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Article

Shifting shores: Transformative learning with the city

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Keywords: encounter, geography education, landscape, rhythm, transformative learning

Highlights:
– Post-human methodologies support geographical experimentation in social science education
– Walking with a virtual (Deleuze) landscape manifests the materiality of the city
– Diverse temporal and spatial rhythms reveal the subject as porous
– *Encounters* with the city create space to think and do things differently
– Post-human approaches to transformative learning challenge detached subjectivities

Purpose: Our research unpacks transformative learning through learning-with the city and the agency of encounters. We exemplify how post-human education methodologies can make students sensitive to rhythms beyond their own, helping them to get to know Earth as more than a backdrop for human activity.

Approach: Walking the historical shoreline of Helsinki challenges rigid notions of a landscape and collapses the past with the present and future, revealing the porousness of the city and self.

Findings: Engagement with landscape remnants makes everyday transformations and entanglements tangible, engendering thinking-with the city.

Research implications: Post-human approaches to transformative learning give valuable insights into how learning is non-linear, non-representational, and takes place through meaningful encounters with the world

Practical implications: Post-human methodologies lay the groundwork for how experiments could be developed by social science educators in different localities, e.g., having students walk along a railway refusing to give way for an ever-growing city.

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1 INTRODUCTION

1.1 Helsinki: What's in a name?

A state, a city, a name, the seeming solidness of these everyday things makes for ridged lines in the social fabric: whispers of nationalism and identity, of self and other, of mattering or not. These kinds of words tend to be not only delimiting spatially – from the very skin of a person (Manning, 2013) to questions about the right to land (Stewart, 2004; Tuck et al., 2014) – but they also come with a temporal wager, either collapsing the past into the present as an unchanged ongoingness, or discursively partitioning the two. But breaking free from the past is impossible, as pointed out by Bruno Latour (1993) in his work on the failure of modernity. We live in the thick of entangled materialities and temporalities (Haraway, 2016, p. 2). Indeed, we are in a limbo between what has been and what is to come, but the hectic rhythms of modernity easily make us spatially and temporally lost (Latour & Weibel, 2020; Rosa, 2013), orientating us ever towards a future anterior that makes of us a means (Povinelli, 2011, p. 168) – a resource, always "for the sake of" structuring logics: the economy, the state, the good, the future. Through the temporalities and rhythms of everyday life – the familiar and repetitive set of practices that usually reinforce a sense of self (Lefebvre, 2004) – it is easy to lead a life that is alienated or desynchronised from Earth. Earth here must not be understood in the planetary sense as a whole and neatly mapped entity, but can be thought, following Latour (2014), in terms of the thin layer between the lower atmosphere and bedrock where life thrives – that is, as a lively zone of metamorphoses and interactions that engages all its inhabitants in a narrative of history, crisis, conflicts and transformations. Indeed, modern Western mechanical and reductionistic understandings of Earth tend to make our complexly plural and lively home into a mere planetary rock, a sum of its parts, and a backdrop for human life (Ferry, 2023; Latour, 2017). However, "We' are not outside observers of the world. Nor are we simply located at particular places in the world; rather, we are part of the world in its ongoing intra-activity" (Barad, 2003, p. 828). The consequences of overseeing these earthly entanglements can be felt: we find ourselves living on a damaged planet and in a time of division among humans and non-humans alike, a time where self-interest prevails and exploitation of others is common.

In this article, we think with a learning experiment conducted with upper secondary school students in Helsinki in the spring of 2024 to explore how post-human geography education can bring forward, for the students, their own overlooked entanglements with Earth. By asking the students to walk along the historical shoreline of the city – of which only traces remain in the current cityscape – we outline a methodological approach aimed at cultivating a sensitivity to the city's virtuality (on virtuality, see Deleuze, 1994, pp. 99–101) by sensing-with and attuning to the various spatial-temporal rhythms produced by the living materiality of the city. Helsinki is a city full of construction, where not only is the skyline constantly evolving, but the shoreline has steadily been pressing further into the sea. However, these developments have happened over years and decades, and even if one could recall the shore, traffic, or neighbourhoods as they used to be, the development of everyday city life seems to convey a sense of necessity and progress, such that one could hardly envision the city any other way. Despite the constant construction and ever-shifting nature of a modern city, the city nevertheless feels static, stable, and ever-present. The city re-orders and subjects time through its spatialising programme: through the power of the symbolic, it remains perpetually present in a peculiar modality, as having always been while also always becoming. So, how do you give a living history to such a place (see Tsing et al., 2017)? When the city that structures us sits in the background of our everyday lives, how do we bring it forward in a meaningful way, a

way that allows the city itself to announce its lived-historical-present without merely historicising it? How do we even encounter the city that not only facilitates our possibilities but also moves through us? Can we, by walking the historical shoreline – or indeed failing to, insofar as the city constantly interjects to lead us, impede us, and otherwise affect our labour – attune to the multifarious tensions, agencies, histories, and imaginaries framing city life? It is precisely the encounters with these entanglements that we seek to foreground in this experiment, as students meandered through a city that pressed in on them, ordered them, and disrupted their everyday rhythms but also made space for interventions, hesitation, and play. Thinking with this experiment, this article brings post-human methodological considerations (e.g., Malone & Young, 2023; Postma, 2020; Pyyry, 2022; Smolander & Pyyry, 2023) to bear on educative practices, intimating a transformative education that acknowledges the porousness and relationality of becoming-subjects, arguing that re-cognition of our entanglements with the landscape around us can engender care, consideration for others, as well as an increased awareness of our place on Earth, but that doing so requires giving space for hesitation, disruptions, and challenges to knowing.

