Noncompliant Learning: Diffracting SpaceTimes, Intra-active Ropes, and a Museum’s Roping into the City through a Curious Child


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FEATURE  This article comprises ten videos, which can be viewed here.

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1 Constitutive Intra-action

One May afternoon, in front of the Norwegian Fisheries Museum in Bergen, during an activity of ropemaking for families, Ida's hair becomes intertwined with the twisting hemp threads. For a short moment, it is impossible to distinguish between the girl and the rope – between the human and nonhuman elements (see Video 1).

This temporary inseparability effectively illustrates the posthuman perspective that we challenge ourselves to adopt when attempting to understand more about a child’s learning (intra)activity with a museum, and the ways a museum can come to matter in a city. This means that this article builds on research that interprets children's activities in the museum through a posthuman lens (Birch, 2019; Hackett, 2014, 2016; Hackett & Somerville, 2017; Hackett et al., 2018; MacRae et al., 2018), and contributes to descriptions of the posthuman
child (Murris, 2016), learning as noncompliant (Ellsworth, 2005), and noncompliant ways in which the museum constitutes an active presence in its local context (Janes & Sandell, 2019).

What is fascinating about the “girl-rope inseparability” is that it is constitutive for both the human and nonhuman participating in the interaction. Such an interaction is what Barad (2007) calls an *intra-action*. An intra-action through which every element involved becomes. In this article, we engage with the Baradian concepts to understand what (kind of noncompliant learning) happened during and after a ropemaking activity filmed at the Norwegian Fisheries Museum in Bergen. Precisely, we use the notions of *intra-action* and *diffraction* as lenses through which to reflect on noncompliant learning as it is constituted in the entanglements, in which the involved more-than-humans are roped together(apart). By drawing attention to the happening of noncompliant learning in these intra-actions, we show the noncompliant ways in which the museum intra-acts with and thus comes to matter in the city (of Bergen). The intra-action, therefore, enables multiple diffractions of the more-than-human entanglements as inseparable co-dependencies (Ellsworth 2005; Hackett et al., 2020; Murris 2016; Massumi 2002; MacRae et al., 2018) with/in through the city.

What is known is that the posthuman/new-materialistic (Barad, 2007) perspective, escapes “seeing the human subject as the sole locus of agency” (MacRae et al., 2018, p. 507), which enables a deeper/different understanding of the materials, and objects in a museum, the things that for children are often what makes it special (Hackett et al., 2020). This means that, on the
one hand, the child is decentred and considered entangled in the more-than-human world, where “the more-than-human world (mud, drums, floors, water, etc.) [is] coordinating the actions of the children” (Hackett & Somerville, 2017, p. 387). On the other hand, the posthuman lens allows to come closer to the child’s experience as inseparably entangled with the surroundings, where moving through and intra-acting with materiality constitutes meaning, even if this intra-acting could seem meaningless at first glance. As it has been stated, “It is difficult to describe a lot of what a child does in a museum (...). Why did you run up and down that corridor? Why are you so very attached to that small plastic magnifying glass?” (MacRae et al., 2018, p. 509).

Other aspects that are known refer to the museum pedagogy that shifted from the transmission-absorption learning model (Hein, 1998) towards diverse ways of experiencing and meaning-making (Duensing, 2013). However, all these interactive experiences still aim to transmit a particular, external, “already-made knowledge” (Ellsworth, 2005) that exists independently of the learner. Museums seek to conserve and convey history in terms of so-called material heritage and through what is referred to as immaterial heritage (although this heritage comes to matter only through materiality) in the form of told stories, of particular practices and skills, such as the historical craftsmanship of ropemaking. Thus, knowledge is grasped, passed on, and unquestioningly memorised or practiced until it becomes something that the learner possesses. Ellsworth criticises such learning as “compliant”, forcing the learner into pre-determined orbits of thought, and leading to re-discovery of pre-defined, already existing knowledge.

