



## Stones, situated writing and education

Sara Sintonen

To cite this article: Sara Sintonen (26 Aug 2024): Stones, situated writing and education, Educational Philosophy and Theory, DOI: [10.1080/00131857.2024.2393424](https://doi.org/10.1080/00131857.2024.2393424)

To link to this article: <https://doi.org/10.1080/00131857.2024.2393424>



© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 26 Aug 2024.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

# Stones, situated writing and education

Sara Sintonen

University of Turku, Turku, Finland

## ABSTRACT

Recent research in the field of education studies has raised concerns about anthropocentric discourses and methods regarding materiality. Creating new pedagogical approaches and practices to advance cultural and material understanding is the key objective for scholars and educators. This article demonstrates how the collection of self-taken digital photographs of stones activated a researcher for educational thinking process, and it does this methodologically by using situated writing and digital photographs as co-thinkers. The main task is to explore the meaning of blurred relationships of material worlds by asking especially what stones, and especially children's interest towards stones, can teach us, what they can remind us of, and how they may help us reflect on education and growth as a celebration of open approaches and critical reconsiderations in order to deflect the focus away from anthropocentric subjectivity. The aim is to produce a novel contribution and a situated writing sample of not representing world and education but encountering them anew and being part of its process, connecting things that are not typically connected.

## ARTICLE HISTORY

Received 5 October 2023  
Accepted 31 July 2024

## KEYWORDS

Education; stones;  
situated writing;  
posthuman thinking

## Introduction

In the era marked by growing concerns about anthropocentric biases in educational paradigms, scholars and educators are shifting their focus to methodologies that broaden our understanding of materiality and cultural discourse. Recent investigations within the field of early childhood education studies have illuminated the necessity for pedagogical approaches that transcend traditional human-centric perspectives, prompting a reevaluation of how we engage with the world around us (e.g. Merewether, 2019; Somerville, 2020). Central to this discourse is the exploration of the nuanced relationships between humans and the material environment they inhabit. This article seeks to illustrate how the seemingly mundane act of collecting digital photographs of stones can serve as a catalyst for profound educational insights. The researcher investigates entanglement with the material existence of stones using a methodological framework based on situated writing and engaging with digital images.

At the heart of this exploration lies a fundamental inquiry: What can stones, and the fascination and enchantment they evoke in children, reveal about our perceptions of the world? What can we learn by thinking of seemingly inert objects such as stones? What if we transcend

**CONTACT** Sara Sintonen  [sara.sintonen@utu.fi](mailto:sara.sintonen@utu.fi)  Seminaarinkatu 1, 26100 Rauma, Finland.

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

the boundaries of anthropocentric subjectivity and embrace a more holistic understanding of education and growth?

This article endeavors not merely to represent education and the world, but to actively engage with them in a manner that fosters collaborative inquiry and critical reflection. By inviting stones to join the dialogue as co-thinkers, this article aspires to forge new connections and insights that challenge conventional notions of knowledge production and dissemination. Thinking of posthumanism, new materialism and education is not a new idea, as an ontology of relational learning with material, human, and non-human actors has gained increasing popularity over the past decades (e.g. Hultman & Lenz Taguchi, 2010; Rautio, 2013; Penfold, 2019; Warren, 2022). Posthumanists advocate for a relational and affective immersion with other lifeforms, in addition to empathy for oneself and others, more-than-humans. The ontology acknowledges the active, participatory, and unpredictable role of matter in the formation of knowledge, and it aims to flatten the ontological divide between people and vibrant materials (e.g. Bennett, 2010; Coole & Frost, 2010; Lenz Taguchi, 2018).

Methodologically, this article is based on situated writing (Livholts, 2020) and the idea of connecting thinking with digital photographs (Coley et al., 2012) in the posthuman era. The process of co-thinking has not been linear or causal, as the author was willing to openly ask and notice the ordinary yet uncanny relationships within educational thinking and materials, in this case stones, or even more precisely, the digital photographs of stones and children with stones, and reconsider the educational meaning of it.