1.2 The call for transformative education

Education is widely recognised as a key factor for societal transformation, and in this era of manifold crises, there has been a growing emphasis on education for sustainable development that challenges the status quo (Common Worlds Research Collective, 2020; International Commission on the Futures of Education, 2021; UNESCO, 2017). The concept of transformative learning was already put forth by Jack Mezirow (2009) in 1978 but has since evolved into a theory that draws from multiple discourses, including constructivism, critical social studies, and humanist theories (Lotz-Sisitka et al., 2015; Rodríguez Aboytes & Barth, 2020). However, there are signs of the theory becoming too dispersed, and "instead of challenging the epistemic boundaries of students' understanding, transformative education is turned into an entertaining repackaging of the material needed for success on standardised tests" (Aiava, 2025; Yacek et al., 2020, p. 532). That is, more of the same: learning aiming for certain subjectivities within competitive capitalist landscapes (Pyyry & Sirviö, 2024; Wolff et al., 2022).

In a way, the tendency to turn towards the familiar – practices, rhythms, knowledges, subjectivities – is inherent to constructivist approaches to learning, from which much of transformative learning theory draws (Mezirow, 2009; Rodríguez Aboytes & Barth, 2020). Transformative learning seeks to challenge harmful "frames of references", i.e., preconceptions of the world affected by culture, language, politics, beliefs, aesthetics, and more, that underlie human action (Mezirow, 2009). Stephen Sterling (2011) adds that "the shape of the global future rests with the reflexivity of human consciousness – the capacity to think critically about why we think what we do – and then to think and act differently" (p. 19). Reflection then seems to be understood as a tool for thinking about underlying assumptions, beliefs, and attitudes of one's worldviews, putting them into play through a linked thinking-action. Connecting education to these "cognitive, affective and conative dimensions" (Mezirow, 2009, p. 103) of the students' lives and approaching learning through goal-oriented strategies that build on prior knowledge have been widely incorporated into education as it makes the learning process towards measurable goals transparent for the learner (Biggs & Tang, 2011). However, the question remains whether these approaches have been so successfully incorporated into transformative learning theory exactly because it measures learning in terms of propositional knowledge, as something epistemologically "verifiable" – through a better word might be "conforming" – and hence valued in today's educational landscape. With our article and the learning

experiment that drives it, we want to challenge this turn to the normative and contribute to critical theories of transformative education (e.g., Pugh et al., 2020; Siirilä et al., 2018; Yacek et al., 2020). To do so, we conceptualise learning, transformation, and subjectivity through a post-human lens, committing to post-humanism's challenge to human exceptionalism by emphasising pedagogical practices that look to multiplicity, emergent becomings, distributed agency, and entangledness (e.g., K. Anderson, 2014; Braidotti, 2013; Rautio, 2013; C. Taylor & Hughes, 2016) – where, as Karen Barad (2007) says, "humans (like other parts of nature) are *of* the world, not *in* the world" (p. 206, italics in original). Here, we look to post-humanism as an imperative. Influenced by feminist, Indigenous and decolonialist works, it calls for educative practices and methodologies that emphasise care, responsibility, and relationality (Haraway, 2016; Hecht & Jadallah, 2023; Tuck et al., 2014).[1] Thus, turning to education, we ask whether transformative approaches that rely on reflection and measurable linear change can challenge the position of the autonomous human subject, a detached, knowledgeable being who tries to make sense of Earth but is not touched by it. Despite access to scientific and theoretical discourses on our connections to climate change, ongoing mass extinctions, or growing inequalities and disruptions in society, these essential understandings seem to get mediated in a way that does not challenge the repetitive rhythms of the everyday but rather transfigures this knowledge into mere universal and inanimate information that does not maintain the criticality and urgency of the situation, nor does it move us (Latour, 2017).

However, while transformative learning theory often seems to deal with transformation from an ongoing and linear perspective that links thought to action (a cumulative transformation), it does also account for sudden learning experiences, i.e., epochal transformations, based on intuition (Mezirow, 2009). These transformative experiences, or disorienting dilemmas, are often thought of as distinct events that can be looked back upon as moments of change in direction (Laros, 2017; Pugh et al., 2020; Yacek et al., 2020). This disorientation of prevalent modes of being has been recognised in transformative learning theory as it brings us into contact with dimensions we previously have been blind to or at least perceived from a narrow perspective. Recent scholarship, however, has also critiqued the narrow conceptualisations of these disorienting dilemmas as operating on constructivist interpretations of an individualised learner premised on a "rationality that is essentially ahistorical and decontextualized" (Clark & Wilson, 1991, p. 90), calling for a transformative learning theory that moves "beyond more conventional confines of awareness raising" (Brown et al., 2019, p. 3), to reveal critical subjectivity as emerging from affective, embodied experience. For example, art-science engagements such as photography, poetry, and drama are often cited as a powerful means for re-territorializing learning in educative and research practices, from information transmission to affect-driven, meaning-making processes that engender attachment and sustained care through open encounters with difference (Pyyry, 2016). Here, affect is understood as pre-personal atmospheric intensities (B. Anderson, 2009) that move through and between bodies,

[1] It is important to acknowledge that many of the concepts and ideas taken up by post-human theorists to challenge dominant, Eurocentric scientific thought and epistemologies from within, and which are often presented as new ideas and disruptive scholarship, in fact, share theoretical horizons and/or are central to Indigenous onto-epistemologies and philosophies (see e.g., Cajete, 2000; Kimmerer, 2013; Tuck et al., 2014). It is also important to note that many contemporary scholars (e.g., DeLine, 2018; Hecht & Jadallah, 2023; Jones & Hoskins, 2016) actively work to redress this by looking to a synthetization of post-human and Indigenous philosophies that remain sensitive and respectful to their politicised origins while maintaining a wary eye to the dangers of tokenism and appropriation. The idea is that approaching the meeting of these legacies and ideations as encounters can be ethically and conceptually generative. It is important for us to note that, while we remain sensitive and supportive of these careful and considered turns to indigenous philosophies, this paper distinguishes itself from these works of post-human theorisation per se, focusing instead on bringing these theorisations to bear on methodologies.

