitive science, animal studies and posthumanism, as each of its narratives intertwine mind, body and nonhuman other in a non-hierarchical assemblage. This understanding centres around the central motif of the narrative, that animals 'are like a mirror that reflects submerged emotions or behaviours that we don't dare to see' (9).⁷ Rather than interpreting this 'reflection' as an image of the human reflected off the opaque surface of the animal, I argue that the humans themselves act as a mirror, simulating the behaviour of the animals with which they cohabit.

² "sinécdoque"

³ "paralelismo figurativo"

⁴ "analogía"

⁵ This is, however, far from true of all approaches to animals in Hispanic literature. See, for example, Lámbarry 2019 and 2015; Benjamin 2015 or Arellano, who takes a complex approach to animals in Quevedo's poetry, arguing that they are used both 'as a secondary detail, descriptive data to define a character or object, or with lexicalized values that remove the animal mention from its original meaning', and also in situations in which 'the animal conserves its intrinsic condition and significance' (Arellano 15–21).

⁶ "cuando no hablan, las más de las veces los animales literarios son símbolos de algo, o metáforas, o símiles"

⁷ "Son como un espejo que refleja emociones o comportamientos subterráneos que no nos atrevemos a ver"

This mirroring is a literary representation of a neurophysiological phenomenon known as embodied simulation. Embodied simulation, discovered both in humans and other primates, is an internal mimicry, either perceptible or imperceptible, performed when watching others completing certain tasks, movements or expressions (Gazzola et al.; Uithol et al.; Iacoboni). In exploring this simulation, *Natural Histories* represents models emerging in cognitive science of a mind embodied and embedded in the world, destabilising the discrete and autonomous Humanist subject.⁸

Each of the stories shows the narrators' actions and experiences paralleling those they perceive in the animals, insects, and parasites with which they share their lives (note, here, the radical ethical implications of the movement of the different stories through the 'hierarchy' of phyla). While I will briefly discuss all of the anthology's short stories, my analysis focuses on the first, and longest: 'Los peces rojos', in which this human-animal parallel is particularly explicit. It begins as the unnamed narrator and her husband welcome 'another couple' (12)⁹ into their home: two betta fighting fish. The narrator forms a close relationship with the fish, watching them with obsessive fascination. Over the course of the narrative, her own emotional states and behaviours begin to simulate those she perceives in the fish. The glass aquarium seems to be both transparent and reflective, as eventually the two couples become a mirror image of one another, each relationship following the other through the 'stagnant waters in which we move... towards putrefaction.' (73)¹⁰

⁸ Embodied and embedded are terms taken from second generation cognitive science, which foregrounds, in the words of Karin Kukkonen and Marco Caracciolo, 'the embodiment of mental processes and their extension into the world' (Kukkonen and Caracciolo 261). Embodied cognition reframes our understanding of our cognitive processes, and perhaps consciousness itself, as partially constituted by 'additional structures, for example, in the somatosensory cortices, which enable our brain to create an "embodied mind"' (Schaefer and Northoff). A growing number of cognitive literary critics have brought the insights of second generation cognitive science to bear on literature (e.g. Easterlin; Kukkonen).

⁹ "otra pareja"

¹⁰ "esas aguas estancadas en las que ... nos movíamos...hacia la putrefacción"

Though amplified, this is a literary representation of a genuine neurophysiological phenomenon — embodied simulation. In real-life cognition, this is underpinned by ‘mirror mechanisms’ in the brain that create unconscious internal simulation of both sensorimotor behaviours (Gallese and Cuccio) and subjective emotions and sensations when recognised in others (originally hypothesized by Gallese and Goldman, 1998). Though this is a feature of human social interaction, it is not limited to intra-human interactions. In fact, the mirror neurons which are theorised to underpin these imitation mechanisms were initially found in cross-species interactions between humans and animals (P. F. Ferrari et al.; Pier Francesco Ferrari et al.). In exploring cross-species embodied simulation, *Natural Histories* engages with posthumanist accounts of the human-animal relationship, developing, as posthumanist theories have described, a ‘*subjectivity* that attempts to transcend an essentialist separation between humans and nature and extends the traditional subject-object position’ (Lindgren and Öhman) and problematizing the idea of a ‘subjectivity coterminous with the species barrier’ (Wolfe 2). As one of the discoverers of mirror neurons, Vittorio Gallese, writes, ‘embodied simulation not only connects us to others, it connects us to our world’ (39). Human-nonhuman embodied simulation and its posthumanist implications have previously been examined in fictional engagement with animals: for example, in a recent article in *PMLA*, Marco Caracciolo identifies embodied responses to nonhuman assemblages, exposing how verbal patterns encode embodied experience (2020). Caracciolo’s approach is part of a surge of critical investigations based on embodied and distributed cognition: a project which is urgently implicated in human-animal relationships, as a cognition which extends into both body and other ‘destabiliz[es] an entrenched notion of the liberal, autonomous, and masterful human subject’ (Caracciolo 241). *Natural Histories* depicts a human-nonhuman embodied resonance that moves between linguistic, narratological and characterological levels, demonstrating how what is variously called kinesthetic empathy, embodied simulation or embodied resonance can be encoded in fictional narrative. This reading brings the field of cognitive literary

criticism into productive dialogue with contemporary Hispanic works — which have been previously neglected, relatively speaking, by both the wider cognitive turn and cognitive investigations of Spanish language literature.¹¹ This intersection is important for interpretations of *Natural Histories*, which brings new understandings of cognition into play with posthumanism¹², depicting a distributed subjectivity which locates the novel within post-humanist and post-anthropocentric movements. Its portrait of cognition as both embodied and extended across the nonhuman environment suggests that, as Karen Barad says, “‘We’ are not outside observers of the world. Nor are we simply located at particular places in the world; rather, we are part of the world in its ongoing intra-activity’ (Barad 828).

Embodiment and animals in cognitive literary criticism

Rather than a specific theoretical model, cognitive literary criticism consists of a constellation of approaches to texts which engage with contemporary neuroscience and psychology. This diverse range of research is unified by an analytical animus: to discover what the cognitive sciences can teach us about art, and what art can teach us about cognition (Richardson). Embodied simulation has been at the forefront of several developments in cognitive literary criticism, due to its possible role in relations between characters and readers, as well as between characters (Gallese and Wojciehowski; Cuccio; Hogan). Although generally these relationships are between humans (fictional or otherwise), cross-species embodied

¹¹ As affirmed by Isabel Jaén, ‘Within early modern Spanish criticism, cognitive approaches have been developing steadily during the past few years’ (110). This is further attested to by Jaén’s edited collection with Julien Simon, *Cognitive Approaches to Early Modern Spanish Literature* (2016). See also (Carrera; Jaén, “Teaching Cervantes’s Don Quixote from a Cognitive Historicist Perspective”; Ruhe; Jaén, “Cervantes and the Cognitive Ideas of His Time”; Connor-Swietlicki; Dominguez; Simerka, *Knowing Subjects*; Simerka, “The Role of Empathy in Reading, Interpreting, and Teaching Las Casas’ Brevisima Relacion de La Destruccion de Las Indias”; Mancing). In comparison to this focus on the Early Modern period, contemporary Spanish novels have been relatively neglected within the cognitive turn.

