



Forskning om barn og barndom i Norden



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# From Child–Animal Relations to Multispecies Assemblages and Other-Than-Human Childhoods

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## Abstract

This article discusses how childhood studies could be enriched with a focus on child–animal relations, multispecies assemblages and other-than-human childhoods. First, research on child–animal relations prior to, and at, the animal turn is presented. It is argued that the dominant utilitarian and adult-centered views respond poorly to the significance children themselves see in their relations with other-than-human animals. The article then moves on to the concept of multispecies assemblages. Viewing childhoods as multispecies from the outset allows one to draw attention to the specific and situated relationalities amidst natural, cultural, technological, economic, and political forces. Finally, attention is drawn to other-than-human childhoods. The differences, hierarchies, connections and unequal possibilities that arise from being born and growing up as a member of a distinct species amidst societal processes are discussed. Additionally, childhood is suggested to be an important concept through which to give detail, specificity, and a critical edge to the work of multispecies research.

**Keywords:** *child–animal relations, assemblage, multispecies, animal turn, other-than-human childhood*

## Introduction

This article outlines and follows three phases in the scholarship of our research team. We have traced these phases in retrospect and recount them based on our publications and readings at the time, discussing these from our current perspective. Each shift to a new phase is identified as a move towards something that was previously “under the radar” in our scholarship and in childhood studies. One of the baseline publications we build on is our chapter on childhood and the animal turn in an edited volume (Rautio et al., 2021).

Before a brief introduction to the three sections in this article, we offer the reader a lead-in context: the animal turn. Among proliferating scholarly turns, the animal turn has been identified during the last decade and coincides with the time of our emerging interest in childhood animal relations. The animal turn reaches across diverse fields and has been described as an academic focus on animals *in new terms and under new premises* (Peters et al., 2014); that is, scholarly interest in the relationships between humans and other animals, and in the role and status of animals in (human) societies. It is a move away from attitudes towards animals in which they were mere blank pages onto which humans wrote meaning, and towards attempts to understand the many ways in which humans construct and are constructed by animals (Wolfe, 2009). This means that what were previously thought of as human achievements, such as culture or the arts, are now being reevaluated as having been made possible only because of the collaborations, help, or exploitation that takes place within human-animal relations. The animal turn is connected to a broader ontological turn that has been characterized as a movement from atomism to relations, and from certainty to uncertainty (Bird Rose, 2011): The human is shifted from its exclusive agential position into the rich world of co-becoming and a variety of modes of knowing, not all of which are human. The emerging field of multispecies studies seeks to develop modes of immersion to better approach and understand the engagements between various participants – “species” is understood as always multiplying their forms as associations (van Dooren et al., 2016).

The first section of this article recounts where we began: We highlighted children’s experiences and points of view of their animal relations because these had gone virtually unnoticed for so long. The second section recounts the shift from children’s perspectives towards assemblages of children, animals and intricate contexts showing the co-creations arising in these that had previously gone unnoticed. The final section is a step that reconsiders the notion of childhood as attached to one species only, and begins to uncover what happens if we consider childhoods of multiple species amidst societal processes. While presented in neat chronological order here for clarity, we stress that the thought-work of all stages is still ongoing and incomplete, unfolding simultaneously and feeding into each other.

## How other-than-human animals matter to children

The majority of existing studies on child–animal relations from a decade ago focused on adult-imposed meanings and rationales. Research was mainly located in the field of psychology and assessed the usefulness of animal contact in children’s socio-emotional development

(e.g., McCardle et al., 2011). The usefulness of companion animals for children had garnered most of the attention and it was suggested that they may teach or provide children with responsibility, care, companionship, security, comfort, amusement, and an outlet for affection (e.g., Melson, 2001), and function as therapeutic relations (Friesen, 2010). In general, these relations were and still are conceived as powerful relationships (Risley-Curtiss, 2010), and it is often expected that respect and compassion for all animals and nature would emerge from or at least be strengthened through children's relations with companion animals (Prokop & Tunnicliffe, 2010).

Another aspect visible in earlier research on children and animals is the “biophilia hypothesis” (e.g., Tipper, 2011), which claims that the “universal human instinct” to care for all life is found especially strongly in children (e.g., Melson, 2001). This hypothesis leaves out the more social and cultural, and negative, experiences and uneasy relations that children – like any humans – possess. To account for more than developmental and utilitarian views, recent scholarship has begun to take up childhood animal relations as natural-cultural assemblages (e.g., Hadfield-Hill & Zara, 2019; Nelson, 2020). Instead of biophilia, these studies consider the human–animal bond to be formulated on an ongoing basis through connections and cuts between assemblages, such as education, animal science and the animal industry (e.g., Pedersen, 2019).

In our research as well, we were called to challenge the established developmental lines of thinking and story-making of child–animal relations. In juxtaposition with the dominant frameworks mentioned above, we wanted to find out what was significant for the children themselves in their relations with other-than-human animals. Child–animal relations from the viewpoint of children have remained a marginal interest, and they have been researched mostly as separate from the complexities of society, reflecting the above-described biophilia and innocence. The idea that animal relations from the viewpoint of children might matter per se, and not only insofar as they serve a purpose in a child's development, is still very recent. Arriving at the animal turn, studies concerning children – especially in the fields of sociology and geography – are showing that these relations are significant for the everyday experience of being a child, and that they matter in myriad ways among the complexities of the world we live in (Oliver, 2009; Tipper, 2011).

