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What can onto-epistemology reveal about Holocaust education? The case of audio-headsets at Auschwitz-Birkenau State Museum

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What can onto-epistemology reveal about Holocaust education? The case of audio-headsets at Auschwitz-Birkenau State Museum

This article adopts onto-epistemological framework for investigating pedagogical practices, focusing on the specific context of Holocaust education excursions to Auschwitz-Birkenau State Museum (ABSM) and focusing on pedagogy in and through audio-headsets. It is based on an extensive dataset collected through ethnographic-inspired observations at ABSM, and focusing particularly upon three school-based excursion groups (two Scottish, one Norwegian). Through processes of spatial ordering and intra-action, we argue that the relationships comprising ‘things’ (e.g. students, exhibitions in the Museum, knowledges about the Holocaust) can be explored as more-and-less visible.

Keywords: excursion; museum; ontology; epistemology; Auschwitz

Introduction

In his study of a German school’s trip to a French concentration camp, Konrad Brendler noted that teachers judged the trip as ineffective because the experience was planned around ‘cognitive’ learning outcomes and young people did not ‘emotionally engage’ 1. In this case, cognitive without emotional engagement initially appeared to be a dishonoring of the Holocaust itself; teachers feared that the excursion to a Holocaust site was tantamount to commercial tourism under the guise of ‘education’ 2. Even if we reject the supposition that sites like Auschwitz-Birkenau State Museum (ABSM) can be transformed into terrains for the commodification of educational outcomes, we must still query if the lessons devised by teachers and museum educators can be learnt 3.

Certainly, the power of Holocaust education to prevent such inhumanity from ‘happening again’ 4 has been cast in doubt 5, and Brendler’s teachers’ were disappointed to find that students’ (seeming) lack of emotional engagement meant that they had not become ‘a better person’ through their excursion to a concentration camp 6. These are, of course, well-trodden complexities of Holocaust excursion education and the
unlearnability of any given lesson or learning outcome in a site like ABSM need not be a critique of such excursions. As Isabel Wollaston observed, students will learn other things too – returning to Brendler’s students, ethnographic observations during the excursion revealed that feelings of sadness, shock, shame, anger and fascination were shared peer-to-peer during intimate conversations.

This paper reports on an ethnographic-inspired study of excursion learning by two groups of Scottish students (one independent group from the rural North East, and one group of students from multiple schools attending through the ‘Lessons from Auschwitz’ Project by the Holocaust Educational Trust), as well as one Norwegian school and their visits to ABSM in 2012. While our data arises from the event of these students visiting ABSM, the resonance of such a site means that responses to it are affective and students often feel inept at describing their knowledge of the place. Thus, rather than evaluate learning as an outcome or reflective experience after a visit to ABSM, we argue that we must first explore how particular understandings of learning and pedagogy come to dominate Holocaust education practice before attempting to interrogate the sensed or embodied elements of an excursion experience. Our focus turns away from what is ‘taught’ by teachers, or what is ‘learned’ by students, and instead turns toward how educational practices - which we conceptualise as ‘things’ with the power to ‘affect other bodies’ - perform particular forms of knowledge about the Holocaust. In contrast to previous work that has focused on young people’s social interactions, our focus on the entangled relational materialities of ‘things’ in this Holocaust landscape allows us to explore how the architecture, choreography of exhibits, and movement of bodies interrelate to create different forms of pedagogy and knowledge that may emerge and be sensed or felt, but not so easily spoken or written about as learning outcomes. Our analysis follows in the manner of education scholars.
like Carol Taylor, and Greg Mannion, Ashley Fenwick and John Lynch, and of Museum Studies scholars, like Connie Svabo and Anita Maurstad. In this paper we seek to analyze what Nigel Thrift has called ‘nonrepresentational’ elements of experience, and what Hayden Lorimer has reconceptualised as ‘more-than-representational’; what is experienced is not prioritized over texts, discourse or other symbolic forms of representation. Ours is an onto-epistemological framework, which is novel in Holocaust education research – the aim is to find out if exploring an education landscape in this way will gleam new insights about Holocaust learning and pedagogy.

**Onto-epistemological framework**

In the past decade, several education scholars - such as Tara Fenwick, Richard Edwards and Estrid Sørensen - have become dissatisfied with how concepts such as ‘learning’, ‘pedagogy’, ‘curriculum’ and ‘students’ remain relatively unproblematised in the discipline. In particular, they agreed that the direction of educational research had become overly concerned with humanistic endeavors, which in turn, could be used to justify, ‘blame’, praise or rate the performance of teachers, students or other educational stakeholders as a means of simplifying agency. This interest in humanistic endeavors has resulted in research that focuses upon the outcomes of learning, including students’ ability to understand controversial issues, practitioners’ competence in teaching particular subjects (for example, teaching the Holocaust, and the pervading discourses of educational policy). Whilst it would be an oversimplification to suggest that such conceptualizations have relied on a social constructivist paradigm, all share taken-for-granted assumptions about how individuals relate to each other, and how their behaviors can more or less ‘enlighten’ those doing the research itself.

At the same time, more recently in the field of Holocaust education scholarship,
commentators have also indicated that further attention should be directed towards the ways in which Holocaust education is defined and the terms of its debate\(^{21}\), alongside its methodologies\(^{22}\). Michael Gray’s companion to contemporary debates in Holocaust education was one of the first to highlight the apparent shortcomings that have dominated the field as lacking ‘rigor, robustness and reliability’\(^{23}\). According to Gray, studies demonstrate similar outcomes in terms of lessons learned from and/or about the Holocaust, but fail to explore ‘meaningful and thorough investigations into the impact and importance of cultural influences’\(^{24}\). This criticism provides a starting point for the (re)theorization of Holocaust education research. According to educational theorists such as Taylor, questions concerning agency – how, what and who is responsible for Holocaust knowledge production, dissemination and (re)presentation – can only be answered when we concede that what can be known about the Holocaust is not an ontological constant. What can be known is distinct from how it can be known (i.e. epistemological variability). We consider that that there are many different Holocaust knowledges that must be analyzed differently, because the Holocaust is a multiplicity, in terms of historical accounts and experiences, sites and their usages (e.g. memorial, educational), post-Holocaust writings and representations in popular culture, and Holocaust education practices. It is thus worthwhile attempting to theorize the complexity and inseparability of Holocaust education ontology and epistemology. This may allow us to consider ‘new ways of thinking about and relating to data and meaning-making, [paying] attention to what we don’t normally see, to what is excluded…and [opening up] ways of undoing traditional, humanist epistemic codes so we may do, present and write research differently’\(^{25}\).

