




ARTICLE

Assemblages in Flight: Flickering Ontologies and Wildness in the Formation of Multispecies Assemblages

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(Received 04 December 2023; revised 29 April 2024; accepted 02 May 2024)

Abstract

In this article, we adopt assemblage as *methodology* and as a way to foreground the vitality and relational agency of other species as they encounter humans. Research as assemblage is a process of becoming with others, and we experienced that ontological process during three environmental excursions as we became entangled in multispecies assemblages with children, the Crow, the Sea Eagle and the Bee. The production of the three assemblages and the rhizomic networks that formed materially and discursively across time occurred within an affective milieu characterised by sensory attentiveness and attunement to the affective power of coincidence. Analysing the formation and reformation of the assemblages enabled us to identify the phenomenon of “ontological flickering” where the ontological foundation of experience shifted moment by moment and remained playfully unresolved. We also consider how multispecies encounters relate to wildness, understood in Thoreau’s terms as unsettling encounters with otherness. In concluding, we recognise our incomplete becoming with others as co-authors and acknowledge the Crow the Sea Eagle and the Bee as powerful teachers.

Keywords: Affective milieu; enchantment; flickering ontologies; multispecies assemblages; wildness

In recent articles (Renshaw et al., 2021, 2023), we investigated children’s affective entanglements with other species through the lens of enchantment drawing on Jane Bennett’s critique of Weber’s proposal that we live in a disenchanted world (Bennett, 2001, 2004, 2010). Bennett speaks back to Weber by highlighting the swarming vitality of experience and matter and by foregrounding the ethical and moral convictions that can arise from enchantment with other species. The focus of our prior research was the enchantment of children and the design of pedagogies to evoke and support moments of enchantment. In this article, we decentre from children per se to focus on assemblages of human and more-than-human others. By adopting assemblage as *methodology*, we hope to foreground the vitality and relational agency of other species as they encounter humans. We build on recent literature that identifies “the animal turn” (Spanring, 2017; Tammiet al., 2023), highlighting the interconnectedness of humans and non-humans and the “meaningful agency” of non-human others. Taylor and Pacini-Ketchabaw (2015) recount seemingly ordinary, inter-species encounters between children, worms and ants. These encounters are not glamorous nor life-altering, but they are explored as an antithesis to human exceptionalism (Riley, 2020), as well as to pose questions about what happens when humans and animals meet and make physical contact with one another. These authors work to make non-humans central to their writing about “common worlds”, the meeting place where multispecies kinship can evolve. Similarly, Merewether (2019) explores the “contact zone”

where young children become enchanted by non-humans in an outdoor early learning centre. Merewether (2019) argues that children's enchanting encounters with animals should be taken seriously for, as Haraway noted, "no species acts alone" (Haraway, 2015, p.159). We build on this prior research (see also Cutter-Mackenzie-Knowles et al., 2020) by providing accounts of our entanglement in lively and evocative multispecies assemblages that are both seemingly mundane and extraordinary.

During a 3-year longitudinal research project with children as co-researchers (see Renshaw et al., 2019, Renshaw, 2021), we had chance encounters with the Crow, the Sea Eagle and the Bee¹ that were unsettling and vividly memorable. The vitality and agency of these other species affected us, pushed us to acknowledge our encounters with them as "real" (see Thoreau, 2000/1854; Johnston, 2014) and then motivated us to analyse the events in detail. In the process of writing, insights began to surface and aspects of our encounters demanded prolonged attention. In this way, the goals of the article were iteratively clarified as (i) understanding the moment-by-moment formation and reformation of multispecies assemblages, (ii) examining multispecies assemblages for instances of flickering ontologies and (iii) exploring different qualities of multispecies assemblages through the lens of wildness. In the process of writing, we became enmeshed in a lively and evocative affective milieu arising from revisiting the three assemblages again and again and noticing new affective flows arising from the extraordinary chanciness of the encounters.

Research as assemblage

Research as assemblage is focussed on the process of becoming with others (Haraway, 2008, p.16), where there is neither knowing subject nor passive object but emergent formations produced by affective flow (Fox & Aldred, 2015). Affect, derived from Spinoza's writing on *Ethics* (Curley & de Spinoza, 2020), developed by Deleuze and Guattari (1987) and taken up by Bennett (2001, 2004, 2010), is defined as the capacity to produce new relations by drawing together dispirit entities into novel formations. According to Bennett, *assemblage* affirms both the liveliness of matter per se, what she calls "thing power" (Bennett, 2004, p.347), and the distinctiveness of "human embodiment as one site of agency within and across a multiplicity of other material bodies" (Khan, 2012, p.42). We agree with Bennett's (2010) proposal that the relational agencies produced in the "swarm of vitalities" of the assemblage (p.32) are distinctive rather than uniform, or as she explains, "each member-actant maintains an energetic pulse slightly 'off' from that of the assemblage, (so) an assemblage is never a stolid block but an open-ended collective" (Herve, 2021, p.200). We take up the distinctiveness of the relational agencies within the assemblages by considering how the children and researchers discursively connected specific, unpredictable multispecies encounters to other temporally and spatially distal experiences, creating an open-ended rhizomic network of spreading multispecies assemblages.

Affective milieu

The three multispecies assemblages arose by chance during environmental excursions conducted by the Pullenvale Environmental Education Centre (PEEC). The centre is located on Turrbal² country on the western fringe of Brisbane, Australia. PEEC deploys a narrative-based pedagogy called *Storythread* (Tooth, 2018) that has been designed to awaken children to the living, material

¹When we refer to the specific animal (the Bee, the Crow and the Sea Eagle), we capitalise its name. The capitalisation expresses our respect for the particular animal and its relational agency in forming and reforming the assemblages with other actants.

