

# To Know or not to Know chess: Epistemic agency in a kindergarten classroom as a moral and ethical domain

Ali Azhar, OISE, University of Toronto, 252 Bloor St West, ON M5S1V5, a.azhar@mail.utoronto.ca

**Abstract:** In this paper we highlight epistemic agency as distributed and ultimately a moral and ethical domain consequential for our relations with one another and for knowledge building community norms. We highlight how social interaction is a rich site of study where ethical and moral ideas are made explicit. We interlace the narrative with commentary on how epistemic agency in interaction is distributed, negotiated and related to the domain of ethics and morality. Our micro-ethnographic analysis of a short video where three children co-construct a chess game reveals that for the children, to know or not to know chess is not the question. Rather, knowledge and agency in interaction is dynamic, graded and emergent in the collusion of participants where knowing how to be with each other and why is as important a question as the know-how of chess.

## Introduction

In this paper, we utilize interaction analysis to frame epistemic agency as distributed and a product of the emerging collusion of participants in learning interactions. The analysis takes a microethnographic approach of children's interactions with each other and their teachers in a kindergarten classroom. It proceeds from the dictum: 'Ab uno disce omnes: From one thing, everything can be said – and must be said.' (McDermott and Raley, 2011, p. 375) Paying attention to kindergartners' gestures, postures and conversation, *the fleeting world built together in interaction is analyzed* – with particular reference to the tacit accomplishment of action, revealing the silent ground of what is emerged. To listen to the silence is not to say 'there is no science but of the hidden,' rather it is an articulation of 'horizontal distributions, combinations between systems of possibilities ... to try to reconstruct the conceptual framework that makes it possible to conceive of a statement.' (Ranciere, 2013, p. 46) We are here concerned with the analysis of the first principle of Knowledge Building Communities: Epistemic Agency. (Scardamalia, 2002) We analyze a 2-minute interaction of three children playing chess and present it in narrative form. The recording was taken as part of ethnographic observation that spanned 12 weeks with 30 hours of observation. In the spirit of Knowledge Building, we merge analysis with the design of comic book narratives that foreground the bodies, gestures and conversation of children engaged in ethical and moral arguments while bringing alive a chess game. We are concerned here with local interactions being consequential for learning how to be with each other. (McDermott, 1977) This analysis is in tune with work that seeks to de-centralise and diffuse epistemic agency and responsibility and considers its relational aspects. (Hinchman, 2018)

The etymology of the word 'agency' could be traced to the Latin 'agere': to set in motion or drive forward. (Etymonline, n.d.) In Biblical terms, it can be traced to the Greek egeneto: to come into being. Panta di autou egeneto: All things through him came into Being. (Deeks, 1976) To look for a more lateral location of agency, we look for the term as it has been conceptualized in the analysis of social interaction.

There are various frames for articulating agency that lead us down different paths. Here we speak of it as fundamentally distributed and consequential for ethical or moral ends. Kockelman highlights an Aristotelian lens: the four causes an agent can be held accountable for: 1) the material cause or *qualis*. (How is something constituted? What is it's nature?); 2) the formal cause (What is the underlying genesis and patterning of this cause?); 3) the final cause (What are the functions such a formed substance serves?); and 4) the efficient cause (What are the ends of the cause?) (Kockelman, 2017, p. 15) This frame highlights the world as open to inquiry and play – a world that has been shaped by the activity that preceded it.

Kockelman (2017) juxtaposes an Aristotelian account of agency with that of Bacon, thus depicting the coupling of knowledge and power. 'If knowledge turns on the discovery of causes, power turns on the directing of causes.' (p. 16) Thus, for us as analysts, giving an account of epistemic agency in kindergartners playing chess is as much an account of us formulating agency for specific means and ends. Goodwin (1994) describes how seeing is a deeply situated activity tied to the community of practice that makes sense of phenomenon. Within scientific communities, practices of coding, highlighting and producing graphic representations are used to make sense of interactions. Elaborating on how the minute video analysis of the beating of Rodney King by four police officers was used to gain an acquittal by the defendants in a courtroom, Goodwin describes how the event was reframed in terms of 'rational' professional discourse. Fitted into categories, particular aspects of images were figured in relation to the complex visual field to demonstrate their account of what happened. (p. 608) Alexander (1994) asks the question: Can you be Black and look at this? She states that "the evidence of things not seen" is crucial to understanding what African American spectators

bring to the all-too-visible texts at hand.’ (p. 81) Thus, Alexander and Goodwin alert us to the issues of power at stake in the depiction of demonstrations that elaborate gestures, bodies and conversation of people in interaction through categories of the disciplines we are speaking to and from. The theories and learning we articulate need to be continually attuned to how they might blind us. (Varenne and McDermott, 1998, p. 20)