Scholars who are dissatisfied with theorizations of ontology and epistemology often use the terms ‘new materialism’ or ‘sociomaterialism’ to describe
the focus of their research: rather than basing their analyses on how apparently ‘static’
humans interrelate, attention is orientated to *how* humans comprise bundles of social,
material and discursive relations, and are constantly in-flux and in a state of becoming. Sociomaterialism has been characterized by Tara Fenwick & Paolo Landri as seeking
to de-center the human subject; it is a way of thinking which challenges us to consider
more-than-human ways of theorizing agency and intentionality. In this way, Sørensen
distinguishes between the social, the material and the discursive, assuming relations as
‘heterogeneous’ and using the term ‘materiality’ to refer to ‘the achieved quality of a
hybrid that allows it to relate to other parts’. Karen Barad has explained that by
focusing on relationships, and how these relationships are in a constant state of
becoming, rather than being, we begin to see ‘the inseparability between ontology and
epistemology’, i.e. an onto-epistemology. This means that the ways in which we view,
practice and disseminate research is as important as the ways in which we apply and
theorize findings, given that the *method* of research will perform different knowledges
and realities, depending on where and how we write and read about these. In other
words, the things under scrutiny are ordered, and therefore exist as different
phenomena, depending on the tool we use to examine them. This means of theorizing
research practices might be considered messy or chaotic, but such ways of thinking
make explicit how phenomena are ordered, and how particular knowledges come to
dominate. Conversely, knowledges that might have gone unnoticed or been considered
unimportant can, in an onto-epistemological approach, be recognized as performing
alternative realities or ways of knowing. This aligns with Law’s ‘fractiverse’, which
posits that multiple realities exist and, therefore, that being and knowing are
inseparable. Considering space within a fractiverse ontology - where multiple realities
exist and are performed as effects of practice - is useful to Holocaust education because
it allows us to critique how particular knowledges are performed as more ‘important’ or ‘powerful’ over others, while simultaneously allowing us to highlight collateral realities - those aspects of practice performed along the way by the ordering of research practice - as alternative ways of knowing. The approach requires that we move away from a ‘merely human basis’, because this preoccupation forces the researcher to ignore co-occurring realities, knowledges, and educational practice. In an onto-epistemological perspective, learning can be conceptualized in terms of ‘knowledge-making’ practices, where more or less visible knowledges emerge and are performed through the educational experience under study.

A 2010 report by the European Union Agency for Fundamental Rights (FRA) investigate[d] the role and contribution of Holocaust sites and museums to Holocaust education and human rights education of young people in the EU. In this report, the authors highlighted the value of emotional response and the perception of ‘authenticity’; that ‘active engagement’ and ‘a greater degree of dialogue’ would better enable young people to appreciate sites like ABSM. In their report, the authors describe how

[t]he desired experience is thus dependent on certain external conditions, which in a way make the experience appear ‘even more real’. For instance, one of the student groups stated that the impact of memorial sites was greatest in bad weather; they had all visited Auschwitz when it was very cold and said they could imagine the physical feeling of those who were held there (London).

In this excerpt, we can see a power dynamic: that Holocaust excursion education is deemed to be better the more it allows students to access an intended and pseudo-authentic experience that is valued by the FRA. The FRA is not saying that rain makes an experience authentic, but it is valuing the perception of authenticity as being a sign of effective Holocaust education. By extension, the way to assess authenticity is by asking students about their emotions and experiences.
But realities are performed collaterally\textsuperscript{39}, and some may not fit within the discourse of authenticity. The FRA report has hinted at a reality in which spaces, like ABSM, are mediated by a variety of ‘human’ (e.g. students) and ‘nonhuman’ (e.g. footwear; mobile phones; audio-headsets) things. When we diverge from research that focuses on authenticity (or other intended learning outcomes) and human affect, then we also create room to learn about divergent pedagogies and unintended outcomes. This is what Barad’s onto-epistemological framework facilitates: a novel way of theorizing pedagogy, and a method of exploring how particular forms of knowledge come to dominate in any situation\textsuperscript{40}. Using an onto-epistemological framework shifts the research focus so that a seemingly ordinary and assumedly non-human ‘thing’ in an educational setting (like an audio-headset), can become a gateway through which multiple, more-than-human ‘things’ culminate and can be explored as myriad ‘assemblages’ of relationships\textsuperscript{41} and materialities. These then help to identify the nuances of how pedagogy is performed. It can also help us identify how particular understandings of pedagogy dominate in any space, educational or otherwise, depending on the way in which the landscape is researched, which - according to Barad - performs a different reality\textsuperscript{42}.

Barad explains that the conditions for possibility when researching in an onto-epistemological framework are not infinite; judging the ‘relevance’ of the researcher’s identified conceptualizations of reality is still a humanistic endeavor, and the research is limited by the researcher’s ability to explore all details with sustained rigor\textsuperscript{43}. Nevertheless, and when approaching the complexity of educational excursions to ABSM, applying an onto-epistemological framework facilitates the exploration of spaces of pedagogy and learning.
Auschwitz-Birkenau State Museum (ABSM)

The Holocaust is understood to be a ‘symbol of evil’: the dehumanization and mass killing of Jewish people by the German National Socialist (Nazi) regime is considered to be the central tenet of the Holocaust and an outcome of ‘The Final Solution’\(^4\). Historians have examined how mass murder was enabled in a modern society, attending to social, economic, technological and political conditions\(^5\). Stories of and by victims, bystanders, perpetrators and rescuers have raised questions about individual and collective responsibilities, and intentionalities\(^6\). Auschwitz-Birkenau, where an estimated 1.1 million people were annihilated as part of the Holocaust, now exists as an historic site and memorial museum\(^7\). Philosopher Giorgio Agamben has described Auschwitz-Birkenau, as *aporia*, a space of exception, where topology and topography collide, and where Auschwitz is irrefutably ‘unrepresentable’\(^8\). Yet, the empirical material evidence cannot be denied: multiple, purposive-built, industrial gas chambers accompanied other technologies of systematic dehumanization and mass murder\(^9\); it was the largest extermination and concentration camp in the Nazi regime, amassing several localized sites around Oświęcim in Poland\(^10\). Established as an educational museum in 1947 (now known as the Auschwitz-Birkenau State Museum - ABSM) its aims now include commemoration, developing visitors’ historical understanding of the horrific events undertaken during Nazi occupation, forging empathy for those who suffered, and communicating the need to prevent future tragedies\(^11\).