²Turrbal people have lived for tens of thousands of years on country that now includes Brisbane, Meanjin, and extends west towards Moggill, north towards the Pine River and south towards the Logan River. Their ancestors have lived in Australia for at least 60,000 years.

world that entangles them. During excursions, children participate in prolonged silent engagement with the environment by practising *dadirri* (Ungunmerr-Baumann, 1988, 2002; Ungunmerr-Baumann *et al.*, 2022)³, a First Nations' way of recognising and respecting other living entities and country, and they take on collective roles such as environmental advocate or nature detective to assist them to think and feel differently in relation to other living beings. The affective milieu created through these pedagogical practices was central to the production of the multispecies assemblages. The first assemblage arose from the Crow's persistent calling and on-going presence during an excursion to a forest (Karawatha) that evoked one child, Susan, to share the story of the coincidental deaths of her grandfather and his pet cockatoo. These events were produced in the affective milieu of Karawatha Forest, a remnant forest on Yuggera country⁴, south of Brisbane, with rare trees, a diversity of habitats and ephemeral ponds that support over 20 species of endangered frogs. The PEEC teachers tell the story of Karawatha Forest as a loved but fragile landscape connected locally to nearby residents and to First Nations practices and on-going custodianship. The second assemblage occurred when a white-bellied Sea Eagle swooped low over a group of children pretending to be birds as they ran towards a forest reserve adjacent to their school. The Sea Eagle's action evoked affective intensities that shifted the pattern of relational agency within the emergent assemblage. For the children, there was already a certain expectancy in the air, of being allowed to explore a place beyond the school's boundaries. So even before the Sea Eagle swooped, the affective milieu had opened a portal to the unexpected, to playfulness, to novel encounters and bodily excitement produced by entering an "out-of-bounds" forest. The third assemblage arose when a native Bee landed on Xander's hand in the "Bug Garden" at PEEC and began exploring his hand for an extended time, resulting in a sense of friendship between Xander and the Bee. The affective milieu of the "Bug Garden" produced "bugs" as fascinating, as vivid multi-coloured others that could be observed closely and allowed to crawl on one's body. Xander had initially resisted becoming immersed in this affective milieu but the encounter with the Bee transformed that resistance.

Formation and reformation of the assemblages

In analysing the cases, we have identified successive moments as the assemblages "formed" and "reformed". In using these terms, we reference Deleuze and Guattari's notions of territorialisation and de-territorialisation (Deleuze & Guattari, 1987). Territorialising affective flows stabilise a set of relations, until the inherent vitality of the assemblage itself or a new actant produces lines of flight towards transformed relations as new assemblages are created across different times and places (Deleuze & Guattari, 1987). By treating assemblages as successive "forms and reforms", we were able to follow the dramatic changes within the multispecies assemblages. We felt the affective flow of these encounters with other species not once, but in distinct and diverse ways across successive moments. The presentation format enabled this dynamic aspect of multispecies encounters to be foregrounded and analysed in more detail.

Flickering ontologies

The assemblages produced "flickering ontologies" (see Ameel, 2020, 2021) for us and the children through the dramatic coincidence of certain events. The foundation of our worldviews became unstable, for example, when the Crow joined in one of the excursion activities (leaf artwork) and

³After Merryl Simpson worked with Miriam Rose on her country in the Daly River Northern Territory, the Miriam Rose Foundation sent a letter to PEEC giving the centre permission to explore the practice of *Dadirri*. Miriam Rose has stated that *Dadirri* is for everyone, but she has also requested that out of respect for her people, those using *Dadirri* inform the foundation about how they are using the practice.

⁴Yuggera country is located along the southern reaches of the Brisbane River extending westward from Cleveland on Moreton Bay to the ranges near Gatton in South-East Queensland. The Yuggera people have occupied this area for at least 30,000 years, and their ancestors have lived in Australia for at least 60,000 years.

awakened us to the reality of multispecies kinship, but simultaneously, we were pulled to question it. Was it mere coincidence? Could it be understood as predictable crow behaviour within scientific discourses or interpreted as our utopian imagination reaching towards a better world – wishful thinking? We flickered between these possibilities, being enchanted by the encounter, moved by affect to acknowledge kinship and then sobered by intrusive thoughts that tried to normalise such encounters. It is important to note that we did not bring “flickering ontologies” to the research project. It arose during the writing of this article when we listened closely to Susan’s account of her kinship with the Crow. It was her articulation of uncertainty and probability about the behaviour of the Crow and a nearby Magpie that alerted us to the production of “flickering ontologies”. It was her insight. Searching the literature, we discovered that literary theorists (Ameel, 2020, 2021) deploy the term “flickering ontologies” to identify a key feature of postmodern writing, understood “as shifts in what is deemed as real or unreal in the storyworld, and the resulting uncertainty (for characters as well as for readers) as to the stable ontological attributes of the narrated world” (Ameel, 2021, p.341). There are links to other fields of scholarship (see also “wet ontologies” proposed by Steinberg and Peters (2015) in the field of geography), but the common feature across these fields is the creation of liminality, an in-between space, where the ontological foundation of experience remains playfully unresolved. In the conclusion, we reflect on flickering ontologies in the light of the affective turn in research and the emergence of novel ontological formations (see Haraway, 2003, 2008).