The act of connecting with digital photographs (Coley et al., 2012) and using them as co-thinkers echoes to Karen Barad's (2007, 2014) definition on intra-action and Daniel Rubinstein's (2018, 2023) posthuman photography (the photograph not a representation but the manifestation of emergence). Barad's intra-action differs from interactions, in which the subjects and objects come into being through relationships, and deflects the focus away from anthropocentric subjectivity. Barad emphasizes how we are more entangled in the world than merely representing the world (with assumptions). Whereas interaction posits two separate individuals taking turns to act, intra-action posits individuals not existing prior to their moment of intra-action, according to Rautio (2021, p. 229). However, she elaborates that even if the rhetoric of everything is blurs and bleeds, there is always separation and distance, and there is always the self and the other—albeit porous, leaky, and intermingling.

The starting point for this article was the author's personal mundane observation, recently discovering and realising her mobile phone's gallery and how it was full of photographs of stones and rocks, as well as snapshots of children playing with stones or in sand. Children are particularly drawn to stones. Children can become enchanted with them and want to interact with them spontaneously and repeatedly (Merewether, 2019; Rautio, 2013). The act of picking up, gathering, cleaning, transporting, stacking, throwing, or moving stones is the purpose itself, making this daily interaction inherently fulfilling and motivating (Rautio, 2013).

Being entangled in the world also concerns photographs, although there is still an adopted tradition to think what a photograph is. Posthuman photography is not asking what things and objects in the world look like and is thus not defined by subjectivity of the observer (Rubinstein, 2018). According to Rubinstein (2018), one of the reasons why we tend to put so much trust in photographs is that there is still a common idea that they can accurately represent people, events, and situations. This also implies that photograph has a long and close relationship to power, as Coley et al. (2012) note. They continue by describing how photographs have traditionally been used to record and classify the world, making them a component of the reproductive system, representing and fixing things, which leads us to believe that photographs are static, separate and ordered. If the photographs are understood through the static framework of identity and subjectivity, and they are regarded as a signifier –as a fixed symbolic entity– then the dynamism and the emergence that are inherent in photographs will be ignored, which prevents us to consider the photograph as the manifestation of emergence. (Rubinstein, 2023, p. 16.)

These notions caused the author think that having a photograph collage of stones and rocks (and photos of children playing with stones or in sand) in a smartphone's gallery is not a coincidence but the result of a deeper engagement and intra-action.

Digital photography is an example of embodiment relationships, which Don Ihde (1990) describes as 'partial symbiosis' of a person and a technology during which the technology is used embodied and becomes perceptually transparent. Rubinstein (2023, p. 11-13) emphasizes that a photograph is a new means of experiencing the immaterial materiality, which changes our understanding of the real as solid and impermanent into a global network of self-replicating nodal points. He describes the photograph as being simultaneously material, technological and visceral; in addition to being a visual medium, it also offers the possibility to grasp the sensual 'now'. The photograph is not a representation but 'an alive version of this emergent reality' (Rubinstein, 2023, p. 17). Gradually, the author of this article became obsessed with the idea of photographs as an alive version of emergent reality: Is it possible to co-think with photographs, and if it is, what would be the educational point of it?

By presenting an intriguing point of view on how we can begin to look at photographs as something we can connect with, and become a part of, and interfere with, its movement. Coley et al. (2012) have investigated photographs even further and present an intriguing point of view on involving the opportunity to the planet creatively and contribute to its survival: 'Not portraying the world but coming into contact with it fresh and participating in its evolution' (Coley et al., 2012). They clarify that this means photographs and photography cannot solve problems, but rather liberate problems, penetrate problems, and reveal how messy and changeful they are. As Rubinstein (2023) remarks, posthuman photographs produce meanings by association and through dissemination, allowing us to sense the appearance and intensity and unknown. In other words, the visceral in photographs enables deeper connections (e.g. to one's own thinking) without serving straight answers.

### Postqualitative inquiry: Towards situated writing

This article follows Rautio's (2013) suggestion about needing to produce more questions than answers, as she asks us to celebrate the open and diverse methods with which to approach and conceptualize especially children's everyday lives, experiences, and meaning-makings. The present author is interested in focusing especially on posthumanist methodological approaches to understand teaching and learning within the larger socio-material context of the world. In order to relieve some of the restrictions of traditional qualitative methods that restrict how data is understood, accessible, and analysed, a postqualitative methodological approach necessitates openness to several opportunities to think and conduct research differently (St. Pierre, 2019).