Previous research has selected Holocaust excursion education at ABSM for its focus. For example, Paula Cowan & Henry Maitles ‘black-box’ the setting of ABSM as a context in which learning and teaching occurs\(^12\), and the aforementioned FRA report comments on the authenticity or aura of the place/space\(^13\). What previous work has not done is to disentangle particular versions of authenticity, and to consider how some
learning and teaching ‘come[s] to matter’ at ABSM, when others are elided from the conversation\textsuperscript{54}.

This is important in the context of ABSM, and Holocaust excursion education more broadly, where ‘authenticity’ and ‘understanding’ is an impossibility; these are sites that defy logic or representation\textsuperscript{55}, but where millions of individuals were systematically, brutally dehumanized and murdered. In her study of the United States Holocaust Memorial Museum, Elizabeth Ellsworth describes the experience of visitors to Holocaust crematoria remains:

The self that is left behind in the gas chamber addresses the self that is free to walk out: ‘No one deserved to die here. Why do you deserve to leave?’ This question can be avoided, denied, repressed, or ignored, but it cannot be answered. It cannot, in other words, be escaped.\textsuperscript{56}

This disruption, which is ubiquitous in a site like ABSM, may simultaneously be considered analogous to the institutional materialities of schooling; knowledge or facts about curriculum-making are usually ‘fixed’ or prescribed through policies. The enactment of such policy, however, relies on human, nonhuman and more-than human material-discursive practices and thus results in different forms of knowledge, definitions of pedagogy and learning\textsuperscript{57}. John Law and Annemarie Mol have written that for science and technology studies it makes sense for ‘the configuration of facts-and-context… to be held stable’\textsuperscript{58}; but in the Museum, there are multiple performances of knowledges which contest this stability. This multiplicity is necessary for Holocaust excursion education where qualities such as ‘authenticity’ are unknowable, and arguably, performed through the ‘throwntogetherness’ of things\textsuperscript{59}. Ironically, we can better explore this multiplicity by focusing on one ‘thing’ within the context of ABSM, as an illustration of the plurality of Holocaust pedagogy and knowledges.
‘Pinboarding’ as methodology

A method of ‘following’ was deployed to help the principal investigator (Author A, and hereafter referred to in the first person) to trace the multiple realities of pedagogy at ABSM. According to John Creswell, a first task in research is to reason how research might be managed, which is particularly apt for a sociomaterial study whereby the possibilities for exploring multiple realities of pedagogy are seemingly limitless. This involved locating boundaries that would allow me to investigate how pedagogy and learning is performed at Holocaust education sites - what the anthropologist Marilyn Strathern has described as a process of ‘cutting’. Given my onto-epistemological framework, I carefully bounded - and explicated ‘ownership’ for - my study early on so that the complexity of the objects of my analysis could be scrutinized. My unit of analysis was the social material-discursive practices that comprised humans, nonhumans and more-than-humans: what I called ‘assemblages’ of things. For me, student excursions, rather than students, were a focus and I hypothesized pedagogy, as the ‘how’ learning gets done – as the relational quality of the knowledge-making assemblage, where the configurations of human and nonhuman relations (including attention to ‘architecture’, ‘artifacts’, ‘students’, ‘staff’) will perform knowledges about the Holocaust or otherwise (including Polish lives, Jewish religious customs) that we might consider a process of learning.

I undertook an in-depth ethnographically-inspired analysis of the micropolitical practices of Holocaust education, attending to the mundane aspects of learning and pedagogy, where an aim was that “definitions [of Holocaust pedagogy] were [to be] results not beginnings”. The fieldwork took place sporadically over 2011-2012: I conducted preliminary visits to ABSM to develop my ethnographic technique (involving detailed notes, sketches and photographs of spatial interactions), prior to
three weeks of volunteering at the International Centre for Education about Auschwitz and the Holocaust (ICEAH). I also accompanied three school groups on their education excursions at the site, and followed-up their journeys by ‘intraview’ post-visit.

I took influence from Nigel Thrift who, in considering material bodies as assembled ‘practices’ which are in constant (re)production, suggests that ‘things’ in ethnography must be explored in the same depth as ‘humans’; we should reflect on our own complicity in the research outcome: ‘The human body is a tool-being’. In making sense of this kind of ethnographic practice, several authors have used ‘observant participation’ methods, which emphasize research as fluid, collaborative performances, and makes explicit participation of the researcher. For me, ‘observant participation’ of school groups – by physically experiencing the routines of ABSM as a participant – allowed analysis of the multiple intra-actions of ‘things’.