In this section, we draw from multispecies ethnographies (Ogden et al., 2013; van Dooren et al., 2016; see also Hohti & Tammi, 2019) in two empirical contexts – first a stable and then an educational zoo – to describe how we have applied the animal turn in childhood studies in a Nordic context.

In the case of being with horses, in Finland the explicit frames available to human children are those of either attending a riding school or owning/hiring a horse. Sometimes a neighbor or friend may have a horse that the child can tend to; some riding schools offer horsemanship courses where riding is less in focus and horse handling from the ground is taught. However, most of these established frames enable ways of being with the horse that aim towards a particular end – usually to learn how to control the movements of the horse. As part of a wider project, an opportunity arose for one child to spend time at a stable with a researcher, Pauliina, engaging with horses almost as she pleased. The need for

an alternative frame – a different story – became evident during this fieldwork. This child was particularly puzzled by the horse’s mind, not about making its body move. We found that because of this, she preferred to spend time with one particular horse, as opposed to engaging with a different one during each visit. She seemed to prefer undirected time with the horse, rather than goal-oriented riding lessons. She would ride and come along to drive the horse in a cart, but would take these opportunities to continually reflect on “What is she [the horse] thinking?”, “What would she want?” (Rautio et al., 2022a).

When our fieldwork for this project drew to an end, Pauliina asked the child if she was going to take riding lessons and she replied she was certain she would not. This was because it was all about a bond with one particular horse, a “person”. She later on told Pauliina that she had looked for similar opportunities, in vain, in her hometown: the possibility to befriend a horse with no other particular reason or objective than to befriend a horse. The frames of recognition currently available to this child and the horse do not accommodate the forming of a bond where they could engage respectfully, curiously, and at ease – exploring interspecies mutualities and exclusions as much as possible on their own terms. Lacking this kind of possibility, from the horse’s point of view, means that the same kind of human relations continue: ever new people demanding particular movements at their will. From the child’s point of view, the kind of goal-oriented hobby where the other individual is used as a means to a human-envisioned end is still the main avenue for engaging with a horse (Rautio et al., 2022a).

Another context in our fieldwork was one of the biggest educational greenhouses in the Nordic countries, complete with all the technology required to create a subtropical climate in the middle of the surrounding Arctic environment. After being established in the 1990s, it was first used as a rescue facility for homeless pets. The greenhouse has since evolved into an unofficial educational zoo inhabited by rescue animals, purchased animals, and the offspring of both. The municipality provides some extra funding for the school and the greenhouse under the auspices of the so-called “positive discrimination” policy, due to its location in a disadvantaged, largely immigrant-background suburb in Southern Finland.

During our ethnographic fieldwork period, we spent several months observing, engaging with the greenhouse participants, and writing down stories at the greenhouse, where the inhabitants included some 40 medium-size, other-than-human animals such as turtles, rabbits, a parrot, a dove, cockatiels, a green iguana, a water dragon, a corn snake, mice, guinea pigs, gerbils, a rooster, and a hen. There were also smaller creatures such as stick insects, ants, snails, mealworms, and flies. Plants included tropical fruit trees, jacarandas, and hibiscus, among others. Some other-than-human animals moved more freely around in the greenhouse while most of them were in their cages and terrariums. The birds mostly flew around and sat on beams close to the glass ceiling.

While the greenhouse welcomed visitors, we would usually find an inner circle of some 20 students (aged 13–16) who spent most of their free time there. The young students appointed as caretakers of the other animals were mentored by two biology teachers, Armi and Taina. Some of the secondary school students also led so-called animal clubs, which

were afternoon clubs for younger children aged 8–12. The young caretakers were working in the greenhouse on their own, taking full responsibility for feeding, cleaning and other daily tasks related to maintaining the greenhouse and taking care of other-than-human animals. “If the greenhouse was not here, we would be in a totally different school,” they said.

Following Maria Puig de la Bellacasa’s (2017) theoretical work on care, we started to pay attention to entanglements between material work, affective engagement and ethical-political questions and obligations. Care involved daily and weekly duties such as providing fresh water, food and cleaning the terrariums, coops, and the greenhouse surfaces. It was also a matter of balancing between knowing and not-knowing what the specific other might be experiencing, merging of the natural scientific knowledges of the animal (species) and the daily observations of their behaviors as well as intimate sensing with the particular animal person. Negotiations and conflicts with and among the greenhouse animals and between the animal carers sometimes surfaced, requiring recalibration of the care practices. Discussions regarding the freedom of the animals, their use for human purposes (e.g., in sciences), and their positions in families and in society sometimes arose from the encounters too. Living and caring with other animals also involved attraction, sustenance and alteration of affective bonds, as in the cases of becoming attracted to another, frequently visiting and spending time with another, and the death or euthanasia of the cared-for animals. It involved a desire for more animal companions and, in some cases, feeding some animals to the others (such as frozen mice to the snake), as well as dealing with animals other than companion animals (such as bugs and wild mice that arrived in the hay deliveries).