dissolving any neat boundaries of "self" and "other" (Cadman, 2009; Pyyry & Aiava, 2020). When dealing with affectual encounters, the subject is touched by forces that are pre-cognitive before meaning or emotion (Lapworth, 2015). Indeed, rather than culturally and individually claimed emotions, affects point to something relational and shared. This means, according to John Dewsbury et al. (2002), that "[a]ffects are not about you or it, subject or object. They are relations that inspire the world" (p. 439). This implies that political power and agency itself are inherently tied to affect (Massumi, 2015): "[i]ndeed, it is from the circulation of affect in a given encounter that the subject and its capacity for action emerge" (Pyyry & Aiava, 2020, p. 584). Affect involves the capacity to *both* affect *and* be affected. We bring this post-human articulation of the pre-personal nature of affect to transformative learning theory to recognise aspects of learning and transformation that involve sensing the affective atmosphere of a situation and, in doing so, facilitating a learner that can not only recognise that which previously evaded them but can meaningfully attune to that which is revealed – moving from recognisation to re-cognisation. It is in this space of affective encounters with the world that our project, "learning with the shifting shoreline", finds its grounding in the literature of transformative learning theory.

Education research aiming for transformation should create spaces that can make us think, feel, and act differently, where difference is understood as a "shaking of the orders of the world" (Pyyry & Aiava, 2020) and a radical "break in the established knowledge" (Pyyry & Sirviö, 2024, p. 13). Transformations beyond practices of critical reflection mean investigating the transformative power of encounters, demanding "an openness to the uncertain affective potentiality of encounters with 'others' – both human and non-human – from which new ways of 'becoming' might emerge" (Zembylas, 2017, p. 405). Indeed, encounters are not only "a site where existing differences meet", but rather they "make and transform differences" (Førde, 2019, p. 45; Wilson, 2017). Thus, learning is always geographical: It is the generative and relational coming-together of affectual doings, sayings, and becomings. Thus, in thinking about transformative learning, we need not focus on the "changes within the individual" (Mezirow, 2009, p. 95), nor necessarily on extraordinary moments that stand out and can be looked back upon, but on how everyday encounters encompass the possibility for different worlds to emerge (Lapworth, 2015; Pyyry & Aiava, 2020; Wilson, 2017). Indeed, any notion of transformative experiences as "staged encounters" guided toward certain outcomes involves the paradox of how the "transformative potential of an encounter lies in its ability to surprise, rupture, and unsettle, in ways that are necessarily beyond anticipation" (Wilson, 2020, p. 2). This points to a need to recognise learning as something that is always affectual, spatial, ongoing, non-linear, and largely non-measurable (Aiava et al., in press; Pyyry, 2016).

Learning with our geographies points to how action is formed through negotiations and bodily interactions with a landscape (Pyyry, 2022) and indicates that action is not something that takes place after contemplation but that "thought-as-action is of the world, not prior to it" (Hinchliffe, 2010, p. 307). By thinking through the skin, an organ representing a boundary of self but at the same time a surface of contact (Manning, 2013; Wilson, 2020), we put the learner in the mix of things – within the changing landscapes of Helsinki. Contrary to transformations based on notions of coherent and intending subjects, which easily reinforce a sense of detachment, learning with these affectual encounters in the city places the learner firmly in the world (Pyyry, 2017) – reflecting the porousness of subjectivity by blurring socially constructed divides and moving it closer to Latour's (2017) notion of the Earthbound: a reconfiguration of the human as an entangled species continuously transformed through earthly processes in a thick present. We argue that geography offers valuable perspectives to social science education by emphasising how societal processes are always

taking place somewhere. Indeed, "learning with," as a geographical concept, fosters an integrated and worldly approach to learning, one that is urgently needed when grappling with the challenges of the Anthropocene and questioning strict divides between the social and the environmental.[2]

Before a more thorough introduction to our learning experiment with Helsinki, we want to stress that our goal with this article is not comparative, but we want to emphasise how post-human methodologies speak to transformative learning in ways that re-imagine transformation and learning beyond an individual affair. Approaching transformative learning from the perspectives of affectual encounters and post-human geography education provides insights into (1) how learning takes place with the world, (2) how encounters have the potential to shift everyday thinking and doing, creating breaks in the insistent performativity of modern life, and (3) how post-human educational approaches can challenge any notions of rigid and divisive boundaries of modern subjectivity and move the ego towards an understanding of our co-being in the world. With our article and learning experiment, we are thus widening the framework for how social science educators can approach transformative education as learning with the changing landscapes of the Anthropocene.

2 SHIFTING SHORES: WALKING WITH THE LANDSCAPES OF HELSINKI

The project that is presented in this paper took place as part of an upper secondary school course that aimed to deepen the students' understanding of Finnish geographies. Traditionally, the various regions of Finland are presented through the idea of landscapes, which is itself divided between cultural and natural landscapes. Our approach to designing the experiment began by considering what it would mean to dismantle this artificial but effective division – that is, how can we bridge the gap between social science education and education in natural sciences to meaningfully show their inextricable linkage while emphasising emergent and porous subjectivities. This meant challenging the conventional image of the geographer as a distant observer who sees, analyses and categorises the world as if viewed through a frame in an effort to situate them instead as always already *in* the world and intimately involved with it.