A challenge for me was to make sense of multiple realities of pedagogy emerging from a seemingly unknowable, whilst attempting to avoid a humanistic orientation in my ethnography and making explicit my role in the research process. I therefore devised a strategy of sensory ethnographic practice, applying techniques from studies in Geography concerned with non- and more-than-representational elements of experience. For me, ‘observant participation’ of school groups allowed the analysis of the multiple intra-actions of ‘things’ that defied representation (e.g. knowledges that are sensed or felt, yet unspoken). I critiqued ‘commonsense’ practices of observation as ocularcentric and instead documented how my body as a ‘tool-being’ related to other things, including students, artifacts and architecture. This sensory ethnography allowed me to explicate how different realities of knowledge were performed as ‘bodily’ tools and ordered as different spaces of the research. I then ‘followed’ how my observations on-the-pages of my diaries related to the materialities of other spaces, including
documents, such as educators’ notes, alongside the exhibits themselves. Once I had
identified ‘things’, I could trace them as assemblages (of/as ‘things’)\textsuperscript{75}, and create maps
of relational practices\textsuperscript{76}, attending to data that was unusual or ‘glowed’\textsuperscript{77}. I then
choreographed things-mapped in ‘pinboard’ fashion to highlight how ‘doing’ research -
including writing-up and editing - performed the Holocaust education excursion: a
‘critical issue [was] to establish how one reality interferes with another’\textsuperscript{78}. Thus, to
convey multiple sources of data, a bricolage method was used\textsuperscript{79}: here texts could be
juxtaposed to guide my discussions,\textsuperscript{80} whilst acknowledging the contribution of other
knowledges (including the co-author of this article, AUTHOR B’S SURNAME).

In the forms of ethnography undertaken, a dilemma I faced was how to analyse
‘human participants’ as ‘things’. My concern was not to identify ‘students’ or ‘teachers’
as agential; rather, agency was to be problematized by the relational materialities
between ‘human’ and ‘non-human’ things.\textsuperscript{81} Ethical approval for this study was given
by the AUTHORS’ UNIVERSITY, ethics committee. Nevertheless, the process of data-
following - through tracing the origins and absences behind practices of writing diary
extracts, intraviews, juxtaposing curricular documents, website constructions -
highlighted different voices and goings-on that otherwise may have gone unnoticed.
Whilst it was not always possible to ask every ‘being’ - whether human or nonhuman -
for permission to appear in my diaries (e.g. a taxi-cab driver awaiting pick-up), the
subsequent data following and the way in which I re-presented persons as ‘things’ in my
choreographies of data, helped me consider my co-implication in the research process.

The remainder of this paper presents a particular, seemingly mundane ‘thing’ -
an audio-headset device - as a fractiverse, tracing how multiple realities of Holocaust
knowledges and pedagogy are performed as more or less ‘present’ (or ‘visible’) in
particular spaces of the Museum. In keeping with an onto-epistemological approach -
where method and knowledge-making are viewed as inseparable - ‘theory’ emerges and is entangled with empirical observations. My analysis applied sensibilities from Law and Mol to show how the ‘properties’ of things were more or less visible in the Museum pedagogy, and how such materialities entangled with other ‘more-than human’ concerns as more or less fluid or mutable, i.e. able to perform multiple realities in other spaces.

Multiple realities of Holocaust knowledges: the example of audio-headsets

In researching at ABSM, I had to ‘fix’ or ‘pin’ things (as assemblages) momentarily to allow for the exploration of pedagogy in operation. Among several things followed, audio-headsets emerged as one of thing of particular interest.

The use of headsets at ABSM is not in itself remarkable; Holocaust institutions, including the Imperial War Museum, London, have been implementing audio-headsets as intended pedagogical devices for some time, alongside recent developments such as the use of ‘Quick Response’ (QR) codes via visitors’ smartphone devices, as seen in Melbourne’s Jewish Holocaust Centre. Although the use of audio-headsets may be intended to allow artifacts to ‘speak for themselves’, in an onto-epistemological framework all audio technologies, as ‘things’, will be entangled with other ‘things’ to perform knowledges and these may deviate from the ‘intended pedagogy’ of the Museum. Svabo has previously explored the ‘overlooked materialities in visitor experiences’ of a Danish natural history museum, focusing on technology. She proposed a renewed theory of ‘mediation’ to explore how particular objects - in the form of portable technologies - produce knowledges of the museum exhibit amongst young visitors:

Looking at technologies as mediators implies considering what it is that they do; how do they make relations, form them, shape them and hold them in place.
Applying relational materialities approaches, like those advocated by Svabo, have implications for Holocaust museums, which may communicate a particular reality of the past. Svabo (2011) argues for a method that considers ‘the intersections between various technologies’: thus, audio-headsets - as highly mobile devices - demand critical analysis as present (and absent) in spaces of the Holocaust museum, as realities. And, as Law has outlined, ‘if we want to understand how realities are done or to explore their politics, then we have to attend carefully to practices and ask how they work’.

In ABSM, audio-headsets are worn by (most) visitors during the Auschwitz-I tour: the guide’s voice is relayed through a transmitting microphone which operates at different radio frequencies. The decision to implement audio-headsets was influenced by their success at Yad Vashem, Jerusalem, where audio-headsets here had enabled visitors to hear guides more clearly. In Auschwitz-I, the narrow layout of Blocks amplifies noise, hence audio-headsets were proposed to facilitate the guide’s narrative where ‘the headsets make listening more comfortable for visitors whilst reducing noise level in the museum’.

In the Museum regulations, audio-headsets are mentioned as ‘mandatory’ supports for guided tours, particularly during busy times:

- Organized groups of visitors are required to hire a Museum guide. The maximum number of visitors per guide is 30, and groups of more than ten visitors are required to borrow audio equipment. Individual visitors may hire their own guide or take advantage of the opportunity of joining a group with a guide.

Thus the adoption of audio-headset equipment is based on the number of individuals engaging a tour: the Museum’s intended pedagogy is performed as an effect of increased visitor numbers. Other than ‘comfort’, there is no mention of benefits to learners using audio-headsets.
Visibility of audio-headsets as a sociomaterial assemblage of pedagogy

In my fieldwork at ABSM, I saw two volunteers distribute headphones and radio receivers before directing visitors to wait next to a turnstile until their group was called. The guide then instructed the visitors to tune their radio-receiver, checking for any technical faults using his/her microphone. Faulty equipment would be swapped. The tour would resume, with visitors wearing headphones, and placing the radio-receiver box around their neck. The guide’s microphone could be muted at any time throughout the tour. Following the tour, volunteers would sort the returning headphones onto rails and place the receivers in boxes. In an early observation, I noted ‘[w]hen I came out [of the tour], it was amazing. Here a backstage area for audio-headsets, with boxes literally piled to the ceiling…Decided I had to follow this’ (Observant participation diary, 09.11.12). These audio-headsets (including their constituent parts, the guiding microphone, radio transmitter, audio-converter and headphones) were all visible to others, and me, but they simultaneously made visible the intangible.