We have explored these aspects in our previous writings in detail (e.g., Hohti & Tammi, 2019; Tammi & Hohti, 2020), but for the purposes of this article, we conclude that for children, their relations with companion animals seem to involve much more than what the previous developmental and utility-seeking approaches have observed. The children themselves did not put emphasis on how their living with specific animal companions might benefit them in adulthood. Rather, our ethnographic observations and discussions with the children suggest that what matters is being there, thinking and getting on with the other as a part of the multispecies community with all the joys and troubles that it may bring. It seems that the complexity arising from joint world-making and the necessity to practice situated moment-to-moment ethics that relies on encounters rather than predefined moral codes are important aspects of these relations.

We thus join with other studies troubling the dominant story of children caring for rescued and other pet animals as non-innocent and unproblematic (e.g., Molloy Murphy, 2020; Nxumalo & Pacini-Ketchabaw, 2017). We suggest alternative ways of thinking about the value of children sharing their lives with other animals, encouraging pedagogies that would embrace more risky and uncertain understandings of child–animal relations, and that pay attention to acts of balancing. These pedagogies could cultivate stories that take us from “truths” and generalized categories of child, human, and animal towards “versions” regarding our coexistence while embracing the non-innocent dimensions and vulnerabilities that belong therein (see also Rautio et al., 2021).



**Picture 1.** A gerbil's home. Photo: Tuure Tammi.

### How can multispecies assemblages inform us about childhoods?

In what follows, we begin to consider childhoods and children not in regard to their interests or their perspectives but rather in relation to their co-constitutive connections with other animals. Since the Enlightenment, humanity has been defined based on boundaries and dichotomies; that is, through negative differences between humans and other-than-humans. In our recent work on multispecies childhoods (Hohti & Tammi, 2019), however, the theoretical starting point is that humanity and thus also childhood becomes understood precisely through the ways humans relate to other beings (Grusin, 2015), through groupings and gatherings of heterogeneous elements. The notion of the heterogeneous, relational constitution of childhoods has been applied by posthumanist and new-materialist influenced childhood scholars. As early as 2005, Alan Prout claimed:

Childhood is to be regarded as a collection of diverse, emergent assemblages constructed from heterogeneous materials. These materials are biological, social, cultural, technological and so on. However, they are not seen as pure materials but are themselves hybrids produced through time. (p. 4)

Assemblages cannot be captured through examining individual beings or their interactions; rather, assemblages are always somewhat open, and shifting, as things as diverse as children, other animals, materials, technologies, ideas, family dynamics, and educational institutions gather and connect in situations and co-constitute each other (see Tsing, 2015).

How, then, can multispecies assemblages inform us of the complexities of contemporary childhoods – what becomes foregrounded that was previously hidden or unobserved in children’s lives? How would these conceptions help us understand and cherish shared worlds in dire times? In the previous section, we reviewed briefly how care was being practiced at the educational zoo in the greenhouse. When approaching the caring practices in terms of assemblages, our attention is drawn into the specific contexts and particular situations, their connections with the companion animal industry, animal sciences, discourses regarding animal rights, education and technology, and the ways in which they nevertheless always generate something new and also unprecedented: “Cross-species relationships thrive in so many locations, *creating new animals and new humans*, shaped not only by their novel genomes but also by their unpredictable bonds in new circumstances” (Segerdahl, 2012, p. 157, our italics). In the present environmental crisis, and during the COVID-19 pandemic, unpredictability can be seen as one of the common experiences of young people’s lives, one that affects their life choices and defines their everyday atmospheres and future horizons. However, unpredictability is also related to openness of assemblages that offers possibilities for the emergence of new species, life-forms and practices (Tsing, 2015).

Not only are traditional scientific studies on animals’ behavior and cognition increasing, but so too is a new interest in multispecies co-existence in incommensurate but interconnected worlds. Multispecies studies maintain that human-only stories serve poorly in the current times of biosocial destruction. What is urgent instead is “attentiveness to the complex ways that we, all of us, become in consequential relationships with others” (van Dooren et al., 2016). Multispecies studies thus take a stance that is oppositional to the traditional subjects and objects of natural sciences, emphasizing instead the multiplicity of relations and, at its broadest, encompassing inanimate and inhuman elements (Ogden et al., 2013) in the quest of opening up new understandings, relationships, and accountabilities (van Dooren et al., 2016). This is to say that the human emerges, instead of from a given divide, as a register of difference consisting of the shifting, often asymmetrical, relations with other agentive beings (see also Rautio et al., 2021). As Tsings (2012) puts it, “Human nature is an interspecies relationship.”

The explicit definition of childhood as multispecies is fairly new (Hohti & Tammi, 2019), while also children and young people have been largely absent in the empirical studies of actual multispecies communities (Snaza et al., 2014; Taylor & Pacini-Ketchabaw, 2015). In childhood studies, the premises of relationality and decentering human agency have been employed within posthumanist and (feminist) new-materialist-influenced research for some time (see e.g., Lenz Taguchi, 2010; Rautio, 2013). More recently, a specific branch of “childhoodnature” studies has advanced research that engages situated approaches (Cutter-Mackenzie-Knowles et al., 2018). A lot of this work is inspired by theorist Donna Haraway

(e.g., 2008, 2016). Furthermore, scholars belonging to the “common worlds collective” have developed pedagogies beyond simplistic developmental and anthropocentric views (e.g., Nxumalo & Pacini-Ketchabaw, 2017).