Wild assemblages

The “wild” has problematic connotations related to colonialism, terra nullius and the racism inherent in the dispossession of Indigenous peoples of their lands and country. The “wild” was a fiction designed to justify the dispossession and oppression of Indigenous peoples by denying their prior sovereignty over country and erasing their unbroken custodianship of that country (Tuck, McKenzie, & McCoy, 2014; Whitehouse, 2011). Wild has also been critiqued by Taylor and Pacini-Ketchabaw (2018) as offering a romantic and dualist view of young children who are represented as akin to wild nature as distinct from cultured adults. We acknowledge that “wild” has these unsettling oppressive connotations and can be deployed to reinforce dualist thinking about childhood, but following Bennett (2004), we deploy wild as signifying encounters with otherness that opens the possibility of becoming other than we are now. Vannini and Vannini (2019) consider wildness as *vitality*, that is, as an expression of “the swarming vitalities” that animate all things and living beings (see also Bennett, 2010). The Sea Eagle assemblage brought us face to face with “wildness” particularly when the Eagle swooped over the children who, at that precise moment, were pretending to be birds. As the Eagle swooped, the children and teachers experienced the vitality of the wild, articulated by Thoreau (1997/1862) as absolute freedom and otherness, experiences that are beyond society and civic codes, that unsettle cultural expectations. The Eagle embodied these unsettling features: it was unconstrained, swooping and soaring through the air. Yet it appeared to join in the children’s pretence, becoming part of the flock, becoming kin, heading towards the forest. The contrast of kin and wild provoked us to consider how kinship might be re-thought in relation to wildness.

Methodology

Assemblage as method

By adopting assemblage as method, the unit of analysis shifts from a focus on human subjects to the formation and reformation of the assemblages themselves (Fox & Aldred, 2015). As researchers, we were not separate from the unit of analysis but enmeshed within the assemblages

with other actants. We are co-authors of the three cases, therefore, with the other species we encountered, with the children we observed and interviewed and with the materiality of the places we visited. Our distinctive contribution to the article does not diminish the contributions of the other actants in the assemblage. It is their vitality and liveliness that affected us and moved us to become more attentive and attuned to their agency and increased our capacity to be “other than we are”. In presenting the assemblages, therefore, we strive to make the relational agency of other actants more central in our accounts and to foreground the affective milieu that emerged as we attuned to their ways of being and the materiality of place. The children we observed and interviewed alerted us to affective flows that we might not have registered. The formation of these assemblages enchanted us and motivated us to share amongst ourselves initially and then seek to convey our encounters and experiences to others. In summary, our task as researchers was to be open and responsive to the flows of affect during the PEEC programmes and motivated to document and communicate in a decentred manner, seeking to represent the relational agencies of other species and matter itself.

Context of the research

The assemblages analysed here arose from a longitudinal research project (2019–2021) that involved 64 participating children from 4 State Schools divided into 2 cohorts: 32 in preschool in 2019 and 32 in year 4 in 2019. Each year of the project we participated in field excursions with the children and interviewed them at lunch and at the end of the excursion. Typically, there were 3–4 focus children on each field excursion and 3 researchers, so it was possible to observe in detail what was happening during the excursion and the focus of children’s involvement. About 1 week after the excursion, we interviewed them at their schools about their experiences and asked them to recall the most memorable events and whether the field excursion had made a difference in their everyday lives. In addition to interviews, we took notes when emotionally charged events occurred and shared these moments with each other. The onset of coronavirus disease 2019 (COVID-19) interrupted the planned field excursions in 2020 because even when children gradually returned to school in late May, field excursions were banned. So, PEEC adjusted their excursions by developing in-school programmes with teachers where children explored their school sites by becoming, for example, nature detectives.

Selecting cases

The process of assemblage-making was the focus of our research. In deciding what to select as an assemblage for further analysis, we were guided by our experiences of enchantment during the PEEC programmes. As noted above, enchantment is the experience of being shaken, of becoming acutely aware of oneself as enmeshed with the material world and other living entities. It is, as Bennett (2001) described, “a momentarily immobilising encounter; it is to be transfixed, spellbound” (p.5). It is simultaneously an experience of “delight and disruption” (Merewether, 2019, p.235) that motivates one to share with others. We selected the three cases (the Crow, the Sea Eagle and the Bee,) from such delightful and disruptive experiences of enchantment. Xander and Bee assemblage occurred in 2019 (year 4 children). Kirsty Jackson was implicated in the Bee assemblage, and it is her voice that is most prominent in the analysis of that case. The Sea Eagle assemblage occurred in 2020 (year 1 children). Ron Tooth helped plan the in-school activities from which arose the Sea Eagle case, and it is his voice that is prominent in the analysis of that case. The Crow assemblage occurred in 2021 (year 6 children). Peter Renshaw was conversing with Susan that day about the Crow and its connection to her grandfather’s pet cockatoo. It is his voice that is prominent in analysing that case.

Cases of multispecies assemblage*The crow*

As I (Peter) walked with Susan towards the bus at the end of the Karawatha Forest excursion, I asked her about her most memorable experience of the day. She said:

Learning about most of the things in nature and the crows and I really think that I came to believe in reincarnation because of the crows like they just followed us and they showed us so many signs that they respected this earth and they want to live on this earth.