¹² Posthumanism is a broad term to describe a call for redefinitions of the notion of the human, in accordance with post-anthropocentric and post-dualist approaches (Ferrando)

simulation, which the following will investigate in *Natural Histories*, is no mere literary conceit: the first studies on mirror neurons were conducted on macaque monkeys as they witnessed a human hand grasping, and found that the same neural network for 'grasping' was activated in the monkeys' brains. In 2004, a study by Buccino identified embodied simulation occurring across 'non-conspecifics' (members of different species), using fMRI to assess cortical activation in humans during the observation of actions performed by monkeys and dogs. They found that familiar actions were 'mapped onto the observer's motor system' (Buccino et al. 114). In 2007, a study by Gazzola et al. found that, during observation of non-human actions, 'the mirror neuron system transforms seen actions into our inner representation of these actions' (1674), as did a later study by Chaminade and colleagues. Cognitive scientists such as Cullen have termed this phenomenon 'motor anthropomorphization', where motor systems are activated by an anthropomorphised sense of a non-human entity as another human body (Cullen et al. 2014; see also Chaminade, Hodgins, and Kawato 2007; Chaminade et al. 2010). Embodied simulation has been described as a function of the empathy matrix: in 1990, Ken Shapiro coined the term 'kinesthetic empathy' to describe how humans simulate the bodily experiences of animals in an attempt at empathetic understanding. Margo DeMello has similarly used 'embodied compassion' (2012): both terms which highlight the ethical implications of these embodied resonance systems and 'our emotional and bodily capacity to enter a relation with other types of beings' (Lindgren and Öhman). These insights from cognitive science help to understand how *Natural Histories* constructs its posthumanist commentary through representations of an embodied, empathetic simulation between human and animal in the text.

Although understanding the human-animal parallels through a cognitive framework diverges from the accounts of character posed by previous critics of *Natural Histories*, a strength of cognitive literary criticism is that it is able to exist alongside other forms of criticism (Thomas Crane). The present approach overlaps with, for example, DeVries's brief exploration of how *Natural Histories* depicts the

‘ethics of human/animal interactions, nonhuman agency, and animal sentience’ (DeVries 305). Yet, DeVries goes on to explain the human/animal mirroring of the narrative as ‘the literary conventions of fable: the allegorical elements’, where ‘animals serve as fully present referents’ for human concerns (305). For example, according to DeVries, the animals operate as a vehicle for the narrative to explore anxieties around love and motherhood. A cognitive approach can unite these (perhaps) contradictory conclusions, by restoring human–animal relationships themselves as a key concern of the anthology, and taking the conceit of mirroring beyond mere allegory. My analysis will argue that this cross-species relationship is a concrete aspect of human concern in itself, rather than a symbol of human foibles. Similarly to DeVries, Valverde argues that, in terms of the human-animal parallel, ‘the analogy establishes a system of equivalences that translates the way the characters perceive life as a couple/motherhood, without expressing it explicitly’ (Valverde 137).¹³ There are many overlaps between our understanding of the novel, but Valverde’s argument positions the simulation between humans and animals as analogy in service of a larger thematic argument about motherhood and partnership under patriarchy. Others have noted that the novel contains insight about the animalistic, or ‘primitive’ aspects of human nature: ‘Through comparison, Nettel seeks to observe the animal part that lives in humans’ (Matschke 2).¹⁴ The animals in the novel, under these interpretations, are used for ‘comparison’ or ‘synecdoche’, important only so far as they illuminate something about human nature. While these analyses are illuminating, they don’t sufficiently recognise the critical role the animals in the anthology play: *as* animals, rather than as symbols for human experiences. By extension, I argue the relationship of the protagonists with the animals is a genuine exploration of human–animal relationships, not just human–human relationships. Through a cognitive lens, we can reinterpret Matschke’s claim that *Natural Histories* explores the animal in humans. The stories present not just a

¹³ “La analogía permite establecer un sistema de equivalencias que traducen la manera como los personajes perciben la vida en pareja y/o la maternidad, sin llegar a expresarlo explícitamente.”

¹⁴ “Nettel, a partir de las comparaciones, busca observar la parte animal que vive en los hombres.”

representation of our animalistic natures, an echo of humanity's primitive evolutionary past, but a portrayal of how our embodied minds elide the boundaries between self and other, human and animal. As suggested by Lindgren, Snaza and Weaver and a proliferation of other posthuman theorists, nonhuman elements, including animals, are already 'existing parts of human selves' (Lindgren and Öhman). The stories demonstrate this from the perspective of embodied simulation, and what evolves in the anthology is a non-hierarchical intersubjectivity based on identification.

Human/nonhuman identification in *Natural Histories*

Early evidence that Nettel's stories do not subsume the significance of their animal characters into an examination of their human characters is found by looking at their relative salience. Prominence is given to animals in the story, both in terms of diegesis (in each text the emotional development of the protagonist is shaped by their animal counterparts) and language (as a superficial example, a frequency profile shows 'humano' is repeated seven times: 'animal' thirty-five). This is particularly noticeable in the key story of the anthology, 'Los peces rojos'. It begins,

Yesterday afternoon Oblomov died, our last red fish. I had seen it coming for several days, in which I barely saw him move inside his round fishbowl. Neither did he jump as before to receive his food or to chase the rays of sunlight that cheered his enclosure. He seemed the victim of a depression or something similar in his life of a fish in captivity. (11)¹⁵

¹⁵ "Ayer por la tarde murió Oblomov, nuestro último pez rojo. Lo intuí hace varios días en los que apenas lo vi moverse dentro de su pecera redonda. Tampoco saltaba como antes para recibir la comida o para perseguir los rayos del sol que alegraban su hábitat. Parecía víctima de una depresión o el equivalente en su vida de pez cautiverio."

The de-hierarchalisation of the human-animal relationship is evident from the first line. The fish is explicitly named, while the human protagonists are only referred to through the pronoun ‘our’ in an apposite phrase that further defines the subject, Oblomov the fish. This pronoun is without antecedent, leaving deictic ambiguity surrounding the human narrator. This syntactical construction is not, in the context of cognitive grammar, arbitrary or ‘empty’ (Langacker 110) but rather, carries lexical meaning: ‘the distinctions made by... grammar reflect recurrent and generalised experiences. Like the words of a language, the grammar of a language is meaningful, too’ (Radden and Dirven xi). The rest of the story continues in the same vein: the lives of the titular red fish organise the narrator’s subjective experience of time, both in her role as a character and a narrator, and subsequently the discourse time of the narrative. The order of events in the human lives is subordinated to the fish’s timeline. In particular, Oblomov’s death temporally encloses the discourse time, so that the story is teleological: the introduction is followed by an internal analepsis, via which the story must reach the inevitable conclusion of the beginning. The flashback begins by recounting the arrival of the first two fish of the story, and the eponymous ‘matrimonio de los peces rojos’, the ‘marriage’ of the red fish:

Oblomov wasn’t the first fish we had, but the third. Before him, there were two others of the same colour, whom I did observe closely, and about whom I learned with great interest... I sat and watched the comings and goings, sometimes slow and rhythmic, sometimes frenetic and frantic, of the red fish. I learned to distinguish them clearly, not only by the colourings of their scales, but by their attitudes and manner of moving, and of searching for food. (12)¹⁶

¹⁶ “Oblomov no fue el primer pez que tuvimos en casa, sino el tercero. Antes de él, hubo otros dos del mismo color a los que sí observé y sobre los cuales llegué a informarme con gran interés’. ... me senté a observar el ir y venir, a veces lento y acompasado, a veces frenético o persecutorio, de los peces rojos. Aprendí a distinguirlos claramente, no sólo por los colores tan parecidos de sus escamas, sino por sus actitudes y su forma de moverse, de buscar el alimento.”

Each major episode of the story is plotted against the major events in the fishes' lives: after this arrival, the next development is the fishes' removal to a larger aquarium. After this, a physical altercation leads to the subsequent separation of the two fish; then, the death of the female, the arrival of Oblomov; the death of the 'widowed' male, and, finally, Oblomov's death and the end of the story. As I will explain in more detail in the next section, these events mark the high and low points of the narrative, shaping its emotional pace and tension. The narrator-protagonist fixates on the fish: watching them, talking about them to her husband, researching them, until she seems more deeply absorbed in their lives than in her own. The predominance of animals at the structural level of plot and narrative time complicates the interpretation that the role of the stories' animals is to elucidate the human protagonists. Against this interpretation, Nettel may in fact ironize the attempt to reduce animals to emblems of human personalities, or simplified symbols. In the first story, the narrator comments that 'besides, we had heard it said that red fish grant good luck' (12).¹⁷ Yet the fish, as we well know by the end of the story, are the opposite of good luck. Again, in the final story, the characters describe the snake at the centre of the tale as 'the Chinese symbol of renovation, lying inert in its enclosure' (296).¹⁸ This 'symbol of renovation' not only lies dead¹⁹ in its cage, but its death is followed by the slow disintegration of the family which bought it. In both cases, the narrative seems to be criticising the interpretation of animals as mono-dimensional symbols or metaphors for humans.