In our own work, we have tried to purposefully disrupt the romantic and seemingly harmonious connection between children and (charismatic) animals (Taylor, 2011). Thus, we have examined assemblages involving children and neglected “shitgulls” (Rautio et al., 2020); retold childhoods with insects and their co-implication in human colonial and industrial trajectories (Hohti & MacLure, 2022); traced urban environments as shared between young citizens and rats (Aivelo, 2023; Kervinen & Aivelo, 2022; Rautio et al., 2022b); and examined children’s engagements with mold in school environments (Tammi, 2019, 2020). The more difficult and sometimes hard-to-notice assemblages of children and other animals have led us to develop methodologies such as an additive post-qualitative method based on “strange objects” (Rautio et al., 2022a), “insect-thinking” (Hohti & MacLure, 2022) and “imagining well” (Pliushchik et al., forthcoming).

Next, we will delve deeper into assemblages involving children and very small beings in educational contexts. Here, our interest is on microbial and viral entanglements. What becomes illuminated when we focus on these assemblages, and how will these multispecies openings begin to re-story childhoods and education?

In an ethnographic study conducted a few years ago, Tuure was interested in schools with indoor air quality issues, problems with mold in particular. Mold problems in Finland are very common, especially in public sector buildings where construction and renovation have been delayed due to recessions in recent decades, and which tend to be subject to heavy bidding in order to reduce costs to a minimum. This has paradoxically generated massive costs and caused individual health problems that are somewhat hard to diagnose. Thus, a degree of obscureness and a messy causality exist around human–mold relations.

At first, Tuure’s interest was focused on how schoolchildren adopted agentic roles in relation to mold-infected school buildings and playfully modified the discourse and politics around them, creating subcultures of their own. But in the course of the study, it became more and more difficult to define a “natural” and a “cultural” portion, to defer human agency from other available agencies and to ignore the materialities, economic forces and technologies associated. The naturalcultural, messy character of the phenomenon took over, and the most meaningful approach seemed to be that of a more open assemblage that could embrace the material-discursive and heterogeneous complexity (e.g., Prout, 2005) and the consequential relationships at hand.

For Tuure, mapping how buildings started to rot led to observations on how material-discursive mold was entangled in the everyday life of one school (Tammi, 2020). Besides exploring the ways in which child–animal relations matter to children and other animals along with the social, technological, and political assemblages within which they are performed, the microbial entered this study, adding a new dimension to multispecies childhoods. Putting the concept of assemblage (agencement) to work, the study analyzed ways in which buildings and bodies are co-produced through intermingling of material

practices of building, maintenance and schooling, economic and political processes, flows of water and air, and microbial life.

For the notions of childhood, some of the consequences of this exploration are observations of how growing up is not merely a developmental and sociocultural process. It is also about meeting and connecting with material agencies and the agentic residues of their living: becoming different through exposure taking place within *aerial contact zones*. In the urbanized world, humans spend most of their time indoors. What various bodies take from and bring into such contact zones is a complex and political issue that matters greatly to children in educational contexts. Through attentiveness to these kinds of multispecies assemblages, the politics and discourses of anthropocentrism, individualism and human exceptionalism, which still largely define educational practices, can be slowly affected.

Giving consideration to childhood assemblages involving microbes and air, along with relations among people, changes how we understand the school, the teacher, and the child, by affirming the inseparability of nature and culture and embracing the social within the material. It is the inherent co-existence, or co-becoming of humans with microbial life that ultimately reveals that the possibility of separating humans from other beings is an illusion (Hird, 2009). Complications in these interspecies affairs are also among the pervasive childhood experiences in the Arctic North (Tammi, 2019).

The ongoing COVID-19 pandemic offers us one more poignant example of microbial assemblages and their complicated temporalities and causalities. The pandemic is not only about human exposure to a certain virus as the medical story goes, but is also a “multispecies story” (Kirksey, 2020), one that can be traced back to habitat loss, the intensification of farming practices, climate change, and growing markets for bushmeat and exotic animals (van Dooren, 2020). Van Dooren (2020) says that as the societal critique around the pandemic circles around forms of inequality and access to health care that allow these diseases to take hold in individual bodies and broader communities, we should remember that there is also a wider perspective, one that embraces societies as multispecies assemblages. He maintains that we must also consider our relationships with other animal species, what we owe to them, and with the world that is being ushered in by our widespread failure to devise ways of living well in this broader community of life.

From the microbial perspective, it becomes possible to highlight how risk, vulnerability, and also protection are generated within multispecies assemblages. We know that children should not be exposed to dangerous viruses, but we also know they should not live in environments that are disinfected and impoverished in terms of their microbial flora (e.g., Roslund et al., 2020). When children and animals are in close contact, and when they touch each other, it is not a one-to-one interaction; rather, it is the emergence of a contact zone involving countless microbes (Tammi & Hohti, 2020). When doing our fieldwork at the greenhouse, we realized that risk and vulnerability do not apply to humans only. We witnessed a bacterial infection in one of the turtle’s shells and another one on one caretaker’s hand. It was not long after we had completed our fieldwork that we heard the rooster and hen who lived at the greenhouse had died of a viral infection.