Susan's belief in reincarnation followed her entanglement in multispecies assemblages that formed and reformed that day with the Crow in Karawatha. Likewise, the researchers became enchanted by the Crow as it called, followed the group, swooped low over the leaf artwork activity and appeared to join in the activity by dropping a piece of bark. Multispecies kinship was also invoked discursively during the day, most noticeably by Susan at lunchtime when she told us the story of her grandfather's death and that of his pet cockatoo (Harry). Like the Crow in Karawatha, the white cockatoos that Susan noticed after Harry died were singing to her and watching in a reassuring way. Temporally, the assemblages were produced across a few hours in Karawatha Forest, but through the discursive actions of Merryl Simpson (the PEEC teacher) who referenced First Nations' beliefs and Susan's storying, the assemblages became connected to other times/places in spreading rhizomic networks without limit. You, the reader, no doubt will recall similar experiences and relive those moments, transformed now by their connection to the Crow-Susan-Karawatha assemblages we describe below.

Moment 1: crow communicates to Susan

After walking on the ancient crystals of the track that leads to "mother rock", the children settled on the flatness of the rock and listened to the story of Bernice Volz's naming it "mother" of all the rocks that were strewn down the slope and around the top. It was during this activity that the Crow made its entry. It sat high on an adjacent tree and began calling. Susan noticed the Crow and its intention to communicate to her:

And he was also looking right at me like signing to me like that you just like figure the puzzle out and also tell everybody else.

After the Crow called, Merryl (PEEC teacher) included it in the activity by noting that, for First Nations' peoples, crows are regarded as messengers between them and their ancestors. Merryl's comment also entangled us as researchers in the possibility of kinship with crows, and it seems Susan also felt this portal open to kinship. The Crow looked directly at her from its high vantage point in the nearby tree and set her puzzles to solve.

Moment 2: crow as custodian of the land

The Crow continued to follow the group as they departed mother rock and walked down towards the scribbly gum forest. The Crow maintained distinctive agency in relation to Susan, not only by following her but also by inviting friends along and becoming a custodian of the land. Susan told us at lunch that:

He was following us and I think he also invited some of his friends too, but they were following us like making sure that everything was okay and no one was disrespecting the land and yeah.

In Moment 2, the Crow becomes an observant and active custodian of the land. We had taken notice of the Crow's on-going presence as we walked towards the scribbly gum forest, but talking to Susan at lunch produced the multispecies assemblage centred on respect for the land, the custodianship of the crows and their direct role in monitoring human behaviour. The "land" in this assemblage is an active presence that insists on specific behaviours (respect) that the Crow monitors. We became entangled in this assemblage as we listened to Susan and opened ourselves to her experience – could this view of the world be valid, worthwhile, sustaining?

Moment 3: crow joins in leaf artwork

- Q. Yeah, so the Crow, what were you noticing?
 S. So he was just like dropping things like right after we sang the song (related to the leaf artwork). Yeah, and it was just him signing to us that yes, it is the song, it's time for you now to give your respects and put your leaves down.

The Crow dropping a piece of bark on the leaf artwork was a remarkable occurrence. I (Peter) remember distinctly the Crow flying across the children's leaf laying activity and dropping something. "Wow, how amazing is that", I thought. I was unsettled and delighted. I remember making eye contact with the other researchers as we registered this astonishing event together. Later I searched online regarding crow behaviour and discovered that crows typically break bark from trees when they are aware of threat. The arrival of the Magpie coincided with the bark dropping by the Crow, so this provides a scientific explanation of the observed event. Nonetheless, the affective flow at that moment produced another ontology where reciprocal communication with crows was possible – this was also felt by Susan as shown below in Moment 4 where she flickers between ontologies (as I did) in trying to understand the behaviour of the Crow and Magpie.

Moment 4: crow evokes flickering ontologies

The Crow was sending Susan signs about reincarnation and respecting the Land, but in our conversation at lunch, with the Crow and the Magpie nearby, Susan flickers between ontologies, one where birds have deep knowledge and communicate with humans and another where birds are simply meeting their biological needs for food and security. She told us as we sat together on the ground:

And I don't think it's just the Crow because this guy over here (The Magpie) he was either trying to steal our food or he was just like, because he just like did a U-turn and landed on the branch . . . flew over there like right past my face. So he was trying to steal my food or he was just trying to sign to us, it was either that, but it was probably trying to steal our food. But it could, he could, it could be that he was signing to us.

Susan's words "probably" and "it could be" convey her openness to multiple ontologies. She knows about birds trying to "steal food", but she also endorses another set of relations based on kinship. The assemblages that formed and reformed as we traversed Karawatha with Susan and the Crow (and finally with the Magpie) flicker between these ontologies. The flickering is produced in part by the liveliness of the Crow's and the Magpie's behaviour, the affective flow we experienced as we encountered these other species and the discursive actions of Susan who seemed to speak directly to us about our own ontological struggles to reconcile established scientific knowledge about crows with the signing communicating Crow that turned up that day. In Moment 5, the assemblages that formed in Karawatha become intertwined with other temporally and spatially distant events as Susan remembers her grandfather's death.

Moment 5: rhizomic multiplicities with the crow

Towards the end of the interview with Susan, I asked her about the project she had in mind for the children's conference scheduled for November 2021. She said she might focus on "the crows and all that" referring to the way birds communicate with humans. Then she told me:

But because I felt like ever since like my grandpa died and then Harry died right after like after my grandfather died that day the giant storm just, it just happened like I think it was when we had like a little drought and then after Harry died, all I see is flocks and flocks of cockatoos and he was a cockatoo. I think that shows-

Q: Harry was a cockatoo?