Moreover, in realising their educational mission, museums are often accused of focusing too much on “the collection, preservation and display of objects [that] often competes with education as the focus of museums’ institutional agenda” (Wertsch, 2002, p. 123). Inspired by new materialism, we present how, through the strong focus on materiality, museums can open up for noncompliant learning. By engaging with the children intra-acting and diffracting with the rope, we try to embrace the noncompliant learning that opens up possibilities to co-create counter-knowledge. A counter-knowledge that subverts the space of arrested thought and allows the museum to diffract into the city.

2 Surprising Separabilities: Diffraction

What is fascinating about a museum as a particular place in a city is that it invites another SpaceTime. It consciously separates itself from the present;
it diffracts from it. At a museum, “the ‘past’ and the ‘future’ are iteratively reworked and enfolded through the iterative practices of spacemattering” (Barad, 2010, p. 260–261). Through walking into all the authentic showpieces, materials, smells from diverse SpaceTimes, we (re)constitute entanglements from other times, and allow the past to come. One possible element (re)constituting such an entanglement could be an (intra)activity anchored in another SpaceTime. At the fisheries museum, this (intra)activity was ropemaking, through which the diffraction to another SpaceTime occurred.

3 Roping at the Museum: Noncompliant Curiosities Enfolding from Interfering SpaceTimes

Ropemaking has historically been an important skill in coastal areas, and it is one that has immensely impacted the fisheries and the city. In Bergen, and specifically in the neighbourhood of Sandviken, where the fisheries museum is placed, ropemaking was a significant industry during the 18th and 19th centuries (Haaland, 2004, p. 312). The museum placed there preserves and activates the past of the neighbourhood. Inspired by Barad (2007), one can say that the museum materialises the “past, present and future, not in a relation of linear unfolding, but threaded through one another in a nonlinear enfolding of spacetimemattering” (Barad, 2010, p. 244). The museum lives the time as dispersed and diffracted (Barad, 2010, p. 244) and children entering it can also diffract from and disrupt the linear sequence of time. Hackett and Somerville (2017) associate this disruption with “the collapsing of space and time, past and present” (p. 386), while our reading of Barad (2007) turns us towards the category of diffraction as embracing what is/was happening in our empirical material.

Diffraction is a physical phenomenon that occurs when water, light, or sound waves meet an obstacle, like when stones dropped into the water provoke a spread of waterings/ripples, bending waves that interfere with and overlap each other (Barad, 2007). That May afternoon, the rope diffracts in diverse SpaceTimes and (re)constitutes diverse entanglements. The museum staff, entangled with the craftsmanship of ropemaking, are diffracted to the SpaceTime of which such activity is a part [SpaceTime coordinates: Sandviken 19th century], and where they constitute each other as ropemakers through the intra-action with the rope. The children, however, do not follow the diffraction to the 19th century. They are not a part of it, as they are only visiting when invited for precise (intra-)acts that are not enough to keep them in the past (see Video 2). The ropemaking separates the children from the museum staff.
However it is not an “absolute separation”, but rather a “cut together-apart (one move)” (Barad 2014, p. 168), allowing the children to cross the SpaceTimes.

The museum staff constitutes themselves in the past through intra-acting with the hemp threads that are stretched, interwoven with each other, twisted, and polished according to 19th century principles. The children are involved in the activity when it is considered appropriate and safe. The children try cutting the fibres or twisting the rope only when asked. After completing the given tasks, they diffract away from the “past” SpaceTime, to the “present” one that allows them to approach the rope and constitute themselves through play and the use of toys.

The SpaceTime of the 21st century marks the point at which a majority of countries have ratified the UN Convention of the Rights of the Child (UN, 1989), and where educational institutions in Norway are organised on the children’s own terms (UDIR 2017), with respect for the intrinsic value of childhood and play. This is a SpaceTime where respect for childhood as a phenomenon is reflected even in the spaces that originally were not intended for children, like drawing corners in waiting rooms at clinics/offices and playgrounds in diverse urban spaces. As children of this SpaceTime, they are approaching the museal one from the (noncompliant) standpoint of one’s own. The play and toys allow them to be a part of the ropemaking and diffract away. Balancing between the interfering SpaceTimes, the children enfold noncompliant questions and “new areas of curiosity” (Wertsch, 2002, p. 123), which are inaccessible from other standpoints (see Video 3).
Ida’s “stick-horse” encourages a playful negotiation with the SpaceTime brought forth by the museum. This negotiation is strengthened when the threads are twisted, as the boy, Leon Brage, who is invited to help, acts as if he was grilling fish. The twisting of the rope [SpaceTime coordinates: Sandviken, 19th century] is then playfully twisted into another activity: grilling [SpaceTime coordinates: Sandviken, 21st century].