*Thus, in our presentation of ‘what happened,’ we make the use of the form of fictional narration to represent a microstrip of interaction.* This form is conducive to polyvocality (Bakhtin, 1935) and attunes us to the sensuous mode of lived interaction and ethnographic description. (McDermott, 2015) Further, it allows for a metaphorical or vertical form of telling that is radically reflexive. ‘What is constructed through the art of artifices should artfully display its artificiality.’ (Trin and Kobayashi, 2005, p. 171; as cited in Gallagher, 2008, p. 111) On yet another level, we propose a design activity where young children and their teachers can fill in their own narratives and accounts of the moral conundrums of embodied interaction and reflect on their conversation of gestures. For the purposes of this paper, we use *ethics* in the sense of *the kind of person one should be and how one should live*, while *morality*, as part of ethics, deals with questions of ‘*what one should do next*’ and the ‘obligations, prohibitions, general principles, systematicity and momentary decisions’ that guide interaction. (Keane, 2017, p. 20) If ethnography is the search for the right questions, the one we grapple with in this paper is: How might we foreground the ethical and moral considerations of children in naturally occurring activity as objects to reflect on and learn from.

### **The narrative**

The sea heaved mightily, pregnant with child, as a storm engulfed the boat trying to dance with the wave. Prospero, a giant of five-years sat to my right. You want to play chess? A joust? A fiddle – won’t take long. Beat you last time didn’t I? Played with my father – you think I can be a champion?

Analysis: Mathematical and scientific literacies, when embedded in activities children are familiar with from informal environments, are particularly conducive to building bridges between formal and informal environments: they are rich grounds for fostering agentic behavior, practice-linked identities (I want to be a chess player) and islands of expertise. (Hull and Greeno, 2006; Nasir, 2009; Crowley et al., 2002) Moreover, the kinds of activities they afford can be fertile areas for developing school-based literacies. Indeed, Hull and Greeno (2006) argue schools should be a space to foster learning in informal environments, rather than vice-versa. Agency in one sense can be seen as distributed using the example of a mother-child dyad: an infant looks at an object and points at it, while the mother brings it closer for the child to interact with. However, this explains how the interaction is shaped this way rather than why. (Raczaszek-Leonardi, 2017, p. 161) (Rogoff, 1990)

\*\*

In the bridge, the helm, lay a table with its chess pieces ready to battle. Heave, heave, boatswains, cried Miranda majestically. Ferdinand, his hair tawny and disheveled stood over the table, grimly surveying the troops there assembled – looked warily at Miranda marshalling the boat and then back at the table – his thick lashes curtaining the water well, engrossed in his interior monologue. I got there, disbalanced, steadying my camera as Prospero took to the seat waiting for him. He rested his elbow on the table, his fingers curled into a fist as he sunk his cheek into it. My scribe duties took the best of me. Ferdinand plays chess for the first time, write I. Prospero likes to play the game with his father. He beat me twice. I won thrice – smugly, set I the camera and by the time I was ready with my eye-piece, the game had begun – Miranda had taken the third seat – two chess pieces lying before her. Ferdinand stood, as if ready to leave at any moment – a guest. His hoodie meticulously zipped up three-quarters of the way; a lightning bolt adorned it – and just then, a bolt embellished the sky behind, roving its way to the horizon of the ocean as the thunder greeted their meeting. The storm has engulfed them all and they have to play their way through it. The spirit Ariel, that Miranda wields, featly makes her way to the boatswains; her song metes them to their slumber.

Analysis: Agency *Who and what here is agentic?* The age-old game is played through time and the world over. The pieces on the board have affordances that can be revealed only according to certain rules; a knight goes two forward and one right; the castle vertically or horizontally can take those in its way. Miranda holds two pieces from off the table as she engages in make-believe – the Knight is now Jack and the Queen is Jane; they pass each other by, and Jane stops; facing him. Is the spirit Ariel who wielded Miranda’s command to slumber agentic? The chess pieces? Are the ones on the table and off it agentic in the same way? And what are they agentic for?