C: Yeah, my grandfather's bird and we think he died because of a broken heart, the bird, he missed him.

C: Yeah, but it just like showed that Harry was sending a sign like I'm still watching or I'm still here. Here are my friends and here they are and yeah.

The telling moment is Harry's death from a broken heart. As we walked to the bus at the end of the excursion, Susan told me (Peter) that before Harry died, she did not see many cockatoos, but after his death, "now all I see is cockatoos". The assemblage being produced in Susan's account entails the relational agency of a dying Harry, the storm that occurred, the flocks of flying cockatoos, Susan's emotions and our entanglement with her as affected researchers. There is no end to the playing out of such rhizomic connections as each of us is drawn to remember our encounters with crows and the death of loved ones, humans and other species, and to reflect on the portents (a storm or birds flying nearby) that marked their passing, and the ways we dealt with the grief.

Final comment

Looking back across these five moments, I feel a debt of gratitude to the Crow and Susan for clarifying the ontological struggles that researchers experience doing multispecies kinship studies. In thinking and writing about multispecies kinship, I flicker between different understandings as I feel the pull of scientific knowledge but experience the enchantment of specific moments such as the Crow joining in the leaf artwork. Who taught us to flicker? Yes, definitely the Crow and Susan but also Merryl and the stories she shared about First Nations' beliefs and Harry who died of a broken heart and Karawatha itself in producing the affective milieu derived from ancient rocks, crystal pathways, rare trees and slight breezes that activate the leaves and make visible the silk threads of myriad insects. In this enchanting milieu with the Crow and Susan, we became acutely aware that there is more to life than science can explain. We had entered a liminal space where the ontological foundation of our encounters in Karawatha could be left unresolved, open to emergent possibilities of becoming other than we are.

The Sea Eagle multispecies assemblage

This multispecies assemblage was produced by the dramatic arrival of a white-bellied Sea Eagle circling above a class of year 1 children, who were pretending to be birds running down a grassy slope at school. After the COVID-2019 lockdown in mid-2020, PEEC teachers re-designed the "nature detective" programme as an "incursion", where children were allowed to explore the "forbidden forest" via a "hidden gate" at the back of the school. The children's expectations of exploring beyond the boundary foreshadowed the arrival of the Sea Eagle who dramatically embodied that sense of being free and unbounded. This is the distinctive feature of the Sea Eagle case; it is an encounter with the "wild", with otherness and freedom. Bennett alludes to this when she reflects on Thoreau's notion of "the wild" as "this otherness or wildness (that has) the power to

addle and rearrange thoughts and perceptions” (Bennett, 2004, p.12). The Sea Eagle assemblage provoked us to “rearrange” our thoughts about multispecies kinship assemblages. We became vividly aware of the freedom and the otherness of the Sea Eagle even as it seemed to invite kinship with us by joining in the children’s running towards the forest. We began to question whether we had, till that moment, understood kinship relations as somewhat charming and friendly. The Sea Eagle challenged us to think again.

Moment 1: pretending to be wild

The year 1 children have been set free by their teachers and begin running down a grassy slope, the air enveloping them as they pretend to be flying birds. Arms outstretched and flapping, they hurtle towards the gate that will lead them into the *forest beyond the school* that normally is off limits. The open grassy slope produces affective flow, opening a portal to the possibility of children actually taking off as they feel lighter, running and leaping down the incline. They swoop and glide like the Sea Eagle that will soon appear overhead circling on the thermals of the air. The “air” is important in relationship to their bodies. It is rare for humans to consider the wonder of the ground on which we stand or the air in which we swim each day. These materials are wondrous miracles when considered for what they are and how they came to be over deep time. Flight is an adaptation to these material conditions and the evolutionary adaptations of wings, feathers and muscles to air currents. Of course, these are our thoughts provoked in part by the affective flow we experienced as we listened to the account of the Sea Eagle swooping over the pretend sea eagles running excitedly below. It was the incredibly coincidental arrival of that Sea Eagle that produced our enchantment and led us to begin analysing these moments in the forming and reforming of the assemblage.

Moment 2: encountering the wild

A shadow swept low at great speed over the ground and flickered across the children’s bodies and skin as the great bird passed – an encounter with the wild. The sound of the wings, the trajectory of flight, its clear features and large hooked beak with a darkish tip for ripping, eyes watching and powerful talons declared its wildness. The children were captivated. There were cries of wonder that this could even happen. Just when they were imagining themselves to be eagles flying with arms outstretched heading towards the *forest beyond the fence*, the Sea Eagle swooped low over the group evoking such a strong affective flow that the existing assemblage on the grassy hill was de-stabilised and de-territorialised as a new assemblage formed with the wild Sea Eagle. We were in the midst of one of Lucretius’s primordial swerves where “the world is not determined, (and) an element of chanciness resides in the nature of things” (Bennett, 2004, p 12). This was a moment of the most remarkable chanciness. Harriet Mortlock (the other PEEC teacher that day) reported the following:

There was a sense of timelessness - a silent agreement between all of us . . . eyes locking into one another of how special the moment was. The emotional intensity increases and grows. We didn’t want to move on from it. We just wanted to stay in it . . . that moment with the Eagle.

Harriet’s attunement to the gift of chanciness can be seen as a key pedagogical skill, which, in this case, contributed to the formation of this wild assemblage (see also Riley & White, 2019).