2.1 A geographical learning experiment with the historical shoreline

It would surprise few to learn that the quickly developing city of Helsinki has been expanding steadily into the sea and that the majority of this expansion has been purposeful: the west harbour, Kalasatama, since abandoned for redevelopment; areas around the Suvilahti power plant, which are now being transformed into expensive housing estates; the Katajanokka harbour; and the Arabia shoreline, developed deep into Vahankaupunginselkä. Helsinki is indeed a landscape that has been shaped and mutilated by human activity, yet the city often remains situated in the background as the substrate that makes everyday life possible – a taken-for-granted landscape and baseline that we seldom question (see Tsing et al., 2017, p. G6).

[2] We note that the field of geography education in Finland has largely been approached as part of the natural sciences (for example, in the matriculation examinations it is located under natural sciences). This is reinforced by the fact that geography is very often taught by teachers with a biology background (Ruth & Hanell, 2023). There is also a longstanding divide between human geography and physical geography, instituted and reinforced in divided study tracks and departmental subdivisions at the university level. Thus, it is our hope that by situating this work within the Finnish context, we might contribute to broadening the scope of geographical education discourse within Finland while also exploring how geographical perspectives can likewise add to social science education.

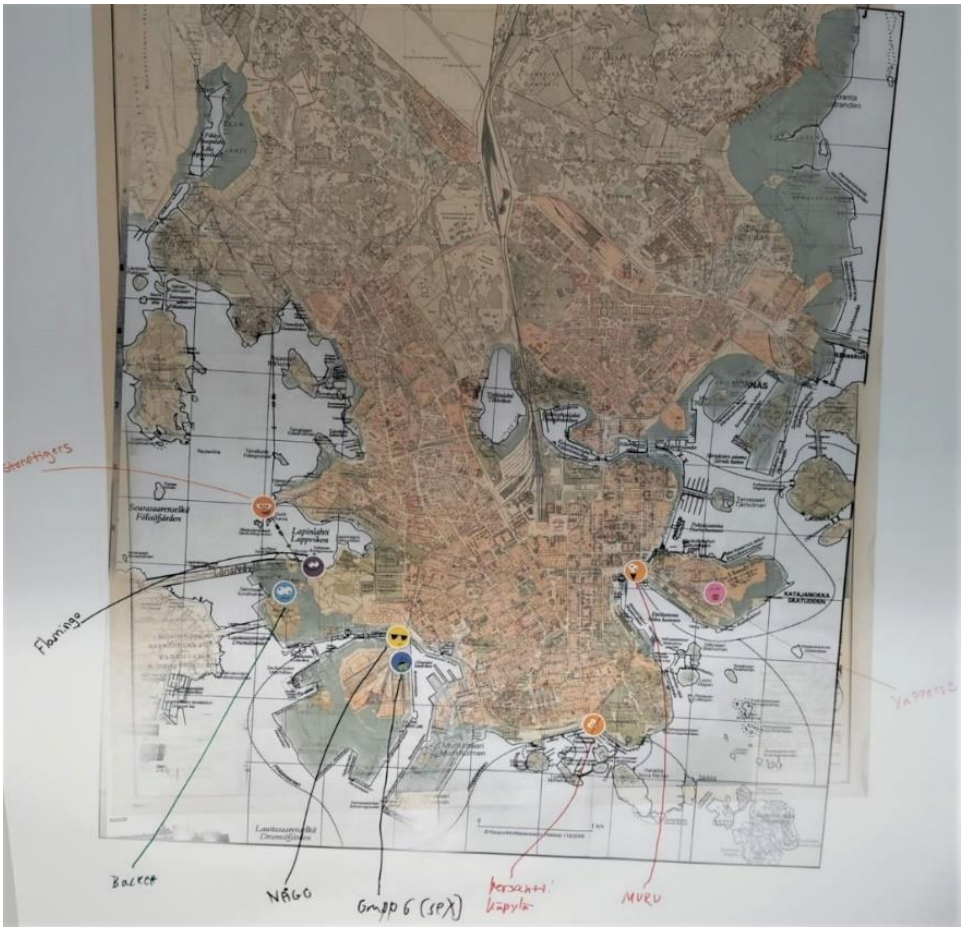
Through our experiment of learning-with the expanding shore of the city, we sought to make the familiarity of the city landscape unfamiliar in order to afford seeing the world anew (Pyyry, 2016). By asking the students to walk along the historical shoreline of Helsinki, the goal was to make space for the city to present past ideals and drives and summon considerations of the future. Lines are movements, like the activities of walking, writing, and mapping, leaving traces on the surfaces on which they land (Ingold, 2007). Drawing embodied attention to these kinds of residuals in the landscape can help students experience how different rhythms melt together and clash, assisting their "understanding of urban social space as a rhythmical structured entity" (Wunderlich, 2008, p. 130). Contrary to modern linear thoughts regarding the passage of time, and indeed, also of learning, the world is always lived non-linearly, as Tim Ingold (2007, p. 2) elaborates:

> Life is lived, I reasoned, along paths, not just in places, and paths are lines of a sort. It is along paths, too, that people grow into a knowledge of the world around them and describe this world in the stories they tell.

By transforming Helsinki into something touchable and active, in contrast to a static landscape, always available for analysis from a safe distance, we wanted the experiment to make space for learning with the city and feeling what it means to inhabit a space, making the multiple stories of our everyday landscapes more tangible; the city summoned, whole before us, from its ontological state as background structure.