The approach in this article is based on the following postqualitative perspectives: writing as teaching (Ulmer et al., 2020), writing as tool for producing more questions than answers (Rautio, 2013) and bringing richness to the ways in which researchers can claim things (Rautio, 2021). The approach includes also considering cultural and materialized practices as an anti-methodology (Nordstrom, 2018), and the overall attempt is to perform the thinking process with the digital photographs through situated writing (Livholts, 2020).

Nordstrom (2018) explains how antimethodology resists an approach of ordered definition of reason and practices, but is affirmative, strategic, ongoing practice, and is something that 'engages transduction as a way of seeing, seeing on the middle, and seeing how methodology materializes in space and time' (p. 224). For Deleuze and Guattari (1980/1987, p. 23) seeing things in the middle means an uneasy process, because looking down from above or up from below, or from left to right or right to left is so much easier. They ask us to try to see things in the middle by commenting: 'Try it, you'll see that everything changes.' This is in line with Bodén and Gunnarsson (2021), who describe how the postqualitative provides *nothing*, can turn into *anything* and by implying hope is *everything*.

The collection of digital photographs in a smartphone's gallery started to blend in and interfere with the thought process, becoming a constant source of wonder. This required a lot of time and the opportunity to return to them repeatedly while allowing ideas and thoughts to emerge without forcing them. The author began to understand that photographs, instead of being read and interpreted, started to activate her thinking. By 'allowing' them to become more than static and separate objects, the photographs revealed themselves to be more than documents of various moments and places.

This (Figure 1) was where the process began, however it was not precise or linear. It is a photograph of a man who has climbed on top of a stone structure on a cliff. He has his arms outstretched and raised as if in a sign of world conquest. The sense of conquest it conveyed started to bother the researcher: why do we humans tend to think ourselves as the conquerors of the world, wiser than others?

The modern human way of living is destructive. We have already caused significant damage to the Earth. We need to start doing better things to learn to see things differently, and care more. Wolff et al. (2020) have a transformative and sustainable-oriented mission of education with care for humans and other living things as an essential core:

In any case, it is important to educate the children to adapt to changes by promoting features like creativity, critical thinking, collaboration and responsibility. It is also essential to start working for change directly and involve the children in the practice of a meaningful and positive lifestyle. In such a practice, care for humans and other living things, as well as the wellbeing of the entire Earth, is an immanent ethos. (Wolff et al., 2020, p. 15)

The essence of the stones shown in the photographs and the educational thoughts started to intertwine: The digital photographs in a smartphone became both a methodological way to think and a method for approaching. This discovery is in line with what Cornwall and Park (2022)



Figure 1. We, as humans, like to think of ourselves as the conquerors of the world.

describe regarding a sketchbook they used when conducting a study with children. The sketchbook was described as becoming ‘a method and a methodological concept to think about research’ (Cornwall & Park, 2022, p. 7).

Instead of holding some perspectives foundational or trying to reach any final conclusions or provide explanations or interpretations especially about education with younger children (as early childhood education is the author’s key area of education), it was important for this process to allow openness and be open to anything possible. In fact, there will be no need for ready fixed meanings either, but as a researcher, one can act as a mediator between notions, thoughts and thinking about those thoughts. From this point of view, Livholts (2020) situated writing can be considered as ‘a form of reflexive autobiography mixed with storytelling which exemplifies and promotes its claims in terms of situated knowledge as represented through this situated writing’ (Stanley 2020, p. 11). As Ulmer et al. (2020) notice, anytime we read, we have the potential to learn, and anytime we write, we have the potential to teach. According to Elisabeth Adams St. Pierre (2019), postqualitative inquiry urges that we push toward the intensive, barely intelligible variation in living, that shocks us and asks us to be worthy of it. It asks us to trust that something unimaginable might come out that might change the world bit by bit, word by word, sentence by sentence.

As Stanley (2020) comments, situated writing is relational: ‘Situated writing has its heart working in a very grounded way and opening up the readers the processes that have brought up a set of circumstances’ (p. 16). Livholts (2020) explains how all forms of representation are situated and interpreted within a specific discursive context or occasion of telling. She continues by describing how forms of writing are responding to real-life experiences, situations, relationships, and thoughts, but the way ‘in which I shift and change between and within them to perform encounters, relations, situations, spaces, thoughts and dreams shapes them with specific ways’ (Livholts, 2020 p. 75).