Moment 3: kinship with the wild

After the Sea Eagle swooped, Merryl shared her personal story that a First Nations’ Elder had gifted her the sea eagle as her totem. This was a personal and moving offering but also a very strategic pedagogical act that alluded to another world where humans and eagles are kin. Merryl opened up for children a new ontological space where humans aren’t dominant but enmeshed

with other species, their lives entwined in multispecies relationships. Practically, the Sea Eagle's arrival conveyed the message to Merryl and the children that they should follow it through the gate and explore the forest beyond. Harriet and Merryl had planned a ritual of respect as they passed the gate, asking the children to touch the earth and acknowledge it as a special place that required respect. The Sea Eagle's swooping amplified the feeling of respect and connection with First Nations' peoples and country. Their encounter with the wild Sea Eagle up to this point had produced awe, respect and kinship. But this was to be transformed as they walked through the gate into the forest.

Moment 4: flickering ontologies in the wild

The children walked silently through the gate when one of them saw nearby a dead bird that has been dismembered. There was a physical recoiling by some at the sight but also a fascination. "Thing power" is at play here. The bird is clearly dead and yet its ability to change the situation is deeply felt. It is not just dead, but it is torn apart with feathers scattered about. This is a visceral moment when the reality of death ruptures the preceding assemblages that were so filled with joy and wonder mixed with the mysteries of First Nations' kinship and totemic relations. This assemblage was transformed by the shock and stark realness of death, of the dead coucal pheasant lying in front of them. A large native bird with spectacular plumage and feathers which belies the fact that it is a very poor flyer. It takes a moment for the children to reconcile what they are seeing and how to make sense of this scene of carnage. Is this the Sea Eagle's prey? Is this why it flew over us? To warn us to stay clear of its prey? The PEEC teachers allow time to register the "thing power" of the dead bird and to remind the group that they are "nature detectives". The Sea Eagle came to you. You found the dead bird. Only you can share your memories of this day with others so they can appreciate the wildness of this place and try to protect it.

Final comment

Wildness is the distinctive feature of the Sea Eagle assemblage. When Harriet told me about the Sea Eagle incident, I (Ron) felt it physically in my body as a visceral and emotional experience. I had encountered wildness, not in an abstracted intellectual way, but embodied – it was "real". But this encounter with wildness was not the group's creation and cannot be reduced to human experience alone. Bennett aligns with Thoreau in acknowledging that "there is an existence peculiar to a thing that is irreducible to the thing's imbrication with human subjectivity" (Bennett, 2004, p.348). As Thoreau suggests, it is this otherness or wildness that addles and rearranges human experience. This is what happened with the arrival of the Sea Eagle. The group stood addled and silent. But this encounter with wildness shifted across the moments of the assemblage, from a playful wildness when the Sea Eagle joined the children running down the slope, to a wildness enmeshed with totemic kinship in Merryl's story, to dangerous wildness when the children saw the dead coucal pheasant (possibly the Sea Eagle's prey). Like the Crow assemblage, these different moments of wildness with the Sea Eagle evoked flickering ontologies as we struggled to stabilise the notion of the wild and how it relates to kinship.

Xander and the native bee

Xander reluctantly attended PEEC's year 4 "Bugs 'R' Us" excursion where the children become entomologists in training to "save the bugs" from human-induced extinction. After an introduction in an open-air classroom, the children walk to the "Bug Garden" where they can observe insects in the trees and leaf litter and engage in capture and release activities. On this particular excursion, a Native Bee unexpectedly landed upon Xander's hand, and he uncharacteristically accepted the Bee's invitation to multispecies kinship. Two years after this

encounter, Xander was asked what his most memorable moment was across the whole 3 years of the project, and he responded, “I remember Native Bees”.

This encounter between Xander and the Native Bee has been relived several times by Xander and us as researchers. We often cast our minds back to this moment as pivotal, memorable and as deeply woven into the fabric of our on-going research. The Bee’s movements interrupted and reorganised the affective flow between children, educators, researchers, bugs and plants. I (Kirsty) too was involved in this assemblage and recall how time suspended as I waited nervously for the reactions of Xander, the Native Bee and a nearby student, Steve. I am astounded that this seemingly minor event, an insignificant assemblage, rippled to form many rhizomatic connections thereafter.

Moment 1: resisting kin

Xander was uninterested in the invitation extended by the PEEC teachers to be open to interactions with the more-than-human world. He sat facing away from the PEEC teachers and other students under the outdoor shelter. He scratched his legs and complained about being bitten by mosquitoes. His encounter with “bugs” was annoying. There was a vibrant energy to the children’s arrival as the voices and bodies of the children, teachers and researchers filled the space. Xander’s presence was openly opposed to this liveliness. When his teacher noticed me noticing Xander, she commented that she does not think he “goes outside much”. Xander maintained his physical and verbal resistance throughout the activities – he hung his head low, kicking at the dirt and gave one-word, unenthusiastic responses despite the sunshine and movement around him.

Moment 2: bee as scientific specimen

While the other children eagerly inspected trees by taking photos from different distances and recorded notes about how bugs had altered the shape and texture of leaves, Xander maintained his position as “outsider”. I wandered down the dirt track with him and bent down to his level, trying to dialogue with him under his bucket hat. When we entered the Bug Garden, Xander reluctantly participated in the “capture and release” activity. Here, the students searched for bugs to capture and examine in a small jar with a magnifying glass lid. They recorded scientific data about each bug in their report booklets. To my surprise, Xander took hold of the magnifying jar, dropping his shoulders and lifting his head to search amongst the pink *Calibrachoa* flowerbed. With jar and magnifying lid in either hand, his body moved closer to a native bee buzzing around one of the pink flowers. In a swift movement, he captured the bee within the jar. In this moment, Xander’s reluctance began to dissipate as he held the Bee in jar close to his face, his eyes following its delicate patter around the inside of the jar. Xander counted and recorded the observable features of the Bee, watching it intently and at ease with its closeness because of the jar between them. Xander maintained his intrigue (at a distance) for a few moments and then released the object of interest back into the air.