In the stories of *Natural Histories*, animals are on the one hand unknowable, and yet familiar. The human characters reflect upon the similarity in their circumstances: this is particularly prominent in 'Los peces rojos', as the narrator relates to the difficulty the red fish experience in cohabiting. However, an identification with animals also occurs in the other stories: in 'Hongos', the narrator

¹⁷ "Además, habíamos oído decir que los peces rojos dan buena suerte."

¹⁸ "el símbolo chino de la renovación permaneció inerte en su estudio."

¹⁹ Birth and death, experiences shared across the animal kingdom, feature prominently in each of the stories, underlining the continuities between humans and other animals.

sees the co-dependence of the sexually transmitted parasite and its host as not only a reflection of, but actor in, her love affair; the stages and fears of pregnancy are experienced by both the female cat and female narrator of ‘Felina’, and the snake in the last story, ‘La Serpiente de Beijín’ is, like his owner, displaced in a foreign land, a new habitat, and separated from his partner. Underlying these connections, to varying extents in each of the stories, are two psychological moves that the human characters perform: zoomorphism and anthropomorphism, which allow humans to encounter the ‘other’ of the animal world and yet identify with it. Nettel’s human characters, and the stories themselves, anthropomorphise animals (perceiving them as human-like) and, reciprocally, zoomorphise humans (perceiving themselves as animal-like), subsequently identifying the non-human world as part of their social sphere: their peers. This is one way in which embodied identification can occur between two very differently embodied beings. Though ‘Nettel chooses animals, for the most part, that are not high on the chain of being... creatures to which it is hard to give human character’ (Christ 515), the human characters conceptualise the animals, insects and fungi in their stories as friends, family members, and even (emotionally) intimate partners. In her discussions of anthropomorphism as an ethical interpretive tool in narrative, Alexa Weik von Mossner argues, ‘it is a fallacy to assume that these characters have to be human, or even like humans’ (Weik von Mossner 111). The bridging of differences in embodiment is demonstrated in studies which have shown that the actual likeness of the non-human objects or animals to humans — that is, whether they truly possess person-like traits — is ‘orthogonal’ to the tendency to anthropomorphise certain entities (Waytz, Epley, and Cacioppo 2010, 59; also see Chaminade et al. 2010). In their analysis of *Natural Histories*, Ramírez and Díaz conclude, ‘we observe in the work of Nettel a crossing of the conceptual domains of the animal world and the human universe. We identify that the principal characters of each of the stories employ the metaphor of personification and depersonification in order

to construct their identity', ultimately revealing 'a fierce human nature'²⁰ (Ramírez and Díaz 2019; an observation also expressed by Matschke). In describing the human-animal identification in *Natural Histories* as a literary device used to construct human identities, both the mimetic cognitive aspect, and the role of the animals themselves, has been downplayed. While the anthology does indeed demonstrate 'una naturaleza humana', this human nature includes the cognitive structures which enable identification with others, either human or nonhuman: anthropomorphic identification with animals is part of the embodied feedback systems of cognition which connects us to our world.

Anthropomorphism, defined as 'the attribution of human characteristics or behaviour to any other nonhuman entity in the environment', is 'involuntary, mostly unconscious,' yet pervasive (Urquiza-Haas and Kotschal 167; Guthrie v). As Guthrie argues, it may be considered a human universal to anthropomorphize parts of one's environment. Though long demoted in literary criticism to the 'false perception' declared by Ruskin's pathetic fallacy (117-30), the posthuman turn has revived its importance: for example, Chris Danta argues that anthropomorphism 'can be something productive — something that enables genuine cross-species communication' (Danta, "The Future Will Have Been Animal: Dr Moreau and the Aesthetics of Monstrosity" 703; Danta, "The New Solitude"; Danta, "The Theology of Personification"). Anthropomorphism has a particularly vexed relationship with the study of human-animal relationships, as affirmed by Caracciolo, who warns of the 'risks' (245) of an anthropocentric projection which seeks to overcome epistemological limitations of the subject by misattributing self-knowledge onto the unknown object. Yet, as studies on non-living agents (such as robots and animated figures) have revealed, a degree of anthropomorphisation may be important in the empathetic response of embodied simulation for two reasons. First, anthropomorphism means that we are able to perceive nonhumans as social peers.

²⁰ "En conclusión, observamos en la obra de Nettel un cruce de dominios conceptuales del mundo animal al universo humano, detectamos que los personajes principales de cada uno de los cuentos emplean la metáfora de personificación y despersonificación para construir su identidad."; "una naturaleza humana feroz"

As Soliman *et al.* explains, embodied simulation is more likely to occur between members of one's social network: 'the motor system is strongly tuned to resonate to the behaviors of the in-group' (Soliman et al.). Second, in order to be simulated, a gesture, expression or behaviour has to be interpreted as 'familiar': as found for example by studies on embodied simulation between different species which showed that only 'familiar' actions were 'mapped onto the observer's motor system' (Buccino et al. 114). That is, a nonhuman's actions must be perceived (either anthropomorphically or as a result of genuine similarity, for example chewing) as human-like in order to activate embodied resonance. Such an approach aligns with Alexa Weik von Mossner's 'strategic anthropomorphism', a heuristic through which we are prompted 'to care about' nonhuman others (Weik von Mossner 106). Anthropomorphism, though based on self-knowledge, can facilitate an empathetic reaction: an embodied simulation, which gives way to other-knowledge.

Anthropomorphism has been a noted feature of Latin American literature for a long time, 'modulated through myth', according to literary critics Mark Anderson and Zelia Bora (247). For example, Andrés Bello deployed poignant and sustained anthropomorphism in his apostrophe to the jungle, '*Silva a la agricultura de la zona tórrida/Ode to Tropical Agriculture*' (1826), both praising and directly addressing the flora of the tropics: 'Hail fecund zone.../you sow your wreath of pomegranate thorns to summer' (Bello).²¹ Specifically, this is an example of teleological reasoning, a subset of anthropomorphism which involves attributing purpose and agency to nonhuman actions and events. Other aspects of the phenomenon include hypermentalisation, or the attribution of belief and emotional stances to nonhuman entities, where people see human faces or expressions in random patterns (Varella). Both teleological reasoning and hypermentalisation, as well as other aspects of anthropomorphism, are exhibited by the narrator in the first story towards the two fish. The anthropomorphism in the story is signalled from the outset, of course, by the title: 'The Marriage of the Red Fish'.

²¹ "Salve, fecunda zona, Tú tejes al verano su guirnalda de granadas espigas"

The narration endows the fish with human psychology: as quoted above, the narrator says of her third fish, Oblomov, ‘he seemed to be a victim of depression’ (11). Further, she assumes her empathy towards the ‘depressed’ fish is reciprocated, deploying hypermentalisation in granting the fish the cognitive capacity to understand social situations, and the emotional capacity to respond to them: ‘And I am sure that, in his own way, he also felt sympathy for us’ (11).²² This anthropomorphism becomes more pronounced as the story tells of the arrival of the first two fish. Early indications that the protagonist is inclined to see the fish that move into her apartment as peers — part of her social circle, rather than pets — include her characterisation of their romantic relationship: ‘we liked the idea of sharing the house with another couple.’ (12)²³ The narrator speaks of the fish as if they were relatives of her and her husband: ‘I told him the things I had discovered about them and he listened happily, as if to events of extended family members.’ (13)²⁴ The narrator anthropomorphically attributes the human emotion of love to the fish couple (‘our fish love each other’ [66]),²⁵ as well as human faculties of conversation (‘[their behaviour] gave me the impression of dialogue as I watched them’ [17]²⁶) and also human values and concerns. For example, when the narrator researches betta fighting fish in her local library, she feels embarrassed to have invaded their privacy: ‘While I read it, I felt something similar to a blush: a sensation produced by finding out about the dark side of our guests without their consent’ (34).²⁷ Despite this reluctance, the narrator is absorbed in the fishes’ lives, and their relationship becomes ‘un drama’ to her, as ‘compleja/complex’ as human relationships, if not more so. When the male fish behaves badly in the relationship, the narrator judges the male fish’s actions: ‘his attitude of seduction seemed