Livholts (2020, p. 38) thinking of situated writing argues for slow writing as it is connected to unexpected situations, difficulties, and failures in what it evokes as well as creativity and euphoric moments. This is possible as writing materializes scenes from embodied lives (Livholts, 2020, p. 34). This is like illuminating the ways we find ourselves organized and, also, the ways we might reorganize ourselves, and interestingly approaches to a post qualitative inquiry:

Inquiry should *begin* with the too strange and the too much. The rest is what everyone knows, what everyone does, the ordinary, repetition. Post qualitative inquiry asks that we push toward the intensive, barely intelligible variation in living that shocks us and asks us to be worthy of it. It asks us to trust that something unimaginable might come out that might change the world bit by bit, word by word, sentence by sentence. Writing is, after all, a method of inquiry. In writing, we can and do invent and reinvent the world. (St. Pierre, 2018, p. 607)

In her situated writings, Livholts (2020) also uses photographs. Livholts (2020, p. 81) describes how poetic writing is similar and intimately intertwined with image-making, both in the sense of seeing through words and in combination with visual symbols and artefacts captured through photography. Livholts (2020, p. 88) articulates how in untimely academic novellas, the photograph acts as a self that is textually and visually narrated through the lens of the camera and thus are parts of a textual visual self-portraiture in the theory and method of situated writing. As an experience, it demands patience to linger and delve into the subjects as well as courage to look beyond the mainstream and the prevailing practices. It is also characterized by a lack of urgency: the dialogue between the images and the words is the result of unhurried reflection and processing.

## Thinking with the photographs

The new ethos could mean a certain ‘timespacemattering for which we have no map’, as Margaret Somerville (2016, p. 1171) describes while thinking her post qualitative research and posthuman

entanglements within the study of 'Love Your Lagoons'. In her later research, based on various walks (Somerville et al., 2019; Somerville, 2022), she describes how her understanding of country is underpinned by her own deep time experiences in it. During the walks on Australian soil (throughout the seasons of the year) she came to understand posthuman creativity as the creation of the landscape itself and learning from difference, as the structure of the landscape is constantly changing, and as events are in relation. She comments:

Learning Country is often about noticing what is different. Part of my methodology is to only to record what is new and different on each walk to manage the endlessness of Country's creativities. Difference is produced by flowers blooming that draw attention by their color, and the changes as the flowers disappear as they are pollinated in the endless cycles of creativity. (Somerville, 2022, p. 451)

Stones have often been described as the skeleton of the landscape supporting the woods, fields, and waters, which might be the reason why they are taken for granted. The ancient bedrock is frequently ignored and receives little care. As Tim Ingold (2000) describes in a thought-provoking way: 'But if life is tantamount to being, then we have to regard the organism not so much as a living thing than as the material embodiment of a certain way of being alive. In other words, we should think of the organism not as containing life, or expressing it, but as emergent within the life process itself' (p. 89). In education, much more emphasis could be put on life process emergences and material intra-actions: From a broader perspective, stones can be perceived active and agential (see Yuniasih et al., 2023).

New materialist theories reconceptualize education where humans, other-than-humans and material are constantly produced in intra-actions as temporary outcomes of entangled relations. In early childhood education, this notion includes also the idea of care, as there is also need for reconsideration of how care matters and how matter cares in early childhood education environments (see Warren, 2022).

Life, comprehension and learning could be examined as formations of the materiality. It is perhaps through the perception of dimensions and nuances that our appreciation grows.

The best way to understand stones is to hold them in one's own hands (compare with *manuport*). Touch is an important feature in materiality scanning, especially for young children, and touch is also a primary form of interaction as a part of our sensory system (Smith & Gasser, 2005) providing interrelated, multimodal experiences. The hand reads the stone, its shape, weight, and warmth. It is fascinating to discover how different objects, materials, phenomena, activities, and surroundings can lure the mind into specific contemplations (Figure 2).

As Christina MacRae (2020, p.103) interestingly points out in her research with children playing in sand by describing how 'hands are both animated by the things that they touch, but at the same time the objects are animated through the give and take of pulls and pushes



Figure 2. Children exploring stones.