When attempting to theorize how things are more or less visible - or imagined differently - depending on the technologies used, Annemarie Mol describes the method deployed in microscopic analysis of part of an artery, an intima: ‘[W]hen ‘under a microscope’ is added, the thickened intima [lining of an artery] no longer exists by itself but through the microscope. What is foregrounded through this addition is the visibility of intimas depends on microscopes’95. Thus, an analysis of a ‘thing’ using an onto-epistemological framework is comparable: realities become visible because of the performance or practices of other things (like the microscope operation and the viewer’s behaviors) - these things are assemblages through which we more or less ‘see’ the emergence of pedagogies and knowledges. I begin, therefore, by discussing the visible
‘thing’ that is an audio-headset (and its component parts as mentioned above), and by discussing the fluidity of this technology to assemble with other things, which can be deduced according to Law and Mol from the agency of a thing to transform and perform multiple knowledges as it is transported as other spaces of the research.

Headsets rely on the guide’s own microphone to facilitate the transmission of their voice. Microphones convert speech-sounds that are converted by visitors’ audio-headsets: visitors thus ‘receive’ - but are unable to transmit - information. Without a microphone, the technology of the audio-headsets would not ‘work’ as intended: the mutability of the audio-headsets mean that headphones can be swapped and audio-receivers can be exchanged, but these alterations would be localized to individual visitors, rather than affecting the whole group. Yet any faults or changes to the microphone would alter the group experience of the tour. At the beginning of the tour, there is an opportunity to rehearse the intended pedagogy of the guides by drawing attention to the microphone. In ethnographic fieldwork prior to the excursion visits of the two Scottish groups and Norwegian group, I observed:

… [A guide] got her microphone from the girls behind the desk and she distributed the headsets amongst the young people. The microphone was first tested by [the guide] who checked the sound and also the phone itself. She fiddled about with the channel – she checked her visitors. It was very busy and instead of calling on the Israeli guide, she placed the microphone over the Israeli guide’s head from behind in a very awkward way. The students all saw this. She put the microphone fitted around the Israeli guide’s neck and told the students to turn to channel 5 and to listen. It stayed there and became the microphone marker for me. (Observant participation diary, 04.09.12).

This excerpt outlines the procedure followed where an Auschwitz guide attempted to organize her group. Unlike the standard Museum tour, this group was jointly led by a Yad Vashem guide: one microphone is shared by guides, with some exchanging during the tour. All students were ‘plugged-in’ to the microphone, and only one guide’s voice
(using the microphone) was transmitted to the students’ headphones at a given time. In this example, the microphone was performed by the ABSM guide as important to the pedagogical process: she instructed students on how to listen whilst moving the microphone, unsolicited, over the head of the Yad Vashem guide. By testing the microphone and asking students to respond, the authority of the microphone was performed as an effect of the guiding practice: the Auschwitz guide has logistically authorized this pedagogical set-up through restrictions imposed by the microphone as it assembled with other things. The students, therefore, understand a particular knowledge: that whoever is wearing the microphone may be considered important, as a more-than-human pedagogical device.96

How audio-headsets are (dis)located

Audio-headsets are spatially ordered in Auschwitz-I: there are specific procedures for their mobilization within the Museum which operates like a production line. Visitors put on their headsets and are given a badge. They must either wait until they are called by their group leader, or wait until their independent tour begins. All visitors then pass through a turnstile.

I was given the Lessons from Auschwitz Project Group 1 to follow with [the LFAP guide] and already, they were lovely, friendly young people. It was very hot outside mid-day and we stood awkwardly outside before being shown into the welcome building. Everyone got a headset and was ushered through the turnstile – there was no stopping here to check us, we had a headset (Observant participation diary, 05.09.12).

The security personnel of the turnstile were able to identify visitors who did not have a headset and redirect them to the information desk. In any case, access was curtailed for these visitors, particularly during the times of my fieldwork (mostly peak season), which had many visitors; a headset indicated to the security that the visitor was
legitimate. Without a headset, you were ‘out of place’; the relational materialities of headsets produced ‘legitimate visitors’.

Audio-headsets are thus performed as ‘stable technologies’, meaning that on the Museum website, and by their wearing by staff and visitors, audio-headsets are regionalized to particular spaces of the Museum. When worn, they ‘move about’ the Museum, but they are intended to ‘hold stable’ and control how knowledges are communicated by guides. Their utility as pedagogy would appear to be this ‘marshaling’ characteristic: being a reliable technology for (intended) communication.

Yet this complexity also impresses that there opportunities for interventions and breakages. As audio-headsets are pulled apart, put back together, or worn in different ways by visitors, they are entangling with other things to disrupt the Museum’s intended pedagogy:

I spoke to the girls at the desk. There are 2000 audio-headsets, but they frequently break, as demonstrated by a girl who comes to return her headset with her guide. When there is a fault, the girls fill out [a form] and this gets returned to the manufacturer and shipped to China. The manufacturer is ‘Antennae Audio’ - the slogan reads, ‘The world is listening.’ They don’t have many dealings with the microphones though. They keep them on the desk for easy access for the guides. The radio receivers operate on batteries, but run out of charge each day. Batteries are simple AA ones – receivers are charged overnight in drawers located in the desk at the front of the office (Observant participation diary, 11.09.12).

Thus, audio-headsets comprise multiple, precarious relations. They are only performed as an intended pedagogical device when they are assembled and mobilized by the guided tour assemblage as ‘complete’ at the beginning of the tour.