Being in another SpaceTime than the staff allows Ida to playfully approach the rope and the camera, and this results in the unexpected “togetherness” of
the child’s hair and the rope. This togetherness may also be seen as a significant episode whereby the two SpaceTimes [Sandviken, 19th & 21st century] interfere with one another (see Video 4). An overlap may cause an enhancement or diminishment of one of the interfering elements. During this interference, the children’s SpaceTime diminishes the SpaceTime lived by the museum’s staff, as the ropemaking device (and so the intra-activity constituting the 19th century) stops. This break enfolds new wonderings: *What did children do in the past? What were they doing when the adults were making ropes or fishing?*

These questions could never be asked without the diffraction and interference of the SpaceTimes. Being exposed to a different SpaceTime than one’s own constitutes the diffraction of noncompliant questions. The museal SpaceTime functions as an obstacle and point of resistance to the children’s own, and this results in the spread of unplanned curiosity. The questions do not however come as acts of a human’s meaning making after interacting with a (passive) object. Quite the opposite: “the material and the discursive are mutually implicated in the dynamics of intra-activity” (Barad, 2007, p. 152; see also Hackett & Somerville, 2017, p. 382). The noncompliant curiosity is a part of the intra-active entanglement.

**VIDEO 5**  Lassoing with the rests of rope. (See here.)
4  Diffracting and Intra-acting Entanglements of SpaceTimes

The diffraction of ropemaking constitutes two SpaceTimes, which continuously enfold during the ropemaking. When the rope is stretched, the children are invited to polish it. After a short trial, they rather playfully engage with the old ropes that are lying around (and that were used to polish the new one). They use the rest of these ropes as lassos, “as cowboys”, says Leon Brage. This playful use of rope strengthens Ida’s (noncompliant) feeling that the children of fishermen were not involved in ropemaking in the same way as the adults (see Video 5).

Ida’s curiosity diffracts further into the local landscape through her intra-actions with the rope (as she takes the rope home to explore what may happen when a child is exposed to it). Before moving on with the presentation of these intra-actions, the authors’ ethical commitments are described.

5  Ethics and Responsiveness

The children who participated in the ropemaking were the children of the museum pedagogues (nine-year-old Leon Brage) and one of the researchers (11-year-old Maja and six-year-old Ida). Ida and Maja are sisters, and they met Leon Brage for the first time during ropemaking.

One of the museum’s staff filmed this ropemaking for the purpose of the documentation, which was supposed to facilitate the staff’s reflection on their own practices. The caregivers’ oral consent for filming the activity was given in advance; however, the children’s willingness (or lack thereof) was also respected.

Part of the museum staff’s reflection on their own practices took place in the form of a dialogue with the researchers, during which the idea of using the ropemaking videos as research material was developed. To use this visual content as research material, the caregivers of all the participating children gave their informed consent to use the film as research data and to publish and disseminate it with the children’s first names and face-pictures. Moreover, all the adults consented to using videos with themselves for the purpose of the research and its dissemination. This ethical design was approved by the Norwegian Centre for Research Data in accordance with the international and the Norwegian guidelines for research ethics.

Our adult power was not only related to consents, but also to the interpretation of the data. During the filming, we were equal to all other humans and non-humans, and we were likewise responsible for each other’s existence.
Within an entanglement, “[r]esponsibility entails an ongoing responsiveness to the entanglements of the self and other, here and there, now and then” (Barad, 2007, p. 394). Our intention was to resonate with the responsiveness and intra-active experiences of the children when analysing the videos and “making a conscious effort to centre the children and consider afresh the role of objects and spaces” (Hackett & Somerville, 2017, p. 378–379).