Figure 3. Openness towards one's material surroundings creates more room for growth.

of desire expressed as kinetic force'. She underlines how a narrow concentration on words might make us ignorant of the important ability that very young children possess before they can speak—the affective sensing of difference. Louisa Penfold (2019) also notes how children learn about physical properties of materials and what they can do in the environment when they play with them, such as how they can be rolled, stacked, or moved. As young children play with a material, the material's sensory and aesthetic qualities may also change, providing possibilities for additional experimentation. She believes that children can then extend, and gradually increase the complexity of their learning through these modifications and transformations (Figure 3).

Exploring the materiality with children is also about becoming attached to a place through sensory perception and everyday experiences. Events concerning various materials should be regarded as diverse invitations. Following Jane Bennett's (2010) thinking, these invitations increase our receptivity to the uncanny, the unexpected, and the wonder, horror and intensity of events and processes. The materiality of the surroundings and cultural meanings become dynamic and intertwined. Bennett (2010) describes aesthetic-affective openness towards material surroundings by stating how objects are alive because of their capacities to make a difference in the world, to affect and shape the things of which they are a part. From this point of view, the material perspective can be seen as an articulation of our common, shared experience, as long as the concept of the material aesthetic is kept sufficiently broad. At its best, the concept of material aesthetic includes unexpected situations, difficulties, and failures also. Being a child is then perceived as nuanced potential and rich experientiality intertwining, in which action, cooperation and interaction extend also beyond the human-centred view. Following Barad's (2007) agential realist concept of intra-action, material and social bodies, whether human or other-than-human, are continually produced in relation in-between.

In early childhood education research particularly, more understanding of sense as a mode of attention and explorations of how things animate bodies (see MacRae, 2020) are needed. For example, according to MacRae, touch can be defined as a sensed response to the world that takes place through kinetic dialogues activated by a one's curiosity (and by material invitations), a force emerging between people and materials (MacRae, 2020, p. 92). According to her, by 'focusing on hands instead of mouths', it is the capacities rather than deficits of young children's communicative practices that will be highlighted. This can also be understood as an invitation for adults to be open to material intra-actions, to learn from them and to articulate them in new ways, such as bringing mythical to life (see Sintonen, 2020).

Jane Merewether (2019) describes her discovery regarding children and stones: 'I came to see that for the children, rocks were not 'dumb brute' nor were they merely a backdrop for their actions. Instead, rocks were something with which children could be in an intimate relationship, something to get to know - their affordances, their touch, their qualities, their ability to act back.' (Merewether, 2019, p. 243). She argues that children are particularly sensitive to Earthly processes because they are keen and attentive listeners of the Earth; planetary crises necessitate children's level of awareness and receptivity.

Stones might be both real and unreal. Stones are easily recognized as models of objective existence, and easily recognized for what they are. However, metaphors, mythologies, and images are all entwined with them (Figure 4). Stones are tangible yet imaginary.

The lack of urgency and compulsion also allows for co-imagination, which can be fuelled by sensations, imaginative worlds and diversity. Existence is not inherently connected to the logic of organization, and not everything is the result of clear actions. Thus, education should not be a purely explanatory activity either. The basis of an early childhood education especially can be seen in imagination which resonates with play, aesthetics and storytelling as historical myths have a story-like power to transform human perception of the world and our relationship to it (cf. Farrelly, 2019; Sintonen, 2020). As Matthew Farrelly (2019) states: 'Developing a human-environmental imagination in ourselves and our students may prove intrinsically powerful and transformative but may also help our students become all the more prepared to experience the natural world and the self-in-relationship-with-nature in a qualitatively richer way' (p. 139). Also, digital technology can be used for developing a human-environmental imagination in early childhood education (see e.g. Kumpulainen et al., 2020; Byman et al., 2022) for example towards ecomediasphere (see López, 2020) and aesthetics (see Renlund et al., 2022). This is highly relevant in the times of ecological crises and should also be the concern of early childhood education and future.



**Figure 4.** 'A rock with a green hair', as one child described. Education should not be a purely explanatory as some space for mystery needs to be present.