²² “Y estoy segura de que, a su manera, también sintió pena por nosotros”

²³ “nos gustaba la idea de compartir la casa con otra pareja”

²⁴ “Yo le contaba las cosas que creía haber descubierto acerca de ellos y él las escuchaba complacido, como los aconteceres de la familia extendida que ahora teníamos en casa”

²⁵ “nuestros peces se aman”

²⁶ “De ahí la impresión de dialogo que me producían al verlos”

²⁷ “Mientras leía aquello, sentí algo semejante al rubor. La sensación que produce enterarse de las facetas oscuras de nuestros conocidos sin su consentimiento”

arrogant to me' (22).²⁸ Early signs that the narrator's anthropomorphising of the fish creates an identification with them occur when the male and female fish begin to fight. The narrator feels 'solidarity' (37) with the hembra. This emotional connection is the starting point for the narrator's implicit rejection of anthropocentrism, as she develops the 'affective ties that have consolidated human-animal interaction' (Braidotti 81).

When the fish have to be separated out into individual tanks, the narrator experiences an intuition quite like theory of mind.²⁹ This describes a range of perceptual and cognitive processes which allow us to understand the mental states of others, and is produced by both explicit and implicit (unconscious) processes, so that it often appears to us as an intuition of how the other person is feeling (Meinhardt-Injac et al.). The intuition is described by the narrator as a 'sensation': 'I had the sensation that they were also affected by the distance, and missed each other' (64)³⁰; 'I am convinced that our fish love each other, even though they can't live together' (66).³¹ Despite her husband's practical suggestion that the two fish were simply chosen randomly to be put together in the aquarium, the narrator insists on the fishes' mutual connection: 'I could feel it with the same clarity that on other occasions I could feel her [the female fish's] fear and the arrogance of her companion' (67)³²; 'I know that this sounds like nonsense but my fish suffered from being separated, and of this I am completely sure.' (67)³³ Here, despite the prevailing subsequent narration, is a shift into present, signalling that this conviction has endured.

Importantly for the narrator's sense of embodied identification with the fish, this anthropomorphism is coupled with zoomorphism: as Nanay explains,

²⁸ "Su actitud de seducción me pareció arrogante"

²⁹ Much work in cognitive literary theory has been involved in analysing theory of mind processes in literary works. (Schmitz; Zunshine, "Theory of Mind and Experimental Representations of Fictional Consciousness")

³⁰ "Tenía la sensación de que también a ellos les afectaba la distancia y que se echaban de menos"

³¹ "estoy convencida de que nuestros peces se aman, aunque no puedan vivir juntos"

³² "Podía sentirlo con la misma claridad con que en otras ocasiones había sentido el miedo de ella y la arrogancia de su compañero."

³³ "Ya sé que dicho así suena como un disparate pero mis peces sufrían al estar separados y de eso estoy completamente segura"

‘anthropomorphism is the methodology of attributing human-like mental states to animals. Zoomorphism is the converse of this: it is the attribution of animal-like mental states to humans.’ (Nanay) Animalistic descriptions of human behaviour bring to mind their evolutionary past: the humans in the story must ‘adapt’ (adaptarse: 43, 138, 197) to their changing environments, controlled by instinctual biological forces (‘it was the hormones’³⁴ [13]) and a deterministic nature, rather than rational cognitive thought: ‘For months we had been clinging to the possibility of a change that we neither knew how to propitiate nor was in our nature to bring about’(87).³⁵ A clear continuity is drawn between animal and human here, as this phrasing resonates with the previous page, on which the narrator says of the male fish, ‘all that he was not nor could ever be, according to his own nature’ (84).³⁶ The parallel constructions (the negation - ‘**ni** sabíamos/**ni** estaba en nuestra naturaleza’, compared to ‘**no** era/**ni** de acuerdo con su naturaleza’) syntactically evokes the continuity the narrator sees between herself and the fish.

This zoomorphic tendency runs throughout Nettel's oeuvre: in her semi-autobiographical work *El cuerpo en que nací*, when the protagonist makes a fuss in front of guests, her grandmother throws her out ‘exactly like one removes an unwanted insect from the house so as not to have to squash it in front of the guests’ (68).³⁷ Here again there is a sense of solidarity with the nonhuman, based on similarity and identification. ‘La guerra en los basureros/The War in the Garbage Cans’, another story in *Natural Histories* which evokes this affinity with insects, tells the tale of the connection between the narrator and the cockroaches which pervade her house. When she first encounters a cockroach, her gaze again results in an identification which is at once zoomorphic and anthropomorphic: ‘It seemed to me that the insect was watching me, and in its eyes I recognised the same surprise

³⁴ “fueron las hormonas”

³⁵ “Sólo nosotros habíamos seguido aferrados durante meses a la posibilidad de un cambio que ni sabíamos propiciar ni estaba en nuestra naturaleza llevar a cabo.”

³⁶ “todo lo que él no era ni podría ser jamás de acuerdo con su naturaleza”

³⁷ “exactamente como se saca a un insecto indeseable de la casa para no tener que aplastarlo frente a los invitados”

and distrust that I felt for it' (109).³⁸ As the cockroach runs away, 'its nervousness disgusted me and, and the same time, produced a familiar sensation. Or perhaps it was the sensation of familiarity that produced my rejection?' (110).³⁹ The foregrounding of biological similarity, despite huge differences in embodiment, is part of why Nettel's characters identify so closely with the animals in their story, as is again demonstrated in 'Hongos/Fungus', as a sexually transmitted parasite contracted from the narrator's illicit lover becomes not just a symbol of their love but a member of the relationship. The narrator describes their love affair as a parasitic organism, of which the fungus is both parallel and part: 'His fungus loved his body, and needed him in the same manner in which the organism that had sprouted between Laval and I claimed new territory' (237).⁴⁰ In this story the boundaries between self and other, human and nonhuman, are contested as host and parasite blur into each other, neither having executive control: 'I couldn't stop asking myself whether it was the parasite who decided to go to a new place [rather than me]' (195).⁴¹ The narration begins to refer to them both in the first personal plural, subsuming host and parasite into the same subject position, sharing the same identity: 'We are unsatisfied beings by nature' (243).⁴² The juxtaposition with these other stories help us interpret 'Los peces', foregrounding the porous boundary between human and animal.

Relatedly, the identification between humans and nonhumans in the anthology destabilises the binary concepts used to divide them. Each story, in its own way, dissolves barriers of intelligence vs instinct, civilised vs primitive, self-aware vs non self-aware, determinism vs free will. Reason as a distinguishing factor between humans and nonhumans is disrupted: as the anthology's epigraph attests,

³⁸ "Me pareció que aquel insecto me miraba y en sus ojos reconocí la misma sorpresa y desconfianza que yo sentía por él"

³⁹ "su nerviosismo me dio asco y, al mismo tiempo, me produjo una sensación familiar. ¿O fue acaso la sensación de familiaridad la que me produjo el rechazo?"

⁴⁰ "Su hongo amaba su cuerpo y lo necesitaba de la misma manera en que el organismo que había brotado entre Laval y yo reclamaba el territorio faltante."

⁴¹ "no pude dejar de preguntarme si no fue el parásito quien decidió marcharse a otro lugar."