Returning to the framing of agency as the four Aristotelian causes and the Baconian extension of knowledge as the search for these causes coupled with the power of directing them, Kockelman (2017) highlights the recursive, reflexive and relative nature of agency. As Prospero may have learnt as he developed his chess expertise, it is recursive in so far as the discovery of new causes: rules of chess, strategies etc. yield the discovery of yet further causes, and the power to do new things with them. As such, the agent can characterize and thematize such knowledge and their actions can be held accountable for such things as praise, reward etc. Agency is relative, i.e. it has ‘potentially heterogeneous suites of context-specific and ever-contingent causal capacities.’ (p. 17) Prospero’s knight faced with a castle and a

queen can offer him possibilities different than when a bishop stands ready to break his stride. Indeed, off the table, Miranda can make them to be Jack and Jill meeting in a park.

To respond to the *question of whether Prospero is agentic in the same way as the chess pieces*, Kockelman makes a distinction between *instrumental agents* and *derivative agents*. Restricting Aristotle's framing to set aside material and formal causes, and focusing on efficient and final ones, the question becomes one of means utilized to achieve ends. Agents then, can be considered more or less agentic based on the possibilities of means at their disposal to achieve a suite of ends. Prospero having played chess on a variety of occasions trumps Ferdinand who has the same number of pieces but knows not what each can do – yet, Ferdinand has his utterances, gestures, body, imagination, ratiocination, instrumentality etc. to work towards the end of forging through the storm. They are, in Kockelman's terms, lively agents, infused with mentality. The knight on the board, while instrumental – it can move two and a half to pursue the end of taking over another piece – is derivative rather than originary for it cannot take purposeful action. Ferdinand, Miranda and Prospero are auto-telic for they have themselves as ends and auto-technic, for they have themselves as means. They enclose the endless search for causes – towards a final end. Aristotle, writes Kockelman, called such an end eudaimonia: human flourishing or happiness. (p. 19) Here, braving the storm is a possible end for this chess game – or other values held by this community. As people who can be held accountable for their agency, it begs the question: what moral and ethical frameworks the trio attend to in assessing routes to take in interaction? Hence, the final end that encloses the search for causes is the question of how to be with one another and towards what ends: domains of moral and ethical thought. This end could be articulated as relations of trustiness (McDermott, 1977), we-ness (Vossoughi et al, 2020), ethics of reciprocal care (Noddings, 2012), or collective responsibility (Scardamalia, 2002).

\*\*

Four moves have been made, as I see Ferdinand unsure of whether it is his turn to act. He moves his hand over the table, hovering over it. As he reaches to grab a pawn, Prospero extends his own to intercept it, gently taking ahold of it as Ferdinand retreats his. The Goddess Dignity pricks him as he sucks in his upper lip cheekily embarrassed. It was not his turn.

Analysis: Episteme in Interaction Speaking about the differential distribution of knowledge in participants, Stivers et al. (2011) write about how interactants attend to issues of epistemic access. Ferdinand in extending his hand to make a move, presupposes, claims and elicits access to the normatively organized social distribution of knowledge. The normative here, as we have mentioned earlier are the rules and strategies coalesced around the game. Being but his first time playing, Ferdinand gains access to the rule of turn-taking by eliciting Prospero's interjection through making a wrong move.

This interaction that keeps alive the game despite its unequal epistemic distribution is not devoid of emotions and morality. Emotions are best theorized as socially constructed. (Campbell, 1994; Boler, 1999) Following George Mead, we can state that the self and the other arise in the social act together. (Mead, 1909, p. 169; as cited in McDermott and Varenne, 1998, p. 5) Here, dignity can be seen to be distributed. Prospero in gently taking hold of Ferdinand's hand displays to the analyst that he is the kind of person who treats others with dignity for it reflects who he himself wants to be seen as. (Keane, 2017, p. 110) Ferdinand and Prospero having gained congruence in epistemic access, and dignity only slightly disturbed in the affair, the players can then continue with the co-construction of the game.