6 Noncompliant Pedagogy and Learning

What is particularly interesting about the questions that Ida asks is the non-compliance and unexpected character that they demonstrate. From the perspective of the ropemaking’s aim, Ida’s questions appear as an “anomaly”, or “deviation”, which is how Ellsworth (2005) refers to “the experience of a learning self in the making” (p. 5) viewed from the perspective of (compliant) pedagogy that aims at reproducing “subject matters, facts and models” (p. 163). Such goal-oriented teaching imposes on the learners both, already defined knowledge, and paths/orbits of reflection to follow; and by this misses the learning and formative opportunities that take place “at the turbulent point of matter crossing into mind, experience into knowledge, stability into potential, knowledge as promise and provocation into bodies in action, doing and making” (p. 165).

The noncompliant pedagogy postulated by Ellsworth (2005) embraces and facilitates such “deviating orbits” (p. 6) paved by the learning self who does not follow the predetermined path, who escapes “the gravity of conventionally defined education” (p. 6) and performs “a way of getting somewhere else on the way” (de Bolla, 2010, p. 100, cited in Ellsworth, 2005, p. 14). This is a pedagogy that starts such noncompliant paths by being aware of the crucial role of sensations and materiality; knowing that “the skin is not the border of our bodies, but a territory or region of interference, a ‘diffraction’ of communicative ‘waves’ between matters” (Lenz Taguchi, 2010, p. 48).

Even the children’s playfulness and unexpected questions were not the aim of the ropemaking, they do not worry the museum staff. The staff does not stop the children from diffracting to their own entanglement. Moreover, they give Ida the rope to take home, and by this, they further facilitate her noncompliant intra-action with the rope (and thus the museum’s diffraction into the city). They take the risk of noncompliance, which is about allowing for the possibility that the children will misuse, ironise, or ridicule the knowledge “offered” by the ropemaking. The museum staff takes this risk and thus gets
entangled in the noncompliant, intergenerational co-creation of knowledge (Ellsworth, 2005).

Our understanding of noncompliant learning then refers to the wholeness of the experience of “sense and sensation” (Ellsworth, 2011, p. 308) emerging from being an inseparable part of “a dynamic and shifting entanglement of relations” (Barad, 2007, p. 224), where the inseparability of elements is founded by (constitutive) intra-action. The intra-actively constituted entanglements diffract out of the orbits and thus allow the learners to pave unexpected paths, co-creating new knowledge, thus re-defining the past and opening the future to difference (Ellsworth, 2011, p. 308).

What were they doing when the adults were making the rope or fishing? If I had rope all the time around me, I would have figured it out?

IDA

When the rope is completed, the children immediately demand that it be used as a jumping rope. As this is right after the historical activity of ropemaking is completed, which means that there is no longer any intra-activity constituting the museum staff in the 19th century, the staff actively joins the entanglement suggested by the children. The rope engages both groups in different positions, now, however, in the same entanglement [SpaceTime coordinates: Sandviken, 21st century] (see Video 6).

Being present in that particular entanglement fuels Ida’s thoughts about the “past”. She concludes that “the children were definitely jumping back then”,

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**VIDEO 6**  Jump rope. (See here.)
and she repeats again that *if she had a rope all the time around herself, she would have figured out what they were doing*. This is why Ida takes the rope home and exposes herself to whatever diffraction may occur while roping.

Ida starts with the same jumping activity as was performed in the museum, but in this case, she involves a pole as a means of holding the rope. When Ida decides to put on her rollerblades, the rope is still there. The rollerblades change Ida’s movement, and it is the rope that helps her to keep balance (see Video 7).

The rope enters and co-constitutes every playful entanglement, even one that has been started without the rope, like, for example, Ida’s role-play in a costume of the Disney figure Vaiana. Playing close to the rope makes the rope join in. Suddenly, the rope is used as a lasso, helping Vaiana catch horses and swing on imaginary palm trees. The cartoon character Vaiana originally
cannot catch horses. Vaiana acquires this skill by intra-acting with the rope (see Video 8).