## What about other-than-human childhoods?

Let us return to the argument posed by multispecies scholars van Dooren, Kirksey and Münster (2016), that we need “attentiveness to the complex ways that we, all of us, become in consequential relationships with others”. In the course of our work, we have become troubled by the fact that the term “childhood” in childhood studies is often reserved for human children only. Would an interest in other-than-human childhoods aid the exploration of the complexities of multispecies relations? Could it open up possibilities for approaching and understanding the unequal and intersecting vulnerabilities across human and species divides in times of ecological destruction?

During our research projects over the last five years, we have identified a striking contradiction between the extensive use of animal children in children’s media and culture and the lack of research on other-than-human childhoods in the context of childhood studies. Animal children feature in children’s picture books and schoolbooks, cartoons, and animations, and their pictures are widely circulated in social media, transmitting the cuteness effect among values and attitudes, and sometimes ideas of childhood innocence (Tammi et al., 2020). However, when real animals are involved or referred to in classrooms, they are, almost without exception, adults (Tammi et al., 2020). Adult-centrism in science and our society at large is still somewhat a given. It tends to be countered by developing theories and practices that are child-centered. This can, at worst, further essentialize and universalize how we perceive “child” and “childhood”. Exploration of what it means to be human in the midst of today’s environmental crises needs to extend beyond humans (Ogden et al., 2013). When we were carrying out an ethnography on a phenomenon-based learning project called “the animal” in a second-grade classroom in Southern Finland (see Tammi et al., 2020), we noticed that other animals are typically referred to and studied in terms of what can be measured: weight, size, nesting time, average amount of offspring. Animal children are there, but adulthood seems to be the basic condition, through which the species-specific behavior is defined. We continually catch ourselves thinking about “the animal” along these lines, as an abstraction, too.

When other animal children are mentioned, however, childhood tends to be viewed as a passing stage along the path to adulthood. An animal documentary shown in the elementary school classroom tells us that animal children play – for example, the rabbit children jump around each other – because it makes them stronger and faster and thus enhances their possibilities to survive as adults (Tammi et al., 2020). This finding is familiar to childhood scholars, as human childhood is still largely viewed in terms of preparation for adulthood, for a somehow fuller being.

While the meaning of play and modes of learning about animal childhoods could be further investigated, our attention has also been drawn to the fact that many animal children do not have the opportunity to grow old. Once we were eating in the dining hall with the second graders when one of them started to talk about the chickens they have at home. He told us that, most of the time, the eggs are collected and eaten, but sometimes the chickens are allowed to brood and when the chicks hatch, cockerels are at some point picked out,

killed, and put into the pot. This made us think about the difficult questions of power – how determining which childhoods are worth cherishing in fact belongs to the everyday life of human children also in the Nordic countries.

The notions of child and childhoods are reserved for humans. This becomes clear if we try to extend these conceptualizations to other-than-humans: The deeply conflicted nature of what those concepts are meant to signal becomes evident. For healthy, happy, human childhoods, other animals' childhoods are not only overlooked but are actively used, abused, or even destroyed – the antithesis of what the idea of childhood is meant to produce in the lives of human children. Along the lines of critical animal studies (e.g., Linné & Pedersen, 2016), we cannot help but think about the common practice within factory farming, namely separation of the children from their mothers, such as in the case of calves and cows. The use of other animals for human purposes is thus grounded in a practice which erases the possibility for and the right to formulate an affective bond between the mother and the child. At the same time, this bond is viewed as a prerequisite for learning and thriving among humans (Aslanian & Moxnes, 2020; Saari, 2021). In the pet industry, however, the animal children are wanted largely for the same reason – because they are capable of attachment and can learn to become “good pets”, accustomed to human touch and care practices.

The notion of a good and proper childhood in a Nordic context is built on animal products: woolen socks and mittens, skins, milk, meat, and animal contact for fostering our culturally constructed national identities of authentic Nordic nature relations. The skin and wool now crafted into gloves – what difference would it make if we thought of them not only as dead animals, but also as those who have lived a childhood? If we widen the scope of whose childhoods are concerned in the construction of human childhoods, we begin to grasp the entanglements and injustices of who is protected and safe, and at what cost to the children of other species. This move does not have to mean a categorical abolition of these ties, but as Jocelyn Porcher (2017) points out, it begins to shed light on the conditions of work and production in which we make other animals engage with us and for us. Porcher, an avid proponent of animal husbandry, as opposed to industrial animal production, speaks for the mutually life-giving potential of working with animals from a place of respect. She points out that human subjectivities are always co-constructed with other animals. Therefore, it is important to think about our interspecies engagements.

The questions concerning conditions and possibilities for childhood across species are intertwined with specific “childhood affects.” During our multispecies ethnographic work in the greenhouse zoo, we noticed a common affective force around animal babies, one that could even be called an intoxicating desire. Most of the approximately 20 gerbils were born in the greenhouse, and during our visits, new gerbils were born, guinea-pigs were carefully prepared for mating, while stick insects, snails, jumping spiders and fruit flies reproduced on their own and without much attention.

One day, two new guinea pigs are bought from the pet store  
to be mated with Saku, whose fur colour is something  
the children would like to pass on to the next generation.