\*\*

Miranda takes hold of Jack and Jane who now have a bishop to play with as she spans the chess board with her gaze. Prospero uncurls his fist, his giant face sinking into the open hand, ears strutting out. Ferdinand straightens his head as his hand turns in his pockets – in the waiting is the task of strategizing and posturing. Miranda leans forward to whisper through the air as Ariel sweeps through Prospero's chest, who brings his right hand across the table, takes hold of the castle, and runs through the board six spaces with it and displaces the pawn there settled. Ferdinand takes his pocketed hand out as he says, *No!* Prospero, twisting his trunk takes hold of Ferdinand's castle and vanquishes his own, placing his fallen piece gallantly in front of Ferdinand, as Miranda looks intently. Ferdinand though, unaware that his turn too has been made, fixates on Prospero's initial movement of the castle, complaining *he hadn't taken his piece that far!* I could do it - Prospero tells him.

Analysis: Epistemic primacy and responsibility Stivers et al. (2011, p. 17) further describe how interactants manage issues of social structural alignment and affective affiliation through epistemic primacy and responsibility. Epistemic primacy relates to the asymmetries in interaction that prevail over relative rights to knowledge and relative knowledge. This kind of primacy can be derived through social categories (teacher, parent etc.) or through local interaction roles, for example, who has access to a state of affairs. Epistemic responsibility on the other hand, relates to the responsibilities people have towards knowledge. For example, people hold each other responsible for what is in the common ground. Here, Ferdinand appeals to his right to know that Prospero is infringing on his rights. He has access to the prior knowledge of his own turn, where he 'didn't know the castle could go as far.' He tries to hold Prospero

accountable to what he knows so far about the game. Prospero, on the other hand, uses his role as someone who has played chess more often to assert that he could move seven squares with his castle. This discrepancy needs to be negotiated. Stivers et al. (2011) argue that the issue of managing knowledge in social interaction is always a moral affair.

\*\*

Miranda steadies the boat with her left hand, heaving her chest as she pushes to gain respite from the ocean as it swells and dwells. Prospero is back in his thinking stance as Ferdinand brings forth his hand only to be caught by Prospero's: 'My turn,' says he. Dignity again plays her charms, as he sulks. Miranda twists her torso, offering an open-hand as she tells him he already had his turn. Prospero too, extends his hand pointing to the castle, as Ferdinand gets distracted by a fallen piece. Prospero waits while Ferdinand recomposes himself and points to the move he had done on his behalf. Congruence in epistemic access regained, it is soon Ferdinand's turn – who reaches forward, drives the pawn one space ahead – receives no complain from Prospero, and smiles smugly. He then points to a bishop with his finger pointing at hypothetical places it could go and receives confirmation from Prospero slightly guiding his hand.

Analysis: Knowledge and morality Thus, we see in these snippets that in social interaction, it is not simply whether the two players know chess or not. Rather, it is an affair of bargaining and calibration to arrive at a mutual understanding of the norm-governed situation. Interactants 'attend not only to who knows what, but also who has a right to know what, who knows more about what, and who is responsible for knowing what.' (Stivers et al, 2011, p. 18) Thus, knowledge and morality are intricately linked, and are consequential for the management of social relationships. From Kockelman's (2017) formulation we saw that agency has as an ultimate goal - a moral or ethical end.

*'I can play chess' is not juxtaposed with 'I can't play chess.'* At the local emergence of their play, the fact that Prospero is a budding chess player, while it is Ferdinand's first time playing doesn't seem to hold much import. The trio are ensuring smooth progress of the game and are involved as much in cognitive strategizing as they are in ensuring rights and obligations, managing the construction of turns and engaging in repair activity – negotiating, calibrating and bargaining each turn to engage with the norm governed genre of the chess game. The forms matter as a negotiated frame, where attention is paid to whose claims at what particular point in time are entertained. Knowledge, write Stivers et al., in interaction is 'dynamic, graded and multidimensional' and 'these micro-interactional moral calibrations have critical consequences for our social relations.' (2011, p. 3) Keane (2017, p. 153) argues that social interaction is a rich site to observe and comment on ethical stances that people negotiate as they engage in ongoing activity and it provides crucial elements in the production of morality systems. It is there that ethical concepts are made explicit and can be used as objects of discussion to reflect on ethical and moral questions. Thus, rather than offering a specific set of moral or ethical ends, we propose comic book narratives that describe situations where learners encounter moral negotiations, to coalesce discourse on ethics around them. (Figure 1) The design draws on de Jorio's study of Neapolitan gestures that created stories around tableaux of people interacting with each other. (Kendon, 2004, p. 47)