An example of where unintended pedagogies emerge as an effect of the production-line assemblage of audio-headsets is through the continual transportation and usage of headphones. When headphones are worn, they perform collateral pedagogies. This is where a different, unintended pedagogy is enacted as an effect of
the activities occurring in the Museum. Firstly, headphones may communicate to visitors the business of the Museum, which may encourage a touristic interpretation of the site. Secondly, ‘worn headphones’ are only successfully fixed as a pedagogical device when they can ‘fit’ with a receiver, and operate as intended in spaces of Auschwitz-I. Visitors may prefer to use their own headphones: despite being cleaned, some visitors complain that the Museum’s headphones may be dirty (conversation with LFAP students, 10.10.12). Given that the operation of cleaning takes place ‘behind the scenes’, their worn appearance may translate as ‘unclean’. Thus, by ‘annexing’ the cleaning operations of audio-headsets from public view, such practices may perform the Museum as unkempt. The decision therefore to wear one’s own headphones may be an effect of the attempt to control the production assemblage of audio-headsets.

Particular knowledges about the Museum and its views on effective pedagogy are performed by the ways audio-headsets are used. Some visitors cannot hear adequately using headphones: for these individuals, an attachment is provided to amplify sound. In this way, the Museum is communicating that an effective way of learning about the Holocaust is via a tour with audio-headsets, or that access to hearing what the guide is saying is the most important aspect of pedagogy (as opposed to the quality of what is being received). Through the presence of this pedagogical practice, other modes of pedagogy and learning are less visible: until recently, the Museum has not shown the same attention to visitors with mobility- or sight-related issues on tours.

Thus before the Museum tour begins, I argue that the multiple assemblages of audio-headsets are already authoritative in communicating the Museum’s intended pedagogy in Auschwitz-I. Within Museum documentation, audio-headsets are ‘fixed’ as one that engages a tour guide. Yet, as outlined below, in other spaces of the Museum,
the mutability of the audio-headset technology may perform collateral pedagogies that disrupt and interfere with the intended pedagogy of the Museum.

Multiple realities of audio-headsets: pedagogies more or less visible

The mutability of audio-headsets encourages particular ways of experiencing the Museum, such as following a guiding narrative. Moreover, how the microphone is mobilized during tours may affect the authority of the guiding narrative. The technology enables guides to vary their voice - including muting dialogue - during any tour:

Author A: Anyway, talking about the headsets, how did you find them?
Mya: I think it was a lot better than the people shouting. I think it was better she was talking to us, like she was directly talking to us.
Christie: =it would have been better if it was quiet
Mya: yeah like trying to compete with other noises and that –
Emma: =it was really clever [pauses and sighs – smiles off camera]
(Conversation with Scottish A students, 29.11.12).

Author A: Thanks... Ok so did you find when you were going round that the audio-headsets were quite easy to use or…?
All: Yep
Author A: Ok some of you found them easy to use.
Thea: No I didn’t find them easy to use. I took them off because I could hear, I was that close to the guide…
Author A: And did anyone take them [the headphones] off?
All: Sometimes
Nils: Sometimes.
Gwen: Sometimes
Nils: Sometimes when we were very close to the guide I didn’t take them off because I felt like there was this emmm echo like and it had a feeling in the errr ear?!
(Conversation with Norwegian students, 17.09.12).

In this excerpt, the Scottish students indicate how their guide was able to create intimacy through mobilizing the audio-headset technology. Whilst the microphone enables ‘information’ about the Museum to be relayed to visitors, intimacy or closeness to the guide is performed as an effect of how the technology operates. Subtle variations in the guide’s voice or breathing are discernible to the visitors. For example, guides
were observed during fieldwork ‘whispering’ via microphones (e.g. as noted via observant participation diary). Visitors may either increase the volume on their audio-headsets, or move closer - as Thea did, above - to listen: in either case, the microphones-and-headphones-assemblage is mutable so that the voice of the guide is mobilized and controlled, and those wearing headphones must respond to hear. In this sense the microphone is precariously assembled, yet authoritative: as a hybrid/assistive device for the guide, its effects may perform the guide and microphone/headset as authoritative, yet there is always a risk that visitors who struggle to hear may ‘opt out’ by removing their headphones, as Thea did.

Audio-headsets as assemblages can also affect forms of ‘visitor participation’ in learning, including the ability to discuss experiences with others during the tour, or interact with the guide. In general, there were limited opportunities to converse through the audio-tours. Where audio-headsets are worn, the visitors are ‘plugged-in’ to the guide but also insulated from other ‘goings-on’ in the Museum:

Whilst going around, everyone is listening. I was hoping to pick up on some background chat – I thought that folk would be chatting to each other as they went along, but they are not which is really frustrating. Not sure how I’m going to account for learning in my thesis if the students aren’t talking about it… (Observant participation diary, 28.08.12)

The headsets were unusual – there wasn’t merely an audio-visual element, but there were things about the headsets which were assisting the guides [in communicating in the Museum narrative] (Observant participation diary, 01.09.12).

Everyday since Monday I’ve walked through the gates and I’ve noticed that the groups tend to keep a distance between each other, in terms of the headset acts as a barrier and insulates them from others. There are limited questions from the individuals for the guides too - everything is very insular (Observant participation diary, 30.08.12).
Through their entangling with other things, the audio-headsets may thus enact a form of pedagogical enclosure - other noises may be ‘shut-out’ by the headphones. Whilst piloting my ethnographic method, I frequently removed and replaced my headphones to investigate the effect on my hearing capabilities during the tour. During the group ‘intraviews’, students were asked if they could hear during the tour; participants mostly cited the guide’s narrative (aside from a dog’s whining – School A, observant participation diary, 09.11.12). Indeed, the headphones perform as an assistive technology for the Auschwitz guides – when the headphones are mechanically working well and are used as intended by the visitors, they strengthen the relationship between the ‘guide’ and ‘visitor’; bodies are shepherded through the Museum space.

Indeed the fact that visitors do not have a microphone may limit their queries to guides. It also means that visitors may have had to get ‘close’ to their guide, remove their audio-headsets, or wait until the end of the tour to speak with their guide. Whether by design or by as a result of the use of audio-headsets, there are limited times during the tour when the guide is not talking and so the limits they place on interaction with the guide are in some sense moot. Nevertheless, it creates a form of learning wherein dialogue between individuals is Othered, and viewed as less important than listening. Instead, it is through gesture, ‘knowing looks’, tears, and physical contact that more responsive guiding strategies emerge. Overall, pedagogy is performed as an effect of the audio-headset technologies, and so the form of learning is ‘less fluid’ - or seemingly more controlled - given that visitors are less inclined to discuss their experiences during the tour.