The guinea pigs are left together in a big wooden box overnight,  
“Now they have become accustomed to each other,” says Taina  
“This is our last effort.”  
The children make the box as a love nest,  
in a similar fashion they did for the gerbils  
during the overnight stay at the school some time ago.  
They take care that the guinea pigs have a proper place for foods,  
they place two watercups inside  
“In case they manage to flip the other around and spill it.”  
There is a shelter for erotic encounter,  
and another where the guinea pigs can sleep and rest.  
Children have gathered around the animals,  
throwing in humour.

All over the greenhouse,  
there are scribblings such as  
“Molli (one of the gerbils) has just given birth,  
please let her be in peace so she won’t eat her babies”  
“Niilo is stressed – only the carers are allowed to open the cage”  
“The hen is brooding – don’t disturb \*¤¤^¤#\*.”  
(Field notes, 2018)

We talked with Armi, the biology teacher in the greenhouse zoo, about a hen that was brooding. She confessed that they did not have any idea where to put the chicks, let alone the cockerels, if the brooding was successful. There simply was not enough space in the greenhouse for them. Last time, a friend of one of the teachers took them. “Maybe Tuure can take them, as they now live now in the countryside,” Riikka suggested. A promise of new life prompted questions of accountability, home and care that were reaching beyond the glass walls of the greenhouse towards new possible multispecies assemblages.

We started to think about the desire for babies as something fueled by processes of cuteness production, such as breeding child-like characteristics in dogs, the burgeoning flow of internet memes of cute pets (and babies) and the cuteness overload in commercial children’s products and popular culture. In the greenhouse, we noticed that the desire for babies, their birth and their peculiar movements that extended the understanding of what a given species is and does had specific emotional and atmospheric effects similar to that of human babies and small children in families and communities. To us, this “cuteness work” points towards yet another generative entanglement of human and other-than-human childhoods.

## Concluding remarks

While our examples have come largely from our studies conducted within (educational) institutions, we see broader, perhaps more urgent, possibilities in exploring the assemblages involving human and other-than-human childhoods. The current massive transformation



**Picture 2.** A caretaker with a gerbil family. Photo: Riikka Hohti.

of Earth systems resulting from a multiplicity of asymmetrical power relations and unsustainable and extractive practices affects all life on earth through altering the terms and parameters of perception (Davis & Turpin, 2015) and ways of living. For instance, environmental pollution has been identified as not only affecting reproduction in several species but also parental care and childhood. Increasing traffic noise and artificial lighting is associated with decreased weight gain in chicks in seabird nesting colonies, which in turn is thought to result from a reduction in parental nest attendance and feeding (Cianchetti-Benedetti et al., 2018). Toxic legacies of contemporary societies (e.g., DDT, PCBs, and plastic) are being connected with evolutionary lineages by having devastating effects on everyday work with its commitments, relationships and care required for knitting generations together, as is the case in Albatross communities (van Dooren, 2014). While smoking is being increasingly restricted due to its negative health effects, house finches carry cigarette butts into their nests as the chemicals contained reduce the amount of parasites in the nest but, at the same time, they risk exposing themselves and their offspring to long-term genotoxic damage (Suárez-Rodríguez & Garcia, 2017). Within any multispecies phenomenon, at some of its edges, there are childhoods being lived but that often go under the radar.

While there is nothing particularly new about the complex entanglement of humans with the rest of nature *per se* (for a historical perspective, see Bach, 2018, regarding the

Renaissance; TallBear, 2011, regarding Indigenous cultures; Pulkkinen & Lindfors, 2016, regarding Finnish folk traditions), the means through which we can learn about the relational multispecies webs that enable our existence and becoming are, however, different from the past. This creates altogether new kinds of relationalities, vulnerabilities and accountabilities, as well as understandings of “human,” “animal” and “child.” Through pollution and other societal residues, human and other-than-human childhoods are once again connected and diverse temporalities are being embodied. This time the connection is not made along the nature-culture dichotomy but through heterogeneous assemblages and multiple effects and temporalities. The unequal possibilities of being born, of formulating affective bonds, and of growth, could be better highlighted not merely as questions of humanity but as assemblages of entangled life worthy of investigation. Our argument is that childhood is an important concept through which to attend to “kinds and their multiplicities” (van Dooren et al., 2016) – to give detail and specificity as well as a critical edge to the work of multispecies research.

When the beginnings of life – or childhoods – are approached as multispecies assemblages, accounting for shared vulnerabilities as well as the profound existential differences, and the situational injustices within and across species become possible (Lupinacci et al., 2019). Durations of infancy, degrees of dependency, and rates of mortality are some of the aspects that can be included in such accounts. Furthermore, the ways that other-than-human childhoods are being involved in education, animal sciences, popular culture, industry and toxic legacies, open up an incredibly wide spectrum of childhoods, equally vital to the sustenance of life on Earth.