## Concluding thoughts

This article has underscored the need for a re-evaluation of educational paradigms, and advocates for a broader consideration of life, time, place, materiality, and sensory experiences. New methods are needed when reconsidering posthuman early childhood education to shift the focus from the role of humans to all the objects, things and events that are capable in shaping and producing life meaning and meaning-making in young children. Organic life, according to Ingold (2000 p. 19), is 'active rather than reactive, the creative unfolding of an entire field of relations within which beings emerge and take on the particular forms they do, each in relation to the others.' Ingold (2000) continues by describing how every being arises as a singular centre of awareness and agency. How do we encounter organic life in education? Stones are easily seen as models of objective and material existence, independent of examinations, easily perceived for what they are. Although touch emerges as a fundamental aspect of engagement with materials, in this article, the main objective was to 'listen' to the stones through the digital photographs as this article offers an example of co-thinking with photographs. Considering any digital photographs from this perspective, as the manifestation of emergence, the possibilities to educate with a transformative and sustainable-oriented mission will increase. The world, organic life, even captured in digital photographs is not stable but dynamic.

This article has been partly written together with the digital mobile photographs on the basis on the process of co-thinking and situated writing. In other words, education had been observed through the eyes of the everyday. This article invites the reader to ponder the significance of understanding the landscape as a dynamic entity shaped by posthuman creativity and continual change. Stones, often overlooked, yet integral to the terrain, can serve as concrete and also symbolic embodiment of the life/growth process and material intra-actions. Education does not function to solve the problems of the world, although its intrinsic meaning is formed by posing about questions how the material relationships can empower individuals and communities so they can see themselves as potential agents for the common good (cf. Wolff et al., 2020). Deeper considerations are needed in the ways how we all are invited by various material essences and within intra-active relations. This might also lead posthuman pedagogy to be continually created through understanding the relationalities of materialism.

Overall, rethinking the essence of materials and objects will widen our understanding of education as a strange thing and call on us to change the orientation: there will be a need for deeper articulations of the everyday. Stones and rocks appear as beings in themselves and as beings in general, through features that have been formed through experiences. A stone may be a boulder or a boulder soil, it may be weathered, rugged, crumbled, smoothed out, coated or one of many other forms. Thus, no two stones or rocks are alike. The features emerge as the result of a dynamic process. Overall, there is a need to rethink anthropocentric cultures, behaviours, and institutions that erode and strain the earth. As education researchers, we must ask what our options are, what alternatives we have if the current theoretical approaches are not working sufficiently.

As the new materialist framework places the individuals as participants in a world of active materials, situated writing and using digital mobile photographs as co-thinkers places the researcher as a participant in a relational process of thinking, illuminating the ways we try to find ourselves organized. In such way the research may be interpreted as an enabler of education. As Rautio (2013, 2021) urges, we need to celebrate atypical data and seek the moments in which children produce the unfinished and the pointless and move on. According to her we need to explore ever proliferating and mutating connections that condition human existence. It is obvious that multiple ways of doing research are needed to create opportunities for paraphrasing and reimagining education in general, especially early childhood education.

This article has demonstrated a situated writing sample of not representing the world and education but encountering it anew. Manifestation of emergence, which can be represented in



**Figure 5.** Special stones can connect us to places. (These stones are significant for the author and are located in an important place.).

various modalities, can be used by postqualitative researchers to generate and explain ideas that would be challenging to express by literal description alone. Through situated writing, authors can also portray complex experiences in understandable ways by using visualizations, and other textual expressions. In this case, methodologically situated writing worked for a purpose when a methodology that was engaged with the already ongoing explorations was needed. The thought process demonstrated the ways to incorporate a much broader understanding of relational human experiences even experienced together with digital photographs. Similarly, in experiencing the material world with children, digital manifestations can develop insights. In essence, the imperative for an educational ethos embracing sensory engagement, materiality, imagination, as well as environmental and ecological awareness is leading us towards a more holistic and enriching education for all.

### **Afterwords**

Stones are a good and solid companion. They connect us to places. When returning to a familiar stone, you already feel calm and safe on the way, knowing it will be there (Figure 5).