Moment 3: bee becoming kin

I sat next to Xander on a rock under the shade of an overhanging tree as Karl Fagermo’s (PEEC teacher) voice again filled the outdoor air, reflecting upon the morning’s activities with the children and bugs. As we listened to Karl, a native bee began buzzing around us (Xander, me, another student Steve and Harriet). Unexpectedly, it landed upon Xander’s hand, and he flinched in shock. Was this the Bee he released earlier? I held my breath and thought, “oh no” as I recalled Xander’s earlier irritation with the mosquitoes. I was worried he was going to smack and kill the Bee, but for some reason, I could not verbally respond. Instead, Steve who was sitting on the other side of Xander spoke, “it’s a native bee!”, and Harriet, also noticing Xander’s jolt, reassured, “they don’t sting”. Caught in suspense, we all waited for what would happen. Then the Bee started to crawl over

Xander's hand and he began to laugh, exclaiming "I think it likes me!". The affective flow of this multispecies gathering took on a lighter tone. But Steve commented dejectedly, "I want a native bee to land on me". As Bennett noted about another assemblage, "All the actants in this inter-species gathering did not merge to become one, but instead maintained an energetic pulse slightly 'off' from that of the assemblage" (Bennett, 2010, p. 24). While Harriet and I felt joy and relief, Steve felt a little excluded by the Bee, Xander felt kinship with the Bee and the Bee seemed intrigued by the sensory features of Xander's hand. The energetic pulse that animated this assemblage was not uniform; we were each affected in distinct ways. For Xander the moment opened the possibility to other unpredictable encounters with bugs. Underneath the same shelter at the end of the excursion, Xander sat up the front eagerly raising his hand to share stories of the day.

We interviewed Xander, a few weeks after this event:

- Peter: What was the best part of your day at PEEC?
 Xander: Um-
 Peter: What was the *best* part?
 Xander: Probably a native bee went up to me and went on me because native bees are shy, and they don't usually just go on anyone, and I like bees.
 Peter: Oh yeah, tell me, tell me a bit more about that.
 Xander: It was a native bee.
 Peter: Yeah.
 Xander: It flew on me, and I was really happy because it was my favourite type of animal and it was just nice.

The arrival of the Native Bee "de-stabilised" a seemingly inflexible assemblage of relations between humans and more than humans. Xander's resistance appeared to be immovable until he and the Bee entered into a dynamic of observing scientist and observable scientific specimen. But this dynamic was not static, it flickered between scientific examination and awe, wonder and then kinship. The palpable agency of the Bee was understood by Xander as affection and decisive companionship – "native bees are shy, and they don't usually just go on anyone".

Moment 4: native bee as disruptor

After this encounter, the assemblage further formed and reformed. A few weeks after the excursion, we spoke to Xander's teacher who shared how significant the Native Bee had been for the relationship between Xander and Steve. She explained how the two students typically did not get along, they "clashed" in class, but after they encountered the Bee, "they were bonded in a way from, from that, from that point on". Harriet also recalled, "the Bee kind of flew off after a while and then [Steve] was trying to help Xander find it again". Their teacher elaborated:

They still did clash but they – but you also saw that there was some kind of relationship that was created in that moment because for [Steve] also it was a new experience for him . . . of a, a positive experience with someone rather than being the tormentor all the time.

Speaking to the boys' teacher expanded the significance and rhizomatic connection of a seemingly minor moment between boy(s) and Bee. As I observed at the beginning of the day, Xander's reluctance maintained his presence as an outsider, but the Native Bee included him, instead of Steve, disrupting the social hierarchy between the boys. This moment was also personally significant for me as it was my first day of conducting research about enchantment, and this unexpected, serendipitous encounter played a decisive role in me choosing to pursue a PhD in this area. One never knows fully what an assemblage might do – in this case, the relational agencies of the assemblage were involved in "creating patterns of unintentional coordination" (Tsing, 2015, p. 23).

Final comment

Xander encountered the Bee multiple times over a few minutes, initially capturing it in a specimen jar to examine it from a distance as if he were a scientist. After being released, it lingered on his body and began exploring his hand. He treated it as a fascinating friend that he could spend time with. In these contrasting moments, Xander flickers between treating the Bee as a scientific specimen or as a friend capable of evoking laughter and joy. While ontological flickering is revealed in these contrasting moments, the Bee assemblage primarily reveals the power of the mundane encounter. Reliving this moment many times throughout our research, we knew it was impossible to recount what happened as “bee lands on boy’s hand”. A mundane, matter-of-fact report could not capture the significant rhizomatic threads that grew from the Bee’s actions and inspired significant changes for each of us. This is a human-centred sentiment, to point out how the Bee’s actions positively served *us*. The Bee assemblage, however, also reveals the non-hierarchical, co-shaping possibilities of multispecies kinship and how the lines of flight from such a mundane event twisted and oscillated in unexpected ways across time and space. This contrast between a mundane incident and forceful affective flows is the insight offered by the Bee.