⁴² "somos insatisfechos por naturaleza"

'all animals know what they need, except for man.' (Plinio el Viejo, 10)⁴³ In 'Los peces', the behaviour of the human characters is often guided by intuition or superstition (itself a form of codified intuition): 'Besides, we had heard it said that red fish give good luck and in that time we were searching for any type of amulet, whether it be thing or animal, to reduce the uncertainty that my pregnancy created in us.' (14)⁴⁴ The narrator-protagonist comes to decisions, and actions, steered by unconscious forces: 'From where did I get that conclusion? Even I had no idea.' (66)⁴⁵; 'I acted arbitrarily' (69).⁴⁶ The nonhumans, on the other hand, are credited with epistemological credibility: 'How much wisdom I saw then in nature: that animal was conscious, who knows how, of the fact that it wasn't a good idea to get pregnant, not even with a space as wide and well-conditioned as hers' (52).⁴⁷ In times of uncertainty, the narrator looks to the fish for advice: 'I went directly to the living room and peered into the fishbowl like someone consulting an oracle.' (23)⁴⁸ The narrator seems as helpless to avoid the oncoming disaster in her relationship as a mouse walking into a trap: she notices 'the interior patio of our building appeared to me like a rat trap' (81).⁴⁹ Her fate is inevitable, like 'the economic collapse of some small country or the death of a terminally ill person' (87)⁵⁰: a deterministic nature controls her choices. Like many other posthumanist interventions, the story establishes a 'subjectivity [which] ... is not linked to transcendental reason' (Braidotti, *The Posthuman*, 82). The representations of human agency and nonhuman agency work to bridge the entrenched gap between human and nonhuman subjectivities, particularly in light of theories of decision making in

⁴³ "Todos los animales saben lo que necesitan, excepto el hombre."

⁴⁴ "Además, habíamos oído decir que '*Los peces rojos*' rojos dan buena suerte y en esa época buscábamos todo tipo de amuletos, ya fueran cosas o animales, para paliar la incertidumbre que nos causaba el embarazo."

⁴⁵ "De dónde sacaba esa conclusión? Yo misma no tenía ninguna idea"

⁴⁶ "El viernes no pude más y actué arbitrariamente."

⁴⁷ "Cuánta sabiduría vi entonces en la naturaleza: ese animal era consciente, vaya a saber cómo, de que no era buena idea quedar encinta, ni siquiera contando con un espacio tan amplio y bien acondicionado como el suyo"

⁴⁸ "fui directa al salón y me asomé a la pecera como quien consulta un oráculo"

⁴⁹ "El patio interior de nuestro edificio me pareció una ratonera"

⁵⁰ "como el derrumbe económico de algún pequeño país o la muerte de un enfermo terminal."

which emotional processes guide ‘rational’ judgement (Damasio). As I will explain below, simulation between the human narrator and her fish creates bodily and affective resonances which guide her unconscious behaviour and conscious decision making.

Embodied simulation in *Natural Histories*

The destabilisation of anthropocentric binaries, and the zoomorphism and anthropomorphism which underpin it, create an embodied identification between human characters and their nonhuman coprotagonists. As previously suggested, the human characters feel as though, despite the differences in shape, size and limb, they share an essential, common identity with the fish, insects and animals that populate their worlds: they share the same social sphere. When they spend extended time together, this activates the same social responses generated by spending time with other human beings. As the narrating protagonist claims, ‘The connections between animals and human beings can be as complex as those that unite people’ (141).⁵¹ According to Gallese and Wojciewowski, the ‘capacity to share the meaning of actions, basic motor intentions, feelings, and emotions with others’ (2011, 8) is mediated by embodied simulation, an internal model of observed behaviour which grants a degree of ‘experiential understanding’ between self and other (Gallese 3). Embodied simulation is thought to occur in part through special types of neurons, called mirror neurons, which discharge both when an action is performed and when it is observed. This creates a mimicry or simulation which is unconscious, pervasive, and usually imperceptible — though sometimes it ‘slips out’, as can be seen when we unconsciously mimic the expression, accent or body language of those we are talking to (see, for example, Niedenthal et al.; Calbi et

⁵¹ “Los vínculos entre los animales y los seres humanos pueden ser tan complejos como aquellos que nos unen a la gente.”

al.).⁵² This mimicry or mirroring plays a critical role in 'Los peces', and features in many of the stories of *Natural Histories*.

For example, in 'The War in the Garbage Can', the protagonist, a young girl who is forced to live with unwelcoming relatives, both identifies with, and simulates the behaviour of, the cockroaches which infest her new home. She explains how, like the insects (themselves unwanted guests in the house), she tries to hide, cringing away from open spaces: 'When I enter into a lab or one of the classrooms, I always prefer to stick to the corners; the same way that, when I walk along the street, I move with more certainty if I'm close to a wall. Although I couldn't explain exactly why, I've begun to think that this habit is related to my inner nature' (90).⁵³ As another example, in 'Fungus', the homodiegetic narrator explicitly mirrors the behaviour of the fungus that inhabits her body, adopting its parasitic impulses in her relations with its origin: her married lover. When she cannot see him, 'the rest of the time I stayed enclosed and immobile in my apartment, in which I hadn't lifted the blinds for several months. I enjoy the dark and humidity of the walls' (247).⁵⁴ Thriving in the dark and moist, sustained only by her host/lover, she realises that the self/other boundary between her and her fungus has dissolved: 'I had developed a bond with the fungus, and a feeling of belonging. To continue poisoning it would be to mutilate an important part of myself.' (234)⁵⁵ The intersubjectivity of the embodied simulation is literally manifested, here, as she recognises the fungus as a part of herself: body and mind.

⁵² These simulations are often unconscious, as is much of embodied simulation in real life. Indeed, the unnamed protagonist-narrators of each of the stories often muse on the unconscious, the 'subterranean' activity of the mind. As quoted above, the first narrator of the anthology, the protagonist of 'Los peces', reflects on 'subterranean emotions or behaviours' (13). Similarly, the final narrator, and protagonist of 'El serpiente', says, 'the movements in the lives of human beings ... usually have subterranean origins and, therefore, are difficult to locate in time' (252).⁵²

⁵³ "Cuando entro en un laboratorio o en las aulas de clase, casi siempre prefiero acomodarme en las esquinas; del mismo modo en que, cuando camino por la calle, me muevo con mayor seguridad si estoy cerca de un muro. Aunque no sabría explicar exactamente por qué, he llegado a pensar que se trata de un hábito relacionado con mi naturaleza profunda."

⁵⁴ "El resto del tiempo vivo encerrada y inmóvil en mi departamento, en el que desde hace varios meses no levanto casi nunca las persianas. Disfruto la penumbra y la humedad de muros."

⁵⁵ "Había desarrollado apego por el hongo compartido y un sentido de pertenencia. Seguir envenenándolo era mutilar una parte importante de mí misma."

The recurrence of the motif of mimicry in the other stories highlights its importance in ‘Los peces’. In this story, the human characters mirror their aquatic counterparts in physical, emotional, and even temporal ways. ‘Los peces’ tells the tale of two failed relationships: that of the protagonist and her husband, and that of their two fish. Each relationship is plagued by violence and trauma, both physical and psychological. Notably, the fish often exhibit these behaviours first, followed by the humans. This pattern shapes the plot: the fish arrive, they oscillate between wary standoffs and signs of aggression, and they resume their relationship briefly only for disaster to strike: the male attacks the female, killing her. The relationship of the two humans follows: they too oscillate, briefly resume, and then a final showdown precipitates the departure of the female. Within these broad parallels exist a host of synchronies. Indeed, the theme of embodied simulation is explicit: ‘The fish watched each other all the time and each one of their actions, like rising to the surface of the water or circling around their glass bowl, inevitably affected the other.’ (17)⁵⁶ They are watched, in turn, by the human inhabitants, living in their own ‘pecera’ [fish bowl], whose movements are pulled into this synchrony, so that changes in the behaviour of the fish lead to changes in the lives of the humans. The most prominent behavioural symmetry between the two couples is the ‘vueltas’, or laps round and round in their respective containers: ‘we watched the fish circling [dando vueltas] around his old fish bowl like a crazy person’ (64)⁵⁷; ‘While we spoke, I looked several times at the red fish that was swimming [daba vueltas] in anticlockwise circles inside its bowl’ (86).⁵⁸ In a mirror image, the narrator paces around her home: ‘I waited worriedly, doing laps [dando vueltas] of the apartment’ (47)⁵⁹; ‘The heat as much as my worries forced me from my bed very early, before Lila or Vincent work up, and I began to pace around [dar vueltas] in my own

⁵⁶ “Los peces rojos se veían todo el tiempo y cada uno de sus actos, como subir a la superficie del agua o girar alrededor del vidrio, afectaba inevitablemente al otro. De ahí la impresión de diálogo que me producían al verlos.”