The project started by inviting the students to compare an unidentified historical map of Helsinki to a recognisably contemporary map of the city and try to date the old map. The form of a map is continuously engaging the reader in the practice of mapping, and thus, it comes with various meanings and reterritorialisations (Kitchin & Dodge, 2007). We saw this processual nature of mapping in how eagerly the students were highlighting their associations to the maps, thinking, for example, what kind of landmarks still exist today or what is new in the city. Thinking of various bridges and places, it was finally the language used in the map (Swedish) that indicated the map's age most accurately, stemming from a time when Swedish was the language frequently used in official records and many place names were yet to be translated into Finnish. After the exercise of temporally situating the map at the birth of the nation – Finland gained its independence in 1917 – it was time to make the map for navigating the shoreline: The students were asked to cut out the 1917 map, carefully excising the city along the shorelines, and then glue it on top of the current map of Helsinki (Figure 1). This concrete task of mapping was different from the usual routines in the classroom, and for some, it was the first time they had used scissors in high school. Making the maps also made space to get more familiar with the curves and changes that have happened in the city. Although we had informed the students about the research project, the purpose of the map was, at this point, still unarticulated, and we noticed some excitement when we announced that during the next lesson, we would head out to the city, walking along the newly excavated shoreline now rendered visible through their mapping. The groups were asked to consider what route they would walk and to choose a starting point for their venture. The excitement culminated in a rush to a poster-sized printout of the overlapping maps, where they placed a sticker that represented their group's starting point for their shoreline walk at the following lesson.

Figure 1. The overlapping maps of Helsinki, dating 1917 and 2017, revealing the historical shoreline in the current cityscape and the starting points for the walks



Source: Map by Raine Aiava.

A sunny and warm weekend behind, the students arrived at the cold and windy Ruoholahti metro station, from whence their walks would commence. During the instruction recap, we noticed several students tugging and stretching their sleeves down over their hands and huddling together for warmth. Meanwhile, one student was distracted by a shop marketing cannabis seed – a curiosity, as this plant is markedly illegal to grow in Finland. Clearly, the city was already taking part in our project in more ways than one. Something we were hopeful would only escalate as they pulled out their maps and calculated the routes they would take to get to their starting locations. In contrast to following a map with a pre-set destination, the shoreline maps aimed to disorient the students through their dysfunctionality in navigating the modern city, making the students collide with buildings, streets, construction, or other more subtle invitations to acknowledge the city. The ghostly shores, reaching forward from the year of Finland's birth, helped with making associations beyond the present. Importantly, however, the students were not given any "historical" information or interpretive data. This worked to resist flattening the city into quantifiable and processable data or some sort of knowable entity. By providing a clear path for their walk with the city, we wanted to provide the group with sufficiently narrow and clear instructions but, at the same time, allow the city to take part in forming the emerging landscape. We also asked the students to take photographs during their walks. Through photographing, it is possible to engage with the world beyond the lens and to register and take note of things that are not easily described in words (Pyyry et al., 2021) – like a fleeting moment of sadness for a time gone, presently felt although never actually

lived. 30-minute walks were made in pairs, and at the end of the walk, the students were tasked with sending us three pictures they found most intriguing or descriptive of their experience, accompanied by a sentence or two for each. The pictures were printed out for discussion the next day.

We started the next class by having the students arrange the desks so that they formed a large table with chairs circling the big map situated in the centre. First, not knowing where to start, some sat awkwardly, waiting for their turn to say something, but soon, the atmosphere got freer as the students were quite eager to discuss different aspects of the city, building on each other's comments. The photographs taken by the students were collaborators in the discussions, prompting commentary, giggles, and recognition. Topics discussed were both from the walk but also, increasingly, prior experiences with the city. Soon, discussions turned not just to the city but to the life the city makes possible: to questions of politics, like rights to the city or the planning out of spaces for hanging out, to musings about historical lifestyles or traces of past wars. In the end, they were given about ten minutes to write short reflections on what stayed with them, either from the walk, the discussion, or both. These notes, along with the photographs and comments from the walk and research notes taken by the researchers during and after each lesson, form the material we discuss in this article. Rather than viewing these materials as fully representative of the project, we regard them as active participants in shaping our understanding of the connection between theory and practice, and thus beyond methods of analysis.

The research project was followed up with a lecture on different ideas on landscapes and how they are part of forming new spaces, identities, and ways of being. The purpose was to further challenge ideas of a landscape as a scene to be observed from a distance and to repay a visit to the living landscapes encountered during the shoreline walks. The lecture also introduced landscape art to the students, as the next day, we were going to visit the art museum Ateneum to look at and think-with landscape paintings by Finnish artist Eero Järnefelt. The walk around the museum was not guided by the researcher nor the teacher, but we asked the students to think about what idea of landscape is mediated through the paintings, and if the landscape included humans, what their role is in relation to the landscape. After the research project, some of the students went on a trip with their geography teacher to walk the elevated landscapes of Koli, a national park made famous by many Finnish painters during the 19th and 20th centuries, Järnefelt among them.

3 TRANSFORMATIVE LEARNING WITH THE CITY

3.1 Engendering thinking with the city

"Instead of the shimmering sea, there was only the reflective surfaces of cars and dozens, if not hundreds, of residences in the way", one student remarked with a sense of sadness of an imagined scenery gone, of human activity transforming landscapes into something unrecognisable, unwanted (Figure 2). The walk with the historical shoreline disrupted the students' perceptions of the city; as another student noted, "Before this exercise, I had never thought about the city expanding into the sea". A landscape, like a city, is easily thought of as something visualised out there (Gallagher et al., 2017); in the words of a student: "There, out the window". A landscape was, for most students, undoubtedly not in the classroom but a vista or scenery reaching far enough while maintaining some recognisable elements. And even if it was acceptable for a landscape to picture various human activities, the overall idea of a landscape seemed to involve a sense of distance, a descriptive backdrop – "a thing you can take a picture of" – a framing. Understanding landscapes as something observed easily draws a line between the observer and the world (Wylie, 2009), and while the

yearly construction sites were starting to pop up in the summery cityscape of Helsinki, the city was, through this conceptualisation, made into a stagnated backdrop for human everyday life.