Discussion and conclusion

Authorship shifted as we became researchers with others in writing the article. We attributed authorship of “flickering ontologies” to the Crow assemblage because it arose as we listened to Susan’s words. Searching the literature, we found that scholars in literary theory and geography had deployed it, but now we must also situate the Crow/Susan insight within the rhizomic network of prior scholarship where ontological instability has been extensively examined. Indeed, the “affective turn” that informs our article is based on the “shift from a world of ontological stability . . . to a world of ontological instability . . . where the world is composed of flows and connection” (Anderson, 2009, p.122). In challenging ontological stability, Anderson (2009) notes scholars have proposed new vocabulary such as cyborgs (Haraway, 1991) or hybrids (Latour, 1993) or ontological choreography (Thompson, 2005) to express the multi-relational process of “becoming with others”. Haraway (2003, 2008) has explored emergent ontologies in her studies of “companion species” and when “species meet”. In writing this article, therefore, we experienced ourselves as incomplete co-authors relying on the relational agencies of others to make sense of our encounters and experiences. There is a creativity in incompleteness that we would not have realised had we written with full knowledge and certainty from the beginning.

Pedagogical implications of the phenomenon of flickering ontologies

The PEEC pedagogy created an affective milieu that prepared the children and researchers to be enchanted and entangled in emergent assemblages with other species. PEEC pedagogy slows down time so that children (and researchers) can dwell with encounters with other species. It was in such moments that the Crow, Sea Eagle and Bee became our teachers, producing a sense of connectedness, interdependence and co-constitution. But multispecies assemblages can be produced in many different ways with contradictory effects, for example, when children treat insects as pests to be avoided or killed. The PEEC pedagogy creates the milieu where kinship is possible, but there is always a degree of uncertainty. The chanciness of coincidences was central to the pedagogy, for example, when the Bee landed on Xander’s hand. This insignificant moment produced a multitude of consequences for Xander, his new friend Steve and the researchers. The human teachers, Merryl and Harriet, were ready for these apparently mundane moments and were prepared to acknowledge the agency of other species and to allow them to become our teachers. Powerful teaching from a human perspective, then, consists in stepping back, in giving over control to the chanciness of coincidences that, at times, entangle us in multispecies assemblages that motivate us to act responsibly towards our kin.

The PEEC pedagogy of attunement to other species enabled us and the children to consider multiple possible ways of relating to the Crow, the Sea Eagle and the Bee. Flickering ontologies was evoked by these assemblages that we described as extraordinary, mainly to highlight the chanciness and vitality of the unsettling encounters. Merryl in particular, by invoking First Nations' beliefs, offered the children another ontological worldview where kinship with other species is authentic and valued. Children also brought their own ontological views to these encounters, as shown by Susan's vivid personal memories of white cockatoos and her grandfather. We have found that children are open to considering other ontologies when offered the opportunity. For example, in a recent co-authored chapter with Melanie Burgess, a year 6 participant in our research (Jackson et al., 2023), Melanie proposed an ontology of equality between living beings. She represented this ontology in a painting of a young woman looking into a mirror that reflects back the image of a tree. In commentary on this painting, Melanie wrote, "My project is about making sure that people understand that all beings are equal, no matter whether they have legs or roots or paws" (Jackson et al., 2023, p.49). Other participating children also wrote about shifts in their sense of interrelatedness to other living beings and being enmeshed in living systems (see Jackson et al., 2023, p.49). We suggest that the production of flickering ontologies is educationally important in enabling children to recognise and value kinship with other species. The purpose of evoking flickering ontologies is not to create instability and uncertainty per se but to awaken children to the possibility of kinship relations and to the remarkable vitality and capacities of other species to affect us. Sensing "others" as kin provides the foundation of an ethic of solidarity care and love (Lynch, 2007) that is necessary to reverse the ecologically destructive human practices that continue to characterise modern societies.

Acknowledgements. We thank Merryl Simpson, Harriet Mortlock and Karl Fagermo, the expert environmental educators at PEEC. Their pedagogical expertise was central to the affective milieus where multispecies assemblages were produced.

Financial support. The research project was supported by a grant from the Australian Research Council: Renshaw, P., Tooth, R., & Kumpulainen, K. (2019). Digital mediation of children's interaction with the more than human world. Australian Research Council Discovery. Grant (DP19022855).

Ethical standards. This research was approved by The University of Queensland, Human Research Ethics Committee: 2019/HE000515.

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Kirsty Jackson is a doctoral student in the School of Education at the University of Queensland. Her research is concerned with children's shared emotional experiences with more-than-human others. She theorises these experiences deploying the concept of *soperezhivanie* derived from Vygotsky and by applying Jane Bennett's notion of enchantment. As an educator and researcher, Kirsty is also focussed on how children become environmental advocates and motivated to make a difference in their local areas as well as perceive themselves as part of the living systems of the earth.

Ron Tooth is the founding Principal of PEEC and an applied educational researcher and leader in environmental education. Ron has an extended history of professional engagement with teachers, students and school leaders through his years spent at PEEC, as well as through his scholarly inquiry into place-responsive pedagogy that emerged from this prolonged professional engagement. He is an Honorary Associate Professor in the School of Education at the University of Queensland.

Cite this article: Renshaw, P., Jackson, K., & Tooth, R. (2024). Assemblages in Flight: Flickering Ontologies and Wildness in the Formation of Multispecies Assemblages. *Australian Journal of Environmental Education* 40, 200–215. <https://doi.org/10.1017/ae.2024.24>