The rope keeps intra-acting with Ida and diffracts into diverse entanglements in/through/with children's places and spaces in the city. Rich with the experience of playful entanglements in the space of the city, the rope is brought back to the fisheries museum, where Ida and Maja search for something about the children in the past.

Ida and Maja find nothing about the children's "past", but as the museum is also entangled in the SpaceTime of the "present" and has some activities "for children" that constitute part of the exhibition, Maja and Ida become involved in them. Fishing for toy fishes or taking selfies (called "selfish") on digital screens in an underwater room are inviting entanglements with which the girls eagerly intra-act. These play-based entanglements diffract from the museum's mission of preserving the heritage. They invite the phenomena of

**VIDEO 8** The Rope learns Vaiana to catch horses. (See here.)
childhood and play into an array of SpaceTimes where these phenomena were not in focus. The interfering SpaceTimes allow Maja to wonder whether children were fishing back then (see Video 9).

7 Roping back to the Museum and into the City

The rope full of playful experiences in diverse entanglements with children, nature, fictional creatures, joy and the city, is now delivered back to the museum. Human and nonhuman enmeshment and diffracting entanglements of rope + children + nature + fictional creatures + joy + rhythm + affect + sensation truly trouble the molar representations of unified, stable, and bounded learning and direct us to recalibrate the “closed equation of representation, $x = x = not y (1 = 1 = not you)$ with an open equation: ...+ y + z + a...” (Massumi, 1992, p. 6). The “and ... and... and” in relation to the “intra-activity” (Barad, 2003) between human and nonhuman bodies, opens for endless diffractions and open-ended connections, multiplicity and noncompliant learning. Being exposed to the rope (which results in many playful, intra-active entanglements and wonders), Ida discovers what is possible when a child and a rope meet. The exhibition and showpieces that she was looking for at the museum had already been constituted in her intra-action with the rope, as materialised in the videos. The videos are the museum’s diffracting exhibition in the ecology of the city.
Call for Museal Intra-active Ethico-onto-epistemological Becoming

Through the entanglements constituted by the intra-action of Ida and the rope, we are able to see the museum escaping its orbit and diffracting into the urban ecology. This process is a single example of a noncompliant journey provoked one afternoon in May 2021, but it allows us to imagine many more diffracting ropes that can (intra-)activate the museum’s relational capacities and make it come to matter within the ecosystem of a city.

The last few years have abounded with heated discussions, controversial publications, and provoking exhibitions on the meaning and role of museums. The necessity of transforming museums into “inclusive, democratized, and polyphonic spaces” (ICOM, 2019) has been postulated, and in the anthology edited by Janes and Sandell (2019), authors, artists, and researchers from six continents consider other ways in which museums can awaken from immoral inactivity and start making a difference, specifically by detoxing, decolonising, rethinking, and opening spaces for people and their noncompliant acts. This might prove challenging, as “[m]any museums today strongly embrace their role as places of ethical collections stewardship, active centers of learning, and as fulcrums of community engagement” (Kudlik & Luby, 2019, p. 58), while still adhering to some unconsciously biased, exclusionary practices. The museums’ exclusivity, coloniality, and epistemicide are still materialised through the way history is displayed, told and retold, in what is considered heritage and in ways of its preservation. While Kudlik and Luby (2019) focus on disability and its absence in the museum, our empirical material enfolds the absence of children in the exhibited history of fishery and shows how this (absent) heritage can be traced today by following the rope as it is entangled with one child’s curiosity. Let this intra-active and noncompliant constitution of curiosity/knowledge inspire to epistemologically-just and culturally sustaining inclusive museum learning experience, or what Barad (2008) would call an “ethico-onto-epistemological” (as the inseparability of ethics, ontology, and epistemology) endeavour that embraces pluriversality, different epistemic traditions, and alternative ways of being in/with the world (including its past and future).

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