Figure 2. Newly built residents obstruct the historical view of the sea

Source: Student's picture.

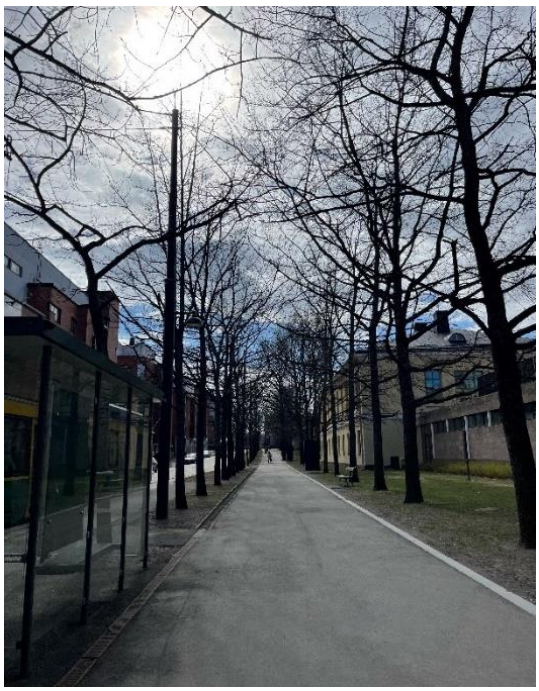
Walking along remnants in the landscape, however, made the city somehow alive, as one student told us about their journey: "The city is trying to stop us from doing this", both physically (going through buildings and various obstacles) and legally (entering construction areas). Indeed, the task of walking along the old shoreline with the dysfunctional maps broke the normative rhythms of modernity. It opened the everyday in a way that made the students focus on the mundane things that systematically get overlooked (Horton & Kraftl, 2006). The stagnated city was transformed into the living (and dying) landscapes of the Anthropocene, a monstrosity born through human activity steadily sprawling and grabbing space from the sea. But "we do not want things to move around" – a student opposed to the ever-growing city – yet things do, and the view to the sea gets obstructed. By walking with the city, instead of passing through its preconfigured veins of traffic, breaks in the everyday repetitive rhythms of engaging with the city created opportunities for different ways of seeing and being with the city (Deleuze, 1994; Lefebvre, 2004).

The experiment of walking along the old shoreline took away the certainty of linear and ontic approaches to learning by making the city collide with the students, raising new questions: "When walking in the city, walking along the old shoreline, you noticed and thought of completely different things than what you normally would". Another student, accompanying this thought, added, "We rarely look around when we walk somewhere. It's a completely different thing to walk around without a phone and look around. To just take in everything you see, all the details you would otherwise not notice". Paying attention to the vitality of every day, as opposed to instrumental reasoning, places the unpredictability of the world central stage (Zembylas, 2017). The walk made "the familiar unfamiliar" (Pyyry & Aiava, 2020). This sense of being lost, moments of hesitation when current frames fail to work, is central to a theory of learning-with, as it can take thought (and action) to unexplored and unexpected landscapes (Pyyry, 2022). A new way of looking and being with the city made previously hidden dimensions and details appear by engendering a sensitivity towards rhythms, visuals, and sounds that eschew the instrumentality and 'for the sake of' prerogatives driven by neoliberal framings (Pyyry & Sirviö, 2024). This sensitivity is important as it widens

the consideration of one's place in the world by raising new questions and highlighting the complexity of relations in it, as Heila Lotz-Sisitka et al. (2015, p. 76; see also Aiava et al., in press) notes: "learning that involves the phenomenological experience of the learner provides new opportunities for inquiry that does not separate object and subject or place and person".

It can, however, be hard to stay with the knowledge this kind of project produces or even recognise it in the first place, as one student wrote after the discussion in class: "I didn't realise my thoughts had meaning until we discussed them". We are so used to certain ideas of what matters that it becomes hard to recognise things that elude representations often sought after in school, like history, facts, and years. While such propositional knowledge is also important, we argue that withholding this kind of information about the city beforehand made room to encounter the city in ways that current institutional frames in education easily foreclose. We wanted the engagement with the maps and the city to move the students beyond searching for ontic knowledge, i.e., knowledge that is measurable, objective, capturable, stackable and unquestionable (see Kitchin & Dodge, 2007, p. 333), and become open to the embodied knowledge created by encountering the city. For example, one of the pictures sent to us was accompanied by the text: "Here it felt like walking in a tunnel, as the trees surrounded the road on both sides" (Figure 3). The student who took this picture was a bit shy about elaborating on this thought, so we continued discussing another picture instead. However, one of the researchers exchanged a few words with the student and discovered a sympathetic accord: these kinds of spaces produce a certain atmosphere – one that is hard to describe – but that contributes to the city in a meaningful way. These notions indicate that the walk helped the students become sensitive to affectual atmospheres and that new thoughts were raised during the walk. That said, lifting these things for discussion can help bring non-representative modes of learning closer to the familiarity of a school setting, which in turn can help students recognise and stay with their thoughts in the future without requiring affirmation from the outside.

Figure 3. Avenue of trees engaging the student to interact with the city



Source: Student's picture.