⁵⁷ “Mirábamos al pez dando vueltas como un loco en el viejo recipiente.”

⁵⁸ “Mientras hablábamos, miré varias veces al pez rojo que daba vueltas dentro de su recipiente en el sentido contrario al del reloj.”

⁵⁹ “Yo esperé desconcertada, dando vueltas en el apartamento.”

container' (80)⁶⁰; 'I was turning an infinity of laps [una infinidad de vueltas] from the library to my bedroom' (87).⁶¹

These movements come to shape the narrative time of the 'Los peces'. The plot moves in its own 'vueltas': oscillations of tension and release, combat and truce, as the subtle process of embodied simulation is amplified to the level of plot and narrative time. The order of the events in the human lives is sequenced in relation to these events of the fish's lives: for example, the birth of the protagonist's child (arguably the most important moment in the human couple's relationship) is announced in terms relative to the fishes' own arrival: 'They appeared one Saturday morning, two months before Lila was born' (13).⁶² Two months later, again the arrival of Lila is introduced relative to the fishes' timeline:

What is certain is that I rested when, after various failed attempts and a visit to a technician, the red fish were installed [in their new aquarium] and the female had, at last, a cave to hide herself in. Lila was born that same week, in the Clinique des Bleuets, located a few blocks from the house, one of the few public maternity wards where they practice water births. (40)⁶³

Here the temporal sequencing is highlighted by a motif of (aquatic) new beginnings: the narrator-protagonist settles her fish in their watery home, and once this work is done, she delivers her own child into its new home in a water birth. Evinced by the explicit link, this method of ordering events in relation to each other, rather than using calendar time, suggests the temporal experience of the narrator: as Evans explains, there is 'compelling behavioural evidence which supports the

⁶⁰ "Tanto el calor como las preocupaciones me sacaban muy temprano de la cama, antes de que Lila o Vincent se despertaran, y empezaba a dar vueltas en mi propio recipiente."

⁶¹ "Estuve dando una infinidad de vueltas de la biblioteca a mi cuarto."

⁶² "Aparecieron un sábado por la mañana, dos meses antes de que naciera Lila."

⁶³ "Lo cierto es que descansé cuando, después de varios intentos fallidos y la visita de un técnico, *'Los peces rojos'* quedaron instalados y la hembra tuvo, por fin, una cueva donde esconderse. / Lila nació esa misma semana, en la Clinique des Bleuets, situada a unas cuadras de la casa, una de las pocas maternidades públicas donde se practican partos en agua."

view that... temporal reference strategies have psychological reality' (Evans 4). More generally, the timeline of the fish structures the timeline of the narration. Both the human and nonhuman relationships, at the beginning of the narrative, are depicted as relatively peaceful: 'It seemed to us that they livened up the place, angled towards the back patio of our building, with the quick movements of their tails and fins' (14).⁶⁴ Despite the lack of fighting, the narrator notes of her husband, 'He seemed distant' (17).⁶⁵ The uneasy peace is disrupted by a display from the male fish: 'I noticed that one of the fish, possibly the male, had opened his fins, which now appeared larger, almost doubled, and filled with colours' (17).⁶⁶ That day, the protagonist and her husband Vincent walk to the markets, where Vincent becomes angry at one of the narrator's small requests: to buy some oranges. This display, perhaps of Vincent's own 'true colours' (mirroring the male fish's demonstration), fills the protagonist with dread: 'What is certain is that in less than five minutes, I felt like my life had been covered by dark and threatening clouds' (20).⁶⁷ The following Monday, the narrator passive-aggressively retaliates by going out to a cafe and buying orange juice. Upon returning home, she 'went directly to the living room and peered into the fishbowl as if consulting an oracle: the male continued with his fins unfolded but now his companion also had a physical change: along the length of her body had appeared two horizontal, dull brown stripes.' (23)⁶⁸ After conducting research in the local library the protagonist finds out that 'in situations of stress or danger... betta fish develop horizontal stripes contrasting with the colour of their body.' (35)⁶⁹ Later, the narrator finds 'a brown line situated

⁶⁴ "Nos parecía que alegraban esta pieza, orientada hacia el patio trasero de nuestro edificio, con los movimientos veloces de sus colas y sus aletas."

⁶⁵ "Lo sentía distante."

⁶⁶ "me hizo notar que uno de ellos, posiblemente el macho, había abierto sus aletas, que ahora lucían más grandes, como duplicadas, y llenas de colores."

⁶⁷ "Lo cierto es que, en menos de cinco minutos, sentí cómo mi vida se cubría de nubes oscuras y amenazadoras."

⁶⁸ "Fui directa al salón y me asomé a la pecera como quien consulta un oráculo: el macho seguía con las aletas desplegadas pero ahora su compañera acusaba también un cambio físico: a lo largo del cuerpo le habían salido dos rayas horizontales de color pardo."

⁶⁹ "En situaciones de estrés o de peligro, seguía diciendo el autor, los beta desarrollan rayas horizontales contrastantes con el color de su cuerpo."

exactly along the middle of my belly.' (32)⁷⁰ The parallel with the fish's own markings is unmistakable: this suggests that the protagonist, too, has begun to feel the hembra's sense of intimidation and threat, thematically operating as a critique of the patriarchal dynamics present in her relationship. Further, this is a poetic magnification of the phenomenon through which, over extended periods of embodied simulation, partners can come to resemble each other (Zajonc et al.): this physically manifests the symmetry between her and the fish, the embodied ways in which the human-animal relation affects her.

After the oranges incident, there is another lull. This doesn't last long: Vincent takes one of the narrator's actions as 'a provocation' (25), and the fight begins again. The next day, while he is at work, she goes to the local library, and learns about the betta fighting fish that she has taken into her home: 'According to the article, one of their most notorious characteristics is a difficulty with co-habitation.' She returns home and 'spent the afternoon reading on the sofa and observing the fish tank.' (32)⁷¹ Watching them in their bowl, on this afternoon and many to come, the narrator is not simply observing the fish, nor simply a 'reflection' (Valverde 138) of herself: the glass bowl is simultaneously reflective and transparent, and she sees the combative behaviours of both the betta fish, and her own couple, as a moment of 'double exposure' (Nielsen et al. 68), to co-opt Phelan's terminology of truth in fictional discourse, a phrase which is particularly applicable to this cognitive reading. The gaze of the narrator is important to this human-animal relationship: as Quezada notes, this is the Derridean gaze of inter-species identification (2017). The narrator watches the fish for hours, trying to understand them: 'I sat to observe their comings and goings' (16)⁷²; 'I spent the afternoon reading on the sofa and observing the fish' (32).⁷³ When the fish fight, her gaze intensifies: 'While I was at home, I couldn't stop watching them, as if with

⁷⁰ "Note una línea marrón situada exactamente en la mitad de mi vientre."

⁷¹ "Según el artículo, una de sus características más notorias era su dificultad para la convivencia.; Pasé la tarde leyendo en el sofá y observando la pecera."

⁷² "Me senté a observar el ir y venir."

⁷³ "Pasé la tarde leyendo en el sofá y observando la pecera."

that gaze, severe and disapproving, I could avoid an imminent confrontation.’ (37)⁷⁴ There is an inversion of the narrator’s gaze, as the fish, in turn, watches her: ‘He, by contrast, had more time, more peace in order to observe Vincent and I’ (12).⁷⁵ The reader, too, is implicated: we watch the narrator watching the fish watching her, linking human and nonhuman, fictional and nonfictional actors in a loop of recognition. Through a cognitive lens, the gaze, or visual observation, is a crucial aspect of activation of the mirror mechanisms of self-other understanding (Coudé et al.; Triesch et al.): the narrator’s close observation of the fish stimulates the embodied simulation which shapes the development of the story.