Stones (and pebbles, rocks etc.) have been typically described as the skeleton of the landscape supporting the woods, fields, and waters, or have been seen as something permanent and stable because they are old, strong, and quiet. But stones are not immutable. Even according to an old Finnish saying 'stones do not cry pain'.

Stones are slowly affected by time, but only if we define time in human terms.

Stones are silent, but only if we define sound in human terms.

Stones thus have their own time, their own sound.

Stones, pebbles, rocks are something with which we all can be in an intimate relationship, to get to know, above all, their ability to act back.

### **Disclosure statement**

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

### **Notes on contributor**

*Sara Sintonen* is a professor of early childhood education at the University of Turku, Finland. She holds the title of adjunct professor on media education (University of Helsinki) and on children's digital cultures (University of

Turku). With an invitation to rethink and imagine education, cultures, environments, and futures, her research interests focus on the arts, modalities, materialities, literacy, creativity, play, and digital cultures.

## References

- Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Duke University Press.
- Barad, K. (2014). Diffracting diffraction: Cutting together-apart. *Parallax*, 20(3), 168–187. <https://doi.org/10.1080/13534645.2014.927623>
- Bennett, J. (2010). *Vibrant matter: A political ecology of things*. Duke University Press.
- Bodén, L., & Gunnarsson, K. (2021). Nothing, anything, and everything: Conversations on postqualitative methodology. *Qualitative Inquiry*, 27(2), 192–197. <https://doi.org/10.1177/1077800420933295>
- Byman, J., Kumpulainen, K., Wong, C.-C., & Renlund, J. (2022). Children's emotional experiences in and about nature across temporal-spatial entanglements during digital storytelling. *Literacy*, 56(1), 18–28. <https://doi.org/10.1111/lit.12265>
- Coley, R., Lockwood, D., & ÓMeara, A. (2012). Deleuze and Guattari and Photography Education. *Rhizomes*, 23 <http://www.rhizomes.net/issue23/coley/index.html>
- Coole, D., & Frost, S. (2010). Introducing the new materialisms. In D. Coole & S. Frost (Eds.), *New materialisms: Ontology, agency, and politics* (pp. 1–43). Duke University Press.
- Cornwall, J. M., & Park, H. (2022). Leaking and containing: Researching with children and the sketchbook. *Qualitative Inquiry*, 28(8-9), 888–895. <https://doi.org/10.1177/10778004221075247>
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press. (Original work published 1980)
- Farrelly, M. R. (2019). The significance of myth for environmental education. *Journal of Philosophy of Education*, 53(1), 127–144. <https://doi.org/10.1111/1467-9752.12315>
- Hultman, K., & Lenz Taguchi, H. (2010). Challenging anthropocentric analysis of visual data: A relational materialist methodological approach to educational research. *International Journal of Qualitative Studies in Education*, 23(5), 525–542. <https://doi.org/10.1080/09518398.2010.500628>
- Ihde, D. (1990). *Technology and the Life World*. From Garden to Earth. Indiana University Press.
- Ingold, T. (2000). *The perception of the environment: Essays on livelihood, dwelling and skill*. Routledge.
- Kumpulainen, K., Byman, J., Renlund, J., & Wong, C. C. (2020). Children's augmented storytelling in, with and for nature. *Education Sciences*, 10(6), 149. <https://doi.org/10.3390/educsci10060149>
- Lenz Taguchi, H. (2018). The fabrication of a new materialisms researcher subjectivity. In C. Åsberg & R. Braidotti (Eds.), *A feminist companion to the posthumanities* (pp. 211–221). Springer International. <https://doi.org/10.1007/978-3-319-62140-1>
- Livholts, M. (2020). *Situated writing as theory and method. The untimely academic novella*. Routledge.
- López, A. (2020). Ecomedia literacy: Educating with ecomedia objects and the ecomediasphere. *Digital Culture & Education*, 12(2)
- MacRae, C. (2020). Tactful hands and vibrant mattering in the sand tray. *Journal of Early Childhood Literacy*, 20(1), 90–110. <https://doi.org/10.1177/1468798420901858>
- Merewether, J. (2019). Listening with young children: Enchanted animism of trees, rocks, clouds (and other things). *Pedagogy, Culture & Society*, 27(2), 233–250. <https://doi.org/10.1177/1077800417704469>
- Nordstrom, S. N. (2018). Antimethodology: Postqualitative Generative Conventions. *Qualitative Inquiry*, 24(3), 215–226. <https://doi.org/10.1177/1077800417704469>
- Penfold, L. (2019). Material matters in children's creative learning. *Journal of Design and Science*, 5. <https://jods.mitpress.mit.edu/pub/bwp6cysy/release/1>
- Rautio, P. (2013). Children who carry stones in their pockets: On autotelic material practices in everyday life. *Children's Geographies*, 11(4), 394–408. <https://doi.org/10.1080/14733285.2013.812278>
- Rautio, P. (2021). Post-qualitative inquiry: Four Balancing acts in crafting alternative stories to live by. *Qualitative Inquiry*, 27(2), 228–230. <https://doi.org/10.1177/1077800420933297>
- Renlund, J., Kumpulainen, K., Wong, C.-C., & Byman, J. (2022). Stories of shimmer and pollution: Understanding child-environment aesthetic encounters in urban wilds. *Children's Geographies*, 1–15. <https://doi.org/10.1080/14733285.2022.2121914>
- Rubinstein, D. (2018). Posthuman Photography. In M. Bohr & B. Sliwiska (Eds.), *The evolution of the image; Political action and the digital self*. Routledge.
- Rubinstein, D. (2023). *How photography changed philosophy*. Routledge.
- Sintonen, S. (2020). Bringing mythical forests to life in early childhood education. *International Journal of Early Childhood Environmental Education*, 7(3), 62–70. < <https://naturalstart.org/research/ijecee/volume-7-number-3> >
- Smith, L., & Gasser, M. (2005). The development of embodied cognition: Six lessons from babies. *Artificial Life*, 11(1-2), 13–29. <https://doi.org/10.1162/1064546053278973>