Thinking about transformative learning through our project, we probe and challenge the transformative potential of constructivist approaches to learning, as searching for ready-made answers (information pointed at) easily forecloses new ways to engage with Earth. As Elizabeth Ferry (2023, p. 141) points out, "the inorganic world encompasses a realm of the other that cannot ever be fully known by humans". To deal with this unknowableness is important in transformative learning because if the world is understood from a reductive stance, i.e., that everything that is already physically exists, we are easily closing the possibility for futures not yet thought to emerge (Wilson, 2020, p. 4). It supports a way of knowing that excludes the option of becoming otherwise. This is not to say that remembering scientific facts and "learning about" the condition of the planet does not have a justifiable place within education; this is, of course, essential information to communicate. However, with our experiment, we want to show how to extend this information through a learning not confined to pre-set learning outcomes, but which rather holds open different bodily engagements with the world and allows different possibilities to emerge (Zembylas, 2017). This virtuality is not about the otherworldly, but rather that in each existing thing or constellation there are virtual aspects that could lead to unexpected actualisations (Deleuze, 1994). The city, with its multiple material and temporal dimensions, spoke to the students in ways that could not be anticipated. The embodied sensing-with the city thus made space for knowing that did not rely on detached pieces of facts about Earth as a descriptive landscape nor as a planet understood as a whole (see critique by Latour, 2017, p. 97), but rather it made a new city emerge, and with it, new relations to space, time, knowledge, and geography.

3.2 Everyday rhythms and the porousness of self

Everyday rhythms can be persistent, and through the continuous repetition of familiar practices, it is easy to form a sense of the world that seems static or unremarkable (Horton & Kraftl, 2006; Lefebvre, 2004). As one student put it: "Often, we are too inside our own bubble to see things". This sense of "bubble" or "boundary" affects perceptions of the world and how we understand ourselves in it. Post-humanist approaches to transformative learning can challenge these subjectivities of detachment by probing the categorial understanding of "oneself" (Pulkki et al., 2021). This is something we desperately need today. Not only do we see an increased polarisation in cities and among humans (Førde, 2019), but a disconnection with Earth at large (Latour, 2017). While the everyday is made up of certain persistent rhythms and thinking through these "boundaries" easily builds exclusive worlds, our experiment shows that these are not pre-determined and static, nor are they unnegotiable. Indeed, no one acts alone but is born repeatedly through various changing assemblages (Haraway, 2015). As Ingold (2007, p. 5) notes: "After all, what is a thing, or indeed a person, if not a tying together of the lines – the paths of growth and movement – of all the many constituents gathered there?".

Noticing and adapting to rhythms that do not comply with the confines of the everyday raise questions about what kind of subjectivities are enforced within (modern/capitalist) landscapes (Pyyry & Sirviö, 2024; Smolander, 2024). One of the students told us that they felt like a creep walking the city and that they thought people were staring when walking along the shoreline and taking pictures of unusual motifs. Making space for encountering the city anew involved an increased sensitivity towards what is commonly done, thus emphasising odd ways of being, resulting in "feeling like a creep". This discomfort arises from challenging normal modes of being. Indeed, it "arises when something is unsettled: when boundaries are troubled, or transgressions are enacted" (Wilson, 2020, p. 7). Taking note of the various rhythms in the city, rhythms beyond, before, and after

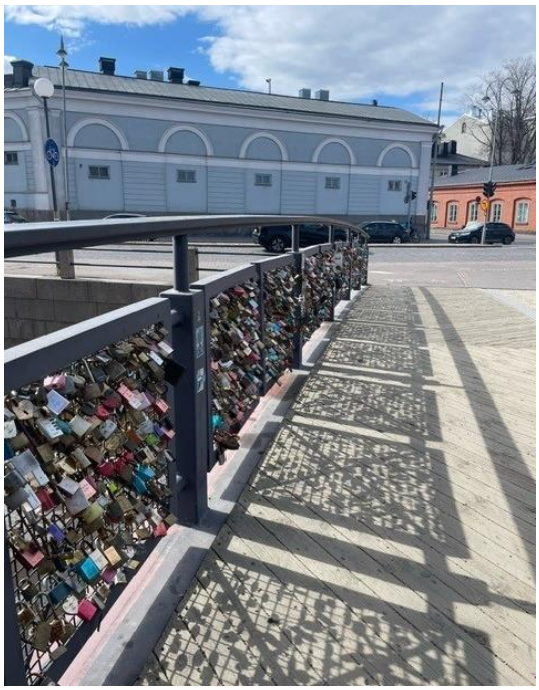
oneself, we thus sought to question anthropocentric subjectivity (also Gallagher et al., 2017) and highlight a relational understanding of the ever-emerging subject: a becoming-with the city.

In the rhythmic fluidness of life lies possibilities for change. This contrasts starkly with transformative learning that grounds itself in a sense of self: a human that holds the capacity to carve the path for transformation (Yacek et al., 2020, p. 529) through its own beliefs, expectations, experiences, and emotions (Mezirow, 2009). These instrumental and human-centric approaches to learning, familiar to the students, easily separate the learner from the world (Common Worlds Research Collective, 2020). For example, the walk made some of the students think about how the manmade structures of the city had destroyed natural landscapes. These structures and buildings were not thought to be "the purpose of Earth" – the landscape is "manipulated". However, questioning how this thinking relates to thinking of the place of humans on Earth and the divide between culture and nature, the student concluded that whether the city structures could be considered natural depends on how you perceive humans. While transformative learning theory has engaged with the question of what it means to be human in the age of the Anthropocene, this idea of two separate entities, "the subject" and "the world", seems to hold a strong grip: "The renewal of the metanarrative is about expanding the scope of human concern to include the whole reality surrounding them" (Siirilä et al., 2018, p. 42, authors' translation). However, as Latour (2018) says, decentering the human or thinking of the subject's place within a surrounding nature can be problematic as these kinds of boundaries do not exist – there is no circle nor a centre. Therefore, instead of transformative learning that approaches change through reflective thinking and transformations within the mind, seeking a deeper understanding of how to trigger change in individuals (see Yacek et al., 2020, p. 536), we call for projects to speak of transformations happening through affectual encounters with Earth, making the subject (as in self) less important than the continuous reconfiguration of subjectivity. As Derek McCormack (2010, p. 217) writes, "The experimental tissue of the world participates in us before we ever have time to affirm its presence through representational modes of thought". Action and thought are formed together; one does not precede the other.