Another vuelta, and the relationships enter again into uneasy truce. This lasts throughout the re-homing of the fish into a bigger aquarium, and the birth of Lila. While both the fish and humans ‘had maintained calm’ (40),⁷⁶ the narrator confesses that these are ‘tense days for [the fish] but also for us’ (36).⁷⁷ Observing the fish, the narrator explains that they ‘taught me that screams can also be silent’, that ‘fish are perhaps the only domestic animals that don’t make noise’ (37).⁷⁸ Yet the narrator and her husband recreate the fishes’ silent struggle: ‘we spent the whole day without saying a word to each other.’ (50)⁷⁹ Finally, this tension boils over, in both the human and nonhuman couples. The fish ‘had a fight and both were seriously injured.’ (62)⁸⁰ Similarly, there is a dramatic argument between the narrator and her husband, and she goes to bed ‘with the certainty of having violated some unbreakable barrier’ (54).⁸¹ Both the fish and the humans are separated from their partners: the narrator goes to visit her parents, and the fish are placed into separate tanks. During this sad time in the fishes’ relationship, the narrator describes, ‘it seemed to me that the aquarium gave off the stench of putrefaction.’

⁷⁴ “Mientras estaba en casa, yo no podía dejar de vigilarlos, como si con aquella mirada, severa y quisquillosa, hubiera podido evitar una inminente confrontación.”

⁷⁵ “Él, en cambio, tuvo más tiempo, más serenidad para observarnos a Vincent y a mí.

⁷⁶ Se habían mantenido tranquilos.”

⁷⁷ “Días tensos para ellos pero también para nosotros.”

⁷⁸ “Me enseñaron que los gritos también pueden ser silenciosos; los peces son quizás los únicos animales domésticos que no hacen ruido.”

⁷⁹ “Pasamos la mañana entera sin dirigirnos la palabra”

⁸⁰ “tuvieron una pelea y ambos están bastante lastimados”

⁸¹ “con la certeza de haber violado una frontera infranqueable.”

(63)⁸² This lexical choice resonates with her later description of her own relationship, in explicitly aquatic metaphors: ‘However, in these stagnant waters in which Vincent and I moved, our relationship continued its slow course towards putrefaction.’ (73)⁸³ The narrator’s language reflects her subjective convergence with the fish, as she comes to understand how their experiences have paralleled each other: ‘Compared with a river, or even a small pool, an aquarium, however big it may be, is a very reduced space for unsatisfied beings and tending towards unhappiness, such as the betta fish. The minds of some people are similar.’ (74)⁸⁴

Following this pattern, the violence in the fishes’ behaviour is soon manifested in the human relationship: After her husband fails to return home one night, the narrator becomes violent: ‘I began to destroy one by one the plates and the vase that was on the table. — You are sick! — he shouted, trying without success to stop me.’ (78)⁸⁵ This fight marks the beginning of the end for their relationship, and also for that of the fish. One hot morning, the protagonist wakes to find that ‘the female appeared to be floating in the aquarium. She had broken fins and a missing eye’ (80).⁸⁶ The dead hembra has broken wings (symbolically, it cannot escape) and a blinded eye (it cannot see), just like the narrator, who cannot see her options, and feels that she cannot escape her situation: ‘I couldn’t stop asking myself if we were going to get out of this, and, in case we couldn’t, what alternatives we had. At least for me, I couldn’t imagine any.’ (80)⁸⁷ In a final parallel, this inertia, or inability to leave, is broken by the departure of Oblomov,

⁸² “Me pareció que el acuario despedía un olor a podredumbre.”

⁸³ “Sin embargo, en esas aguas estancadas en las que Vincent y no nos movíamos, nuestra relación siguió su curso paulatino hacia la putrefacción.”

⁸⁴ “Comparado con un río, incluso con un estanque pequeño, un acuario, por grande que sea, es un lugar muy reducido para seres insatisfechos y proclives a la infelicidad como los beta. Las mentes de algunas personas son semejantes.”

⁸⁵ “empecé a destruir uno por uno los platos y el florero que había sobre la mesa. — Estás enferma! — gritaba él, intentando inútilmente que recapacitara.”

⁸⁶ “la hembra apareció flotando en el acuario. Tenía las aletas rotas y un ojo desorbitado... El macho también estaba herido pero aún conseguía moverse entre las algas del fondo”

⁸⁷ “No dejaba de preguntarme si íbamos a salir de eso y, en caso de no conseguirlo, qué alternativas teníamos. Al menos para mí, no imaginaba ninguna”

the third fish that they welcome into their home.⁸⁸ The last vuelta or turn of the story, Oblomov's death precipitates the narrator's own departure. When he dies, the narrator at last feels able to follow suit, letting her own relationship die.

The devolution of these relationships involves not only parallel behaviour, but a shared emotional valence between the human and nonhuman couples. This aligns with Hatfield *et al.*'s seminal work on emotional contagion: 'the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person and, consequently, to converge emotionally' (Hatfield *et al.* 153). As found in a study by Palagi *et al.*, 'emotional affinity matters more than species' when it comes to emotional contagion (Palagi *et al.*). The close emotional affinity that the narrator feels with the fish (particularly her 'solidarity' with the hembra), means that she is affected by the emotions that she reads in their behaviour. The depression, anxiety, and anger that she interprets in the fishes' behaviour influences her own declining emotional state. Many descriptions indicate that the narrator is not only feeling sorry for the fish but also *feeling their suffering*: an unconscious emotional contagion. 'Watching the aquarium puts me in a bad mood. The lives of those two conflicted beings saddened me.' (55)⁸⁹ Her sadness for the hembra is an emotional sensation both transitive (taking another as its object) and reflexive, echoing Ricoeur's argument that empathy creates us as both subjects and objects. There is a difference between sympathy and empathy, the latter meaning you feel for the other *as if* it were your own pain: a sensation partly facilitated by embodied simulation (Barad 828). The narrator's own emotional state echoes the one she recognises in the fish: 'The female, by contrast, swam with her fins folded and slow movements. The comparison with the male fish, caused me a certain pain.' (22)⁹⁰ When the fish are

⁸⁸ The link is emphasized through intertext: Oblomov is the titular character of a satire by the Russian novelist Ivan Goncharov, whose life came to represent 'the immobility, the inertia' (Goncharov), from which he was only freed by his own death.

⁸⁹ "Mirar mucho tiempo el acuario me ponía mal. La vida de esos dos seres conflictivos me entristecía."

⁹⁰ "La hembra en cambio nadaba con las aletas gachas y sus movimientos pausados, en comparación con los de él, me causaron cierta pena."

separated after their physical altercation, the narrator notes, 'what made me the most sad that night and the following days was seeing our fish separated. I had the sensation that they were also affected by distance, and missed each other.' (64)⁹¹ The narrator is not just cognitively aware of their pain, but feels the 'sensación' in her own body. Over time, like the 'desolation' she reads in the fishes' behaviour, the narrator becomes desolate: 'I wasn't suffering, of course, from postpartum depression, but from a profound despondency and permanent low mood.' (72)⁹² Describing the fate of her last fish, Oblomov, she says 'I very much doubt that he had been happy. That was what made me so sad / 'Dudo **mucho** que haya sido feliz. Eso fue lo que más tristeza **me dio**' (12). Here the sense of emotion being both other-oriented and self-oriented is evoked by the palindromic structure of the sentence, the phonetic symmetry between *dudo/dio*, *me/mucho*, the syllabic balance of the two clauses.