## References

- Aivelo, T. (2023). School students’ attitudes towards unloved biodiversity: Insights from a citizen science project about urban rats. *Environmental Education Research*, 29(1), 81–98.
- Aslanian, T. K., & Moxnes, A. R. (2020). Making “cuts” with a Holstein cow in early childhood education and care: The joys of representation. *Journal of Childhood Studies*, 45(2), 53–66.
- Bach, R. (2018). *Birds and other creatures in Renaissance literature. Shakespeare, Descartes, and animal studies*. Routledge.
- Bird Rose, D. (2011). *Wild dog dreaming: Love and extinction*. University of Virginia Press.
- Cianchetti-Benedetti, M., Becciu, P., Massa, B., & Dell’Omo, G. (2018). Conflicts between touristic recreational activities and breeding shearwaters: Short-term effect of artificial light and sound on chick weight. *European Journal of Wildlife Research*, 64(2), 19.
- Cutter-Mackenzie-Knowles, A., Malone, K. & Barratt Hacking, E. (2018). *Research handbook on childhoodnature*. Springer.
- Davis, H., & Turpin, E. (2015). *Art in the Anthropocene*. Open Humanities Press.
- Friesen, L. (2010). Exploring animal-assisted programs with children in school and therapeutic contexts. *Early Childhood Education Journal*, 37(4), 261–267.
- Grusin, R. (2015). *The nonhuman turn*. University of Minnesota Press.
- Hadfield-Hill, S., & Zara, C. (2019). Complicating childhood-nature relations: Negotiated, spiritual and destructive encounters. *Geoforum*, 98, 66–74.

- Haraway, D. (2008). *When species meet*. University of Minnesota Press.
- Haraway, D. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Duke University Press.
- Hird, M. (2009). *The origins of sociable life: Evolution after science studies*. Springer.
- Hohti, R., & MacLure, M. (2022). Insect-thinking as resistance to education's human exceptionalism: Relationality and cuts in more-than-human childhoods. *Qualitative Inquiry*, 28(3–4), 322–332.
- Hohti, R., & Tammi, T. (2019). The greenhouse effect: Multispecies childhood and non-innocent relations of care. *Childhood*, 26(2), 169–185.
- Kervinen, A., & Aivelo, T. (2022, September 16). *How do secondary school students handle epistemic uncertainty during an ecological citizen science inquiry?* [Working paper]. <https://doi.org/10.35542/osf.io/4py6n>
- Kirksey, E. (2020). The emergence of COVID-19: A multispecies story. *Anthropology Now*, 12(1), 11–16.
- Lenz Taguchi, H. (2010). *Going beyond the theory/practice divide in early childhood education: Introducing an intra-active pedagogy*. Routledge.
- Linné, T., & Pedersen, H. (2016). With care for cows and a love for milk: Affect and performance in Swedish dairy industry marketing strategies. In A. Potts (Ed.), *Meat culture* (pp. 109–128). Brill.
- Lupinacci, J., Happel-Parkins, A., & Turner, R. (2019). Ecocritical pedagogies for teacher education. In J. Lupinacci, A. Happel-Parkins, & R. Turner (Eds.), *Encyclopedia of teacher education* (pp. 1–14). Brill. [https://doi.org/10.1163/9789004532793\\_001](https://doi.org/10.1163/9789004532793_001)
- McCardle, P., McCune, S., Griffin, J. A., & Maholmes, V. (2011). *How animals affect us: Examining the influence of human–animal interaction on child development and human health*. American Psychological Association.
- Melson, G. (2001). *Why the wild things are: Animals in the lives of children*. Harvard University Press.
- Molloy Murphy, A. (2020). No happy endings: Practicing care in troubled times. *Journal of Childhood Studies*, 45(2), 7–13.
- Nelson, N. (2020). Rats, death, and anthropocene relations in urban Canadian childhoods. In A. Cutter-Mackenzie-Knowles, K. Malone, & E. Barratt Hacking (Eds.), *Research handbook on childhoodnature: Assemblages of childhood and nature research* (pp. 637–659). Springer.
- Nxumalo, F., & Pacini-Ketchabaw, V. (2017). “Staying with the trouble” in child-insect-educator common worlds. *Environmental Education Research*, 23(10), 1414–1426.
- Ogden, L., Hall, B., & Tanita, K. (2013). Animals, plants, people, and things: A review of multispecies ethnography. *Environment and Society*, 4(1), 5–24.
- Oliver, K. (2009). *Animal lessons: How they teach us to be human*. Columbia University Press.
- Pedersen, H. (2019). *Schizoanalysis and animal science education*. Bloomsbury.
- Peters, A., Stucki, S., & Boscardin, L. (2014, April 14). The Animal Turn – what is it and why now? *VerfBlog*. Retrieved November 10 2021, from: <https://verfassungsblog.de/the-animal-turn-what-is-it-and-why-now/>
- Pliushchik, M., Tammi, T., & Rautio, P. (forthcoming). Imagining well with almonds and honeybees in the Capitalocene – Five multispecies movements for environmental and sustainability education. *Journal of Environmental Education*.
- Porcher, J. (2017). *The ethics of animal labour. A collaborative utopia*. Palgrave MacMillan.
- Prokop, P., & Tunnicliffe, S. (2010). Effects of having pets at home on children's attitudes toward popular and unpopular animals. *Anthrozoös*, 23(1), 21–35.
- Prout, A. (2005). *The future of childhood: Towards the interdisciplinary study of children*. RoutledgeFalmer.
- Puig de la Bellacasa, M. (2017). *Matters of care: Speculative ethics in more-than-human worlds*. University of Minnesota Press.
- Pulkkinen, R., & Lindfors, S. (2016). *Suomalaisen kansanuskon sanakirja* [Dictionary of Finnish folk beliefs]. Gaudeamus.