While the students did not clearly state how this project dealt with subjectivity (which was not expected of them), they noticed how the walk and discussion made the city into an entangled mess of various histories, politics, and materialities – revealing the porousness of the world, the city, and the subject. A bridge with padlocks (Figure 4), carved with dates and names, was noted by two groups: "The locks on the bridge caught my attention as they were so many and each had their own history", one student said, while another agreed that "each lock presents two". Encountering the city of unknowable others can be important as it lifts the different rhythms of the city to centre stage, a recognition of the plethora of stories formed within the city. As one student stated: "The discussions were interesting, and it was interesting how everyone had the same task but had so different experiences", lifting the multifarious city into consideration (see also Hinchliffe, 2010). Especially during the discussion, the project was freely combined with other aspects of city life, including discussions on hostile architecture and how different people are welcome to hang out at different places. The project also raised awareness and appreciation of places beyond those encountered during the walk; for example, after the discussion, one student wrote, "I think it's important for cities to have areas where the people who live in the city can freely be creative and organise events with a low threshold, e.g., Suvilahti", showing how different temporalities and spatialities mixed. Although connections to the students' own "individual" experiences with the city were made visible throughout the project, seen for example in statements like "Helsinki gives good vibes when you have a lot of memories", we can also see that the city is active, it "gives" and affects

the subject. Disorienting the students from their normal ways of navigating the city challenged them to consider a city beyond a backdrop, hence unsettling the subject's uniqueness and independence.

Figure 4. The bridge with lovelocks made the multiplicity of stories visible



Source: Student's picture.

The experiences of "others" established a source for difference to emerge (Pyyry & Aiava, 2020) and a recognition of how various entanglements make up the city. Becoming sensitive to the multiple rhythms that exist within the everyday landscapes is important as encountering differences "may play a role in shaping the politics of the city, and who gets to be a part of that story" (Førde, 2019, p. 51). A pair of students noted how the walk made them think about life during 1917, who built the city and what their thoughts were when doing so. The ghostly landscapes also made them question whether they would have survived back then without the luxuries of today: "What would we do? Would we survive?". These words do not seem to describe a past gone, but considerations of the future and different possibilities for how life could be organised. While this questioning of one's own, often privileged, position does not necessarily lead to change (Wilson, 2020), learning-with the city carved space for imagining and reconsidering one's position within the entanglements of Earth.

4 CONCLUSIONS: TRANSFORMATIVE LEARNING WITH

In this paper, we began with the need to reassess the concept of learning as something that always takes place through encounters with the world and tried to argue that this understanding is fundamental to transformative education practices. While traditional learning, focused on measurable and goal-oriented outcomes, can provide new insights about the world, this knowledge often remains distant and predictable, failing to produce any radical breaks in existing interpretations of the world – as a mere resource, an object of knowledge, or a thing to be mastered. A theory of learning-with calls for transformative approaches that move away from the certainty of knowing

– from a propositional knowledge that maps out the world in advance – to a hesitation in unknowing that embraces the unpredictability involved in encounters with difference. These encounters offer the potential for significant transformation by disrupting calculative approaches and engaging with the messy, interconnected rhizomes stretching through time and space.

To explore how learning-with can be foregrounded in educative practices, we outline and think-with a project that facilitated unplanned encounters with the often-overlooked landscapes along the historical shoreline of Helsinki. The methodological approach of this practice – including the staging and treatment of the walks, photographs, and discussions as encounters themselves (as always more than mere data or representations to be analysed) – theorised learning-with as an affectual transformative power that acknowledges our capacity to be meaningfully affected by these changing landscapes. By creating space for unknowing-in-being in everyday life, our project aimed not only to demonstrate how incremental breaks in everyday rhythms invite change but also to enact such ruptures in this fast-paced, commodity-driven world. By encouraging students to explore the city beyond normative school models, the relational, affective, and intuitive learning involved in walking the old shoreline marked a shift in how the world was presented to the students. It raised new questions about the places we depend on, challenged man-made borders and the power of place names, and even reached beyond their own skin. Emphasising the emerging subject as geographical moved the students towards a relational understanding of the city: that 'we are the city'.

We argue that thinking transformative learning through the lens of learning-with – that is, bringing geographical perspectives to education practices – can further develop a post-human approach to social science curricula by emphasising how the social can never be separated from the environmental. Towards this end, it is our hope that the experimental project presented here may be encountered as just that, experimental. The emphasis on the contingent, in-process, and open nature of this practice aims to displace prerogatives of knowledge production and propositional thinking that may foreclose the disruptive encounters that encourage transformative learning. Thus, one of the limitations of this kind of experiment may be instrumentally fitting it into pre-existing curricula, as this could undermine its very value. Despite this difficulty, we re-assert the need to bring post-human methodologies to bear on education practices and pedagogies. Although our project of walking the historical shoreline was tailored to fit Helsinki, its methodologies can be applied to various places. Following the traces and lines of porous subjectivities, entangled webs of materialities, and diverse rhythms in landscapes that refuse to give way to an ever-growing city, these projects could answer Latour's (2017) summons to becoming Earthbound, emphasising a being transforming and transformed by Earth.

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