Moreover audio-headsets may limit different forms of participation because the guides are unable to ‘check’ that visitors have understood their narratives. Intended pedagogy relies on more-than humans (‘visitors’) being able to listen to the guide’s
utterances and understand what is being said. When ‘visitors’ cannot understand the accents or languages spoken by their guide, the intended pedagogy may vary. The content of the spoken-word relayed is received in a Museum landscape, which is also susceptible to other ‘interfering’ things, including signage, or the weather106. The mode of participations thus alters. Here, the narrative of the guides may become less successful in communicating knowledges about the site.

**Audio-headsets as collateral pedagogies**

When audio-headsets ‘move’ in the Museum spaces, they assemble with other things. Whilst the guiding narrative has been shown in many ways to be authoritative, there are also unanticipated, collateral effects of the practices of audio-headset, as outlined below, which challenge this understanding.

Firstly, as has been previously discussed, audio-headsets convert and relay speech-sounds from the guides, but these sounds may not be received in ‘real-time’. If the guide is moving and talking, visitors may not be ‘looking at’ the things their guide is referring to: the visitor may be unable to see these things or their guide yet are being directed via their headphones. There are spaces in the Museum where visitors may stray behind their guide due to the exhibition layout, such as Block XI which contains narrow cells and crowd barriers. Information ‘heard’ may or may not be related to the Museum:

Author A: Yep ok…. [pause] could you always hear what the guide was telling you? Both in terms of [pause] his accent… but also in terms of what the audio-headsets were telling you?  
All: Yeah  
Gwen: I mean sometimes it went a little bit fast so we like had to run after him, and like do you know when he was speaking about the prisoners and priest and we were down in the crypt…and he like longed for us, and we were rushing taking pictures. I mean like, yeah. (Conversation with Norwegian students, 17.09.12).
A highly-mobile technology such as audio-headsets can create opportunities for alternative pedagogies to operate, which may frustrate learners like Gwen who struggled to keep pace with her guide, and I speculated that this ultimately could also create ‘misinformation’ about these spaces (which would contest intended Museum pedagogy).

The intended pedagogy of ABSM may be compromised by the visibility of the audio-headset technology. During my fieldwork, I observed that some visitors (including a radio journalist and students) were able to mobilize the audio-headsets to experience the Museum in a different way. A radio journalist accompanying an LFAP group was gathering data for a news report using a Dictaphone, which was hidden in his hand (Observant participation diary, 05.09.12). His primary aim was to report on students’ experiences, yet he was mobilizing the audio-headset apparatus - with its ‘enclosing headphones’ component - to audio-record student activities. The audio-headsets were assembled as a device of distraction, enabling him to learn about students-within-the-site rather than (merely) the site-as-a-museum. They allowed him to audio-record in spaces where a TV cameraman would be excluded:

And so… in the extermination block with hair, where there is a sign with ‘no cameras’ placed outside, that I wondered why no cameras were allowed but that sound recording was allowed? Indeed the radio journalist had free reign here - the audio recorder was acceptable, especially when hidden in this manner (Observant participation diary, 05.09.12).

Thus, whilst the Museum’s intended pedagogy was still able to operate for the group (i.e. the guide was still able to relay information through the audio-headsets to others) there were unintended effects, i.e. the radio journalist’s recording practices.

Similarly, the mutability of the audio-headsets can perform collateral pedagogies. It was difficult to discern who had ‘switched-off’ their audio-headsets, particularly those students who used their own headphones, had long hair, or wore hats:
Totally I mean like even at one point, I noticed you [pointing to male student] did it as well, you swapped your ear phones for iPhones ones, and I thought I don’t want to look as if I am walking here and not listening because … everyone else have got these ear sets and I am still listening but I’m using mine cos they are comfier and people are going to look at me and think I am not taking it in. (Stephanie, conversation with LFAP students, 10.10.12)

Stephanie was aware that wearing the Museum headphones may have assembled her as an ‘attentive’ student, and explains how she changed her headphones after observing others who were using their own too. The mutability of the audio-headset technology thus facilitated an unintended pedagogy because Stephanie and her peer were able to wear their own headphones, and disrupt the ability of the guide to appraise who was ‘switched-on’. Yet Stephanie believed that by not wearing Museum headphones, other people may have believed that she was not listening. Therefore, she changed her behavior to better communicate that she was listening to the guide: an unanticipated effect of the Museum’s intended pedagogy.

In the subsequent ‘intraviews’, wearing (or not wearing) the Museum’s audio-headsets was a dilemma for students. Moreover, during my fieldwork at ABSM, a Museum guide revealed to me during a ‘go-along’ conversation that students in groups often change their headphones, indicating that such practices are not unnoticed. The guide explained that she once interrupted the tour to confront a ‘bored’ student who was wearing his own headphones, yet was surprised when he later apologized. He admitted to listening to music at the end of the tour, because he could not cope with the difficult information being relayed (Observant participation diary, 03.09.12). Therefore, the fluidity of the headphones ensures that pedagogy is variably performed: both ‘guides’ and ‘students’ are performed differently, when intended modes of pedagogy are contested.
Discussion

Specific, bounded learning contexts provide a starting point for exploring intentionality and mobility in formal pedagogical practice, but when the context itself is informal (like a museum), this gives rise to an educational complexity. The coming together (and conspicuous absence of) human, nonhuman and more-than-human things that occurs in informal learning spaces transgress traditional pedagogies, and this is well understood under an onto-epistemological framework. Indeed this framework is particularly suited to exploring the learning that might take place at memorial museums, which have been described as having competing purposes (including commemoration, education and preservation). Here, assemblages may extend beyond the physical demarcation of the museum or memorial building itself. Although focusing upon a choreography of exhibitions may communicate specific socio-political historical discourses, it is only by considering any (all) ‘thing(s)’ that we can begin to fully explore the realities of pedagogy in a site like ABSM.