- Rautio, P. (2013). Children who carry stones in their pockets: On autotelic material practices in everyday life. *Children's Geographies*, 11(4), 394–408.
- Rautio, P., Hohti, R., Leinonen, R. M., & Tammi, T. (2020). Reconfiguring urban environmental education with “shitgull” and a “shop”. In I. Duhn, K. Malone, & M. Tesar (Eds.), *Urban nature and childhoods* (pp. 27–38). Routledge.
- Rautio, P., Hohti, R., Tammi, T., & Ylirisku, H. (2022a). Multiple worlds and strange objects: Environmental education research as an additive practice. *Australian Journal of Environmental Education*, 38(3–4), 214–226.
- Rautio, P., Tammi, T., Aivelo, T., Hohti, R., Kervinen, A., & Saari, M. (2022b). “For whom? By whom?”: Critical perspectives of participation in ecological citizen science. *Cultural Studies of Science Education*, 17(3), 765–793.
- Rautio, P., Tammi, T., & Hohti, R. (2021). Children after the animal turn: Child–animal relations and multispecies scholarship. In N. Yelland, L. Peters, N. Fairchild, M. Tesar, & M. S. Perez (Eds.), *The Sage handbook of global childhoods* (Vol. 1, pp. 341–352). Sage.
- Risley-Curtiss, C. (2010). Social work practitioners and the human–companion animal bond: A national study. *Social Work*, 55(1), 38–46.
- Roslund, M. I., Puhakka, R., Grönroos, M., Nurminen, N., Oikarinen, S., Gazali, A. M. (2020). Biodiversity intervention enhances immune regulation and health-associated commensal microbiota among daycare children. *Science Advances*, 6(42). <https://doi.org/10.1126/sciadv.aba2578>
- Saari, M. (2021). *Animals as stakeholders in education: Towards an educational reform for interspecies sustainability* [Doctoral dissertation]. University of Oulu.
- Segerdahl, P. (2012). Human-encultured apes: Towards a new synthesis of philosophy and comparative psychology. In L. Birke, & J. Hockenhull (Eds.), *Crossing boundaries. Investigating human–animal relationships* (pp. 139–160). Brill.
- Snaza, N., Appelbaum, P., Bayne, S., Carlson, D., Morris, M., Rotas, N., Sandin, J., Wallin, J., & Weaver, J. (2014). Toward a posthumanist education. *Journal of Curriculum Theorizing*, 30(2), 39–55.
- Suárez-Rodríguez, M., & Garcia, C. M. (2017). An experimental demonstration that house finches add cigarette butts in response to ectoparasites. *Journal of Avian Biology* 48, 1316–1321.
- TallBear, K. (2011, November 8). *Why interspecies thinking needs Indigenous standpoints*. Fieldsights. Retrieved October 10 2018, from: <https://culanth.org/eldights/why-interspecies-thinking-needs-indigenous-standpoints>
- Tammi, T. (2019). Mold: Breathing well at the wastelands? Indoor climate change in schools and the daily lives of Arctic children. In P. Rautio, & E. Stenvall (Eds.), *Social, material and political constructs of Arctic childhoods: An everyday life perspective* (pp. 17–34). Springer.
- Tammi, T. (2020). What if schools were lively more-than-human agencements all along? Troubling environmental education with moldschools. *Environmental Education Research*, 26(9–10), 1325–1340.
- Tammi, T., & Hohti, R. (2020). Touching is worlding: From caring hands to world-making dances in multispecies childhoods. *Journal of Childhood Studies*, 45(2), 14–26.
- Tammi, T., Hohti, R., Rautio, P., Leinonen, R. M., & Saari, M. (2020). *Lasten ja eläinten suhteet: Monilajista yhteiselo* [Relationships between children and animals]. Into.
- Taylor, A. (2011). Reconceptualizing the “nature” of childhood. *Childhood*, 18(4), 420–433.
- Taylor, A., & Pacini-Ketchabaw, V. (2015). Learning with children, ants, and worms in the Anthropocene: Towards a common world pedagogy of multispecies vulnerability. *Pedagogy, Culture and Society*, 23(4), 507–529.
- Tipper, B. (2011). “A dog who I know quite well”: Everyday relationships between children and animals. *Children's Geographies*, 9(2), 145–165.

- Tsing, A. (2012). Unruly edges: Mushrooms as companion species. For Donna Haraway. *Environmental Humanities*, 1(1), 141–154.
- Tsing, A. (2015). *The mushroom at the end of the world*. Princeton University Press.
- van Dooren, T. (2014). *Flight ways*. Columbia University Press.
- van Dooren, T. (2020, March 22). *Pangolins and pandemics: The real source of this crisis is human, not animal*. New Matilda. Retrieved October 10 2020, from: <https://newmatilda.com/2020/03/22/pangolins-and-pandemics-the-real-source-of-this-crisis-is-human-not-animal/>
- van Dooren, T., Kirksey, E., & Münster, U. (2016). Multispecies studies: Cultivating arts of attentiveness. *Environmental Humanities*, 8(1), 1–23.
- Wolfe, C. (2009). Human, all too human: “Animal studies” and the humanities. *PMLA*, 124(2), 564–575.

## Author presentations

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