The narrator also experiences the fear that she perceives in the fish, and particularly the female: 'All my solidarity, of course, was with her. I could feel her fear and her anguish.' (37)⁹³ Again, the narrator does not just detect this fear and anguish, but *feels* it. 'I could feel it with the same clarity that I had on other occasions felt her fear.' (67)⁹⁴ This sensation begins to pervade her own relationship: 'I felt as if my life had been covered by dark and threatening clouds.' (20)⁹⁵ The fear and anxiety running between the human and nonhuman inhabitants of the house is woven into a sense of claustrophobia, of being trapped: 'I could feel her anguish at being cornered, her need to escape.' (37)⁹⁶ This pressure is psychological, rather than spatial: '[beta fish] could see the widest space as narrow. They always need more space, and feel threatened even by their partner. They

⁹¹ "Lo que más me entristeció esa noche y los días siguientes fue ver a nuestros peces separados. Tenía la sensación de que también a ellos les afectaba la distancia y que se echaban de menos"

⁹² "Yo no sufría, por supuesto, de depresión postparto pero sí de un abatimiento profundo y de un mal humor permanente."

⁹³ "Toda mi solidaridad, por supuesto, la tenía ella. Podía sentir su miedo y su angustia."

⁹⁴ "Podía sentirlo con la misma claridad con que en otras ocasiones *había sentido el miedo* de ella."

⁹⁵ "sentí cómo mi vida se cubría de nubes oscuras y amenazadoras"

⁹⁶ "Podía sentir ... su angustia de verse acorralada, su necesidad de esconderse."

interpret the existence of the other with all this pressure upon them.’ (65)⁹⁷ In time, the narrator comes to view her life as her own enclosure. Like the ‘round fishbowl’, she feels that her space, too, is impossibly small: ‘domestic life became to seem unbearable to me’ (57).⁹⁸ The conceptual metaphor that situations are containers facilitates the narrator’s sense of the parallel between her relationship and the fishes’ lives, enabling her to map her own metaphorical entrapment onto the literal confinement of the fish (Vuković Stamatović and Bratic). Through this metaphor the story mobilises the themes of partnership and patriarchy, as they exist throughout the animal kingdom. When the protagonist imagines freedom from this confinement, her daydream is that of a trapped fish dreaming of freedom in the ocean, and the scene is focalised through these eyes: ‘I tried to imagine that, instead of being here, I found myself in the British sea, shaken by immense waves’ (41).⁹⁹ The blurring of embodied subjectivities, between human and fish, means that the narrator’s imagination, too, simulates the perspective of the fish with which she has bonded. The theme of entrapment, of being caught in a container through which you can see the outside world but are held by invisible forces, works a *mise en abyme* throughout the narrative. Much of the narrator’s entrapment is due to her child: she feels that she cannot leave. Yet her baby itself is entrapped, the narrator, too, a container, the baby ‘enclosed/encajada’ (38) in the fishbowl of her belly: ‘meanwhile, the baby floated in amniotic liquid inside my stomach.’ (38)¹⁰⁰ As Valverde observes, ‘the narrator comes to feel herself in her own receptacle, observing another receptacle, and at the same time *is* a receptacle’ (Valverde 39).¹⁰¹ The story, too, is held within the confines of the discourse: its own fishbowl, through which readers can peer, but the characters cannot escape. This container is

⁹⁷ “pueden ver estrecha la pecera más amplia. Siempre les falta espacio y se sienten amenazados incluso por su pareja. Con toda esa presión encima interpretan la existencia del otro”

⁹⁸ “la vida doméstica comenzó a parecerme insoportable”; “una cárcel domiciliaria”

⁹⁹ “trataba de imaginar que, en vez de estar ahí, me encontraba en el mar de Bretaña, sacudida por unas olas inmensas”

¹⁰⁰ “mientras, la bebé flotaba en el líquido amniótico dentro de mi vientre.”

¹⁰¹ “la narradora llega a sentirse ‘en [su] propio recipiente’ observando otro recipiente (y siendo observada por la pareja dentro de este recipiente), y al mismo tiempo es un recipiente.”

encircled or circumscribed by the death of Oblomov: another fish that, like his predecessors and the narrator herself, couldn't survive confinement. Within these invisible walls, narrator, fish, fetus and story are contained. The claustrophobia pervades not only this story, but the anthology as a whole: humans and nonhuman characters trapped in their neurotic, obsessive lives, squeezed between the front and back covers of the book.

Finally, juxtaposition works to combine the fate of both humans and nonhumans. 'Before I had finished, Oblomov had died. No one was surprised that Vincent and I separated.' (87)¹⁰² These two pieces of information aren't coordinated by any transition, as if the end of Oblomov and of their relationship were part of the same event, both equally expected. Both the humans and nonhumans are constrained by their 'nature' (88). This nature is discussed many times in the story: 'How much wisdom I saw then in **nature**' (52); 'All that he [the male fish] wasn't nor could ever be was in accordance with **his nature**' (84); 'For months we had been clinging to the possibility of a change that we neither knew how to propitiate nor was in **our nature** to bring about' (87).¹⁰³ As I have argued in this essay, this 'nature' is one which is deeply shaped by mirror mechanisms: as Dolack argues, it 'is becoming increasingly clear that imitation is a fundamental aspect of the human mind and therefore influences the products of that mind, including literature' (2013, 1). In fact, an interesting movement occurs in the shifting modifiers of 'nature' as used sequentially in the book: 'la naturaleza', 'su naturaleza', 'nuestra naturaleza'. This shift from the definite article 'la' to the two possessive adjectives speaks of the narrative's developing commentary about humans and nonhumans being of the same fabric, both creatures of nature. Yet it also provides a blueprint of the cause and effect of embodied simulation, the movement of influence between self and other: an observer sees an abstract entity

¹⁰² "Antes de que terminara, Oblomov había muerto. A nadie sorprende que Vincent y yo nos estemos separando."

¹⁰³ "Cuánta sabiduría vi entonces en la naturaleza"; "todo lo que él no era ni podría ser jamás de acuerdo con su naturaleza"; "Sólo nosotros habíamos seguido aferrados durante meses a la posibilidad de un cambio que ni sabíamos propiciar ni estaba en nuestra naturaleza llevar a cabo."

out in the world and then identifies it as a being like them, creating a simulation of shared behaviour which changes the observer's subjectivity. The narrator's initial impersonal recognition moves through stages of identification to simulation: its, his, ours.

Concluding notes

As Lámbarry argues in his review of the representation of animals in Hispano-American literature, 'ethology is... the science that studies reality from the point of view of animals: thanks to it, we know a dog, ants, and bonobos can see, feel, think and imagine. However... where science ends, art begins.' (Lámbarry 2)¹⁰⁴ Although this essay has taken a conservative focus on human experience, read through this lens the anthology implicitly questions axes of difference between humans/nonhumans and self/other. The staging in *Natural Histories* of both intersubjectivity and intercorporeity (to use Gallese and Wojciewowski's term) is an essentially ethical move, toppling value hierarchies between human and animal, animal and insect, insect and microbial parasite. As Pepperell argues, these perspectives involve 'moving away from the notion of humans as unique, isolated entities and towards a conception of existence in which the human is totally integrated with the world in all its manifestations, including nature, technology, and other beings' (Pepperell 100). Nettel's representation of the human-animal relationship 'erases the protagonism of humanity' (Quezada 74). I understand the anthology's challenge to these value systems as located in its representation of human cognition, rather than metaphor or vestigial primitive traits in human nature. Viewed in this way, the collection of stories enriches growing research on representations of cognitive processes in literature, and the subsequent

¹⁰⁴ "La etología es, por tanto, la ciencia que estudia la realidad desde el punto de vista de los animales; conocemos gracias a ella lo que ven, sienten, podrían pensar e imaginar un perro, las hormigas, los bonobos, etc. Sin embargo, ahí donde termina la ciencia empiezan las artes."

understanding of humans' position in the world. Ultimately the insight of *Natural Histories* is to quote Bolongaro, that 'literature can complement rigorous theoretical understanding and empirical knowledge, as well as cognitive and ethical sensitivity, with an imaginative richness which can explore our experience of the animal and of animals in its full complexity' (107).

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