Taking the example of audio-headsets at ABSM, I have explored how these things assemble with other things in the Holocaust museum. I have illustrated the mutability of the audio-headset technology, and shown how pedagogy is performed in different ways, with variable effects. I have begun to explore how a particular mode of learning is intended by the Museum (where the narrative of a guide is authoritative), but where the success of this pedagogy is precariously achieved.

I have identified that audio-headsets entangle with other ‘things’ in the Museum landscape in a fluid way, which means that the technology is ‘stable enough’ to authorize the guiding narrative, even though audio-headset components can ‘break’. Yet audio-headsets do not assure that students and other visitors are listening to their guide. Nor do they tell us about the quality of pedagogical intra-actions, or the types of
knowledges that are being performed (which may vary), and ‘learned’ by visitors or students. The participatory potential of ‘things’ is related to the way in which ‘things’ appear to move, or are ‘throwntogether’\textsuperscript{110}, in the Museum, and whilst this is useful, it does not explain why some aspects of the Museum were more ‘memorable’ to some students or visitors: I did not particularly detail how knowledges were being received, or rather, learned. Rather, my analysis has shown ways that students cope in different ways through the Auschwitz-I tour, and that the flexibility of the audio-headsets may enable some visitors to subvert an intended pedagogy.

My analysis has montaged particular realities of audio-headsets, yet some ‘moments’ require further interrogation, particularly considering space\textsuperscript{111}. This also includes how we characterize forms of participation; whilst audio-headsets may affect the participation of things that assemble as pedagogy, other forms of participation may also affect the performance of audio-headsets. Further investigations of the spaces of audio-headsets might be explored in terms of their co-implication of other things.

In spite of these limitations and areas for further investigation, what this paper has aimed to achieve is to illustrate that our ability to explore pedagogy and knowledge(s) in reference to Holocaust excursion education and, more specifically, sites like ABSM is benefited by an onto-epistemological approach. And yet, there is some ‘unfinished business’ concerning the politicization of a sociomaterial approach when it is applied to Holocaust education research and pedagogy: there is a need to acknowledge that, whilst such a framework can focus our attention to the performances of pedagogy and the possibilities for multiple forms of knowledge, some of these knowledges might also be sullied by those who have more sinister motives. Such individuals and their methods have been well-documented by scholars\textsuperscript{112}, educationalists\textsuperscript{113} and journalists\textsuperscript{114} as Holocaust deniers and revisionists, however, their
prevalence is unknown. Through reconfiguring assemblages of things (artifacts, documents, policies and places), Holocaust deniers select things which ‘best fit’ their political purposes and ignore others, producing a so-called ‘reality’: thus, when applying a sociomaterial framework of ‘following’, one must be mindful of how they could be mobilized by others in other spaces.

It is incumbent for sociomaterial researchers to be responsive to, and responsible for, how their arguments can be used by others; becoming-able to be responsive (response-able) as well as responsible. In situating ourselves in relation to historical events like the Holocaust, Doreen Massey has advocated how a ‘geographies of responsibilities’ approach that can help us consider how ‘the spatiality of our pasts and the geography of our histories - the dispersion of our very selves - entails a more outward-looking understanding in which all these things are necessarily constituted in and through contacts, relations, interconnections, with others’\(^{115}\). She asks us to take a clear ethical stance on social justice, and to develop a sense of ‘responsibility’ for other people and pasts: to look ‘outward’ to spaces where our own lives are more or less visible. Yet I argue that the means by which this can occur - i.e. through acknowledging our co-implication in even seemingly distant spaces - requires an ability of response to recognize one’s connections\(^{116}\). Indeed this is why I have opted to acknowledge my co-author’s input in this paper: for me, a response-ability approach should make explicit how knowledge was produced, where many personal relationships that emerged during the research process are inevitably omitted from the write-up (including supervisory practices, informal conversations and social media interactions\(^{117}\)). Through using the performative ‘I’ in my writing, I have co-implicated my embodied presence\(^{118}\). I raise this issue here because as a researcher I have a responsibility to ensure that my writing is transparent, since writing is inherently political\(^{119}\). The ability to recognize my co-
implication in writing is a ‘response-ability’: this same response-ability potentially is the powerful pedagogical quality of any (educational) assemblage.

Moreover, when reading Massey\textsuperscript{120}, it occurred to me that whilst responsibility might be assigned to individuals - or defined through the effects of sociomaterial practices as a ‘human concern’ - ‘response-ability’ is a different phenomenon because it challenges us to consider how other things might be, particularly given the conclusion that there are multiple realities within a fractiverse\textsuperscript{121}. For me, ‘being open’ to other people and ‘places’ was another form of ordering which would have multiple effects in terms of different, emergent Holocaust knowledges: perhaps responsibility needs to be more critical about which Holocaust knowledges are (more worthy) or responding to. Such a response-ability approach enables us to confront head-on unpalatable revisionist ‘scholars’ and Holocaust denial spokespersons who might use any ‘openness’ in my arguments to support their claims: in this paper, I have emphasized Auschwitz-Birkenau-as-performed\textit{-in-the-present}, focusing on the multiple spaces of an audio-headset technology, and now ask others to explore how Holocausts (and other genocides) in-the-present operate to identify the forms of insecurity of these Holocaust denial arguments. An acknowledgement that particular realities of the Holocaust are mobilized by the Museum for a purpose though artifacts and other ‘things’ does not mean that realities - such as those promoted by Holocaust deniers - are more powerful or normative. But Holocaust denial spokespersons are often given freedom to voice their opinions online; however, future ‘response-ability’ in research might confront how these spaces emerge and operate.

This paper found that there are multiple ontologies of Auschwitz pedagogy - knowledges of the Holocaust are therefore multiple, which has implications for our expectations about what pedagogies might achieve at Holocaust museums, memorial
museums and beyond. By acknowledging this complexity of Auschwitz education rather than presuming an assumed singular understanding of how the Holocaust should be taught, knowledges can be critiqued and valued according to ‘response-ability’. Being ‘response-able’ is thus about practicing new pedagogical ontologies, which demand further research and evaluation into ways of defining learning practices through this complexity.

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