- Somerville, M. (2016). The post-human I: Encountering “data” in new materialism. *International Journal of Qualitative Studies in Education*, 29(9), 1161–1172. <https://doi.org/10.1080/09518398.2016.1201611>
- Somerville, M. J., Tobin, L., & Tobin, J. (2019). Walking con-temporary indigenous songlines as public pedagogies of country. *Journal of Public Pedagogies*, 4(4), 13–27. <https://doi.org/10.15209/jpp.1171>
- Somerville, M. (2020). Posthuman theory and practice in early years learning. In A. Cutter-Mackenzie-Knowles, K. Malone & E. Barratt Hacking (Eds.), *Research handbook on childhoodnature* (pp. 103–127). Springer.
- Somerville, M. J. (2022). Country Calls: A Creative Practice of Deep Time Walking in Darug Country. *Qualitative Inquiry*, 28(5), 448–464. <https://doi.org/10.1177/10778004211064940>.
- St. Pierre, E. A. (2018). Writing post qualitative inquiry. *Qualitative Inquiry*, 24(9), 603–608. <https://doi.org/10.1177/1077800417734567>
- St. Pierre, E. A. (2019). Post qualitative inquiry in an ontology of immanence. *Qualitative Inquiry*, 25(1), 3–16. <https://doi.org/10.1177/1077800418772634>
- Stanley, L. (2020) Foreword. Situated writing, authorship, readership. In M. Livholts, *Situated writing as theory and method. The untimely academic novella*. Routledge, 11–18.
- Ulmer, J. B., Kuby, C. R., & Christ, R. C. (2020). What do pedagogies produce? Thinking/Teaching qualitative inquiry. *Qualitative Inquiry*, 26(1), 3–12. <https://doi.org/10.1177/1077800419869961>
- Warren, A. (2022). Crafting a new materialist care story: using we wool felting to explore mattering and caring in early childhood settings. *Matter: The Journal of New Materialist Research*, 3(2), 113–136. <https://revistes.ub.edu/index.php/matter/article/view/40227>
- Wolff, L.-A., Skarstein, T., & Skarstein, F. (2020). The mission of early childhood education in the anthropocene. *Education Sciences*, 10(2), 27. <https://doi.org/10.3390/educsci10020027>
- Yuniasih, R., Bone, J., & Quiñones, G. (2023). Encounters with stones: Diffracting traditional games. *Contemporary Issues in Early Childhood*, 24(1), 57–69. <https://doi.org/10.1177/1463949120982959>