## Figure

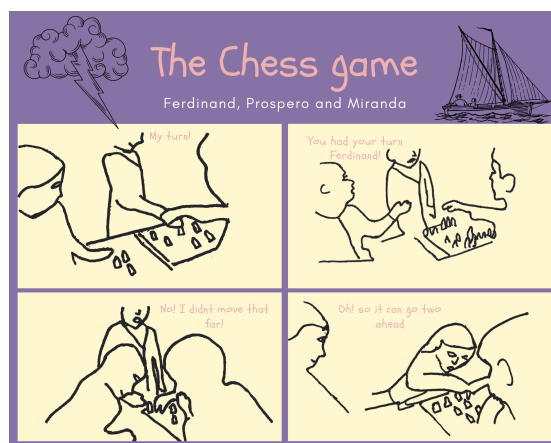


Figure 1: Prospero, Ferdinand and Miranda negotiate turns

\*\*

Miranda raises her hands and whispers: one-two-one; put on my thumbs; one-two-one; coins like crumbs. Ariel swoops down and there appears a guinea each on her extended thumbs. Ferdinand, at this moment simulating with his hands, the moves that he would make to blow holes through Prospero's firmaments, looks to his right and declares: He that will be champion shall win these guineas. With renewed vigor, he lifts up a pawn but lets it go. None shall it conquer, so why make this move – at which point Portia, the teacher who had been observing from afar entered with an unseasonable question: Have you played this game of chess before Ferdinand? For much does rest on your industriousness – the storm engulfs us and makes our insides twirl. Come, I'll show how you can set us at our ease. The pawn she points at, and Ferdinand looks on, can move one up and one down – he looks at her eyes and nods – but it's a tricky game, for at the beginning it can move two spaces. Miranda whispers again – and Ariel brings an inscription of the secrets of the game to aid with the instruction. But Portia continues: the castles are like the pawn but move all the way on. Ferdinand nods confused and Portia turns to Miranda: You've played this game before. Why don't you help Ferdinand? But Ferdinand sets up to leave. That's alright. I win, says Prospero, for I have more pieces. Yes, says Portia, but if for Ferdinand it was the first time playing, the game was a bit unfair. Portia sets to leave as the boat and the storm settles. Wait, says Miranda, let's not forget what to do before we begin. Prospero extends his hand and shakes hers. Yes, says Portia. It's an honorable game.

Analysis: Ethical trails in pedagogic interactions: Let us analyze the pedagogical interaction between Portia and Ferdinand through the lens of Kockelman's (2017) dimensions of distributed agency. The rules, as to how each chess piece would move are constitutive of Aristotle's final cause. They provide the means that would endow the agent with the power to achieve particular ends.

As soon as Portia says it is a tricky game, Miranda presents her a diagram of the chess board with its pieces to aid her talk. Inscriptions and graphic representations become key objects within scientific communities to aid discourse and to represent work. (Goodwin, 1994, p. 611) When Portia sees that Ferdinand is not following, she asks Miranda to guide him through his turns. This would provide more context specific guidance within the give and take of the game. Discussion of appropriate ends did come up. Prospero boasted of having won, while Portia corrected him that being an honorable game, it was unfair to play for winning if one were playing with someone who had never played before. Miranda insisted they shake hands before playing in the spirit of cooperation.

Vossoughi et al. (2020) show how micro interactions contain ethical trails that learners carry and reproduce in future interactions. The snippets of interaction we have seen were suffused with ethical considerations – some implicit and others explicit. One does not goad over another's defeat; one shakes hands at the beginning of a game. However, how might these considerations that are usually explicit in teacher learner interactions, be brought to the fore and reflected over in peer interactions within naturally occurring activity where expertise is likely to be distributed? In this paper, we have offered comic book narratives to bring to fore embodied interactions from children's play and learning activities as points of departure for ethical reflection.

### Conclusion

In this paper, we were interested in the *tacit accomplishment* of a trio colluding to construct a chess game in a kindergarten classroom. One of the players was playing for the first time, while the other was a budding chess player. To collude literally means 'to play together', from the Latin *col-ludere*. (McDermott and Tylbor, 1995, p. 278) Our analysis of the microstrip of interaction revealed that for the children to know or not to know chess was not the question they attended to. Rather, they were involved in bargaining, negotiation and calibration of epistemic responsibility and access to the normative domain of the rule-governed chess game. The fleeting world they built together was primarily attentive to smooth functioning of the chess game and their relations with one another. We proposed a design of comic book style narratives to coalesce dialogue around ethical and moral questions. Finally, we highlighted how epistemic agency was ultimately a question of what kind of people we want to be and how we want to relate to one another, which is consequential to the building of knowledge building community norms.

**Note:** The names and the theme for the narrative have been taken from Shakespeare's 'The Tempest' (2001).

### **References**

- Alexander, E. (1994). "Can you be BLACK and look at this?": Reading the Rodney King video (s). *Public Culture*, 7(1), 77-94.
- Bakhtin, M. (1935). Discourse in the Novel. *Literary theory: An anthology*, 2, 674-685.
- Boler, M. (1999). Feeling power: Emotions and education. *Psychology press*.
- Campbell, S. (1994). Being dismissed: The politics of emotional expression. *Hypatia*, 9(3), 46-65.
- Charles, G. (1994). Professional vision. *American Anthropologist*, 96(3), 606-633.

- Crowley, K., & Jacobs, M. (2002). Building islands of expertise in everyday family activity. *Learning conversations in museums*, 333356.
- Deeks, D. G. (1976). The Prologue of St. John's Gospel. *Biblical Theology Bulletin*, 6(1), 62-78.
- Etymonline. (n.d.). Agency. In etymonline.com. Retrieved June 15, 2020, from <https://www.etymonline.com/search?q=agency>
- Hinchman, E. (2018). Review of Patrick J. Reider, Social Epistemology and Epistemic Agency.
- Hull, G. A., & Greeno, J. G. (2006). Identity and agency in nonschool and school worlds. *Counterpoints*, 249, 77-97.
- Keane, W. (2017). Ethical life: Its natural and social histories. *Princeton University Press*.
- Kendon, A. (2004). Gesture: Visible action as utterance. Cambridge University Press.
- Kockelman, P. (2017). Gnomonic agency. *Distributed agency*, 15-23.
- McDermott, R. (1977). Social relations as contexts for learning in school. *Harvard educational review*, 47(2), 198-213.
- McDermott, R. P., & Tylbor, H. (1995). On the Necessity of Collusion. *The dialogic emergence of culture*, 218.
- McDermott, R., & Raley, J. (2011). Looking closely: Toward a natural history of human ingenuity. *The SAGE handbook of visual research methods*, 372-391.
- McDermott, R., & Varenne, H. (1998). Successful failure: The school America builds.
- McDermott, RP (2015). Sterne, Tristram, Yorick: Tercentenary Essays on Laurence Sterne. Rowman & Littlefield. Chicago.
- Mead, G. H. (1909). Social psychology as counterpart to physiological psychology. *Psychological Bulletin*, 6(12), 401.
- MINH-HA, T. T., & KOBAYASHI, F. (2005). Is Feminism Dead?. *The Digital Film Event*.
- Nasir, N. I. S., & Cooks, J. (2009). Becoming a hurdler: How learning settings afford identities. *Anthropology & Education Quarterly*, 40(1), 41-61.
- Noddings, N. (2012). The caring relation in teaching. *Oxford review of education*, 38(6), 771-781.
- RAÇZASZEK-LEONARDI, J. O. A. N. N. A. (2017). Timescales for Understanding the Agency of Infants and Caregivers. *Distributed Agency*, 161.
- Rancière, J. (2013). The politics of aesthetics. *Bloomsbury Publishing*.
- Rogoff, B. (1990). Apprenticeship in thinking: Cognitive development in social context. Oxford university press.
- Scardamalia, M. (2002). Collective cognitive responsibility for the advancement of knowledge. *Liberal education in a knowledge society*, 97, 67-98.
- Shakespeare, W. (2001). The tempest (Vol. 9). Classic Books Company.
- Stivers, T., Mondada, L., & Steensig, J. (2011). Knowledge, morality and affiliation in social interaction. *The morality of knowledge in conversation*, 3-24.
- Vossoughi, S., Jackson, A., Chen, S., Roldan, W., & Escudé, M. (2020). Embodied Pathways and Ethical Trails: Studying Learning in and through Relational Histories. *Journal of the Learning Sciences*, 1-41.

## Acknowledgments

This paper benefitted from the feedback and wonderful discussions generated by the reviewers and the following people: Professor Marlene Scardamalia, Ayesha Azhar and my CHAT coffee-hour group: Ivana, Antti, Ana and Elena. Finally, I would like to thank the teacher and the kindergarten for welcoming me to their classroom.