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## Research article

# Filming Lumière Minutes: ripples of learning and ethnographic research practice

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## Abstract

This article explores Lumière Minutes as an integrative practice that cuts across learning, creative agency in the arts, and qualitative research within a postdigital environment. Lumière Minutes are long takes lasting 60 seconds from a static position, rooted in the very origins of the moving image. We examine how making these films can foster critical learning and creative agency. Our account is positioned at the intersection of film pedagogies with children and young adults, ethnographic research methodology and theories of postdigital understanding. We draw on Barad's (2007) concepts of entanglements, intra-actions and the agential cut to reflect on the consciously filmed and closely observed elements within a chosen frame of our everyday environment, elements which can be unsettled by the unplanned. Baradian perspectives help us to explore perceived boundaries and productive disruptions in the context of aesthetic learning and in relation to the tropes of popular culture. We argue that CCAJ pedagogies, exemplified by the contingent practices of Lumière Minutes, deepen our understanding of the mutually constitutive elements that comprise social and cultural phenomena, hence their relationship in support of critical and creative research methodologies. Both

the research and the learning strands are brought together through theories related to film pedagogy and to the empirical, sociocultural and discursive entanglements of our postdigital condition.

**Keywords** pedagogy; creative agency; critical enquiry; postdigital; Lumière Minutes

## Introduction

This article brings together specific sensibilities towards film education related to the project *Le cinéma, cent ans de jeunesse* (CCAJ) and unites them with approaches to pedagogy that traverse disciplines associated with visual, ethnographic research methods (Gray, 2003; Pink, 2015; Rose, 2022). The texts and practices of Lumière Minutes (henceforth LMs; see CCAJ, n.d.-b) are explored as a way for school children and higher education (HE) students to engage with narrative, experiential and aesthetic understandings of the world (Aidelman Feldman et al., 2021). LMs are static long takes limited to one minute which replicate the early filmmaking practices of the Lumière brothers. A critical feature of the LM is that it remains unedited: the filmmaker chooses the location, the framing, the moment to begin filming, and then watches as the world unfurls.

The authors reflect on their educational practices with film in two settings: one with 10-year-old primary school CCAJ participants, and the other offering insights from the use of LMs on an MA programme in an HE context. Our perspectives draw on Karen Barad's (2007) concepts of entanglement, intra-actions and the agential cut to frame both the context of our observations and the resonance that LMs share with hybrid creative practices described by scholars in the digital humanities as postdigital (Jandrić and Knox, 2022; Jordan, 2021). In this article we explore how Lumière Minutes open up opportunities for creative agency, experiential learning and critical methods of enquiry.

Our account is based on years spent in our respective educational roles: Sa-Ra Zwarteeven as a British Film Institute (BFI) and CCAJ tutor, filmmaker and community arts facilitator, and Michelle Cannon as an HE lecturer and academic researcher in media arts education, with experience of researching the CCAJ programme. The LM production practices located in the HE setting are inspired by and rooted in established pedagogic practices in the CCAJ programme. The learners whose work we focus on range in age from primary school pupils to HE students enrolled on an MA module focusing on social research methods in a London University. A specific characteristic of the CCAJ *dispositif* is its commitment to non-hierarchical principles: the same film *essai* production brief is given to primary-school-aged children and to much older teens, and this even-handedness is reflected in the ways in which we choose to approximate our respective LM settings for this article.

Both groups had engaged in producing LMs as integral to their programmes of learning, and they were encouraged to participate not so much with a view to producing a particular outcome, but rather to develop a particular frame of mind, a peculiarly still attentiveness to creative process and to the contours of the environment in which they found themselves. This sensitive and ethnographic orientation to the material world foregrounds the profound cultural values underpinning CCAJ's work, and it is these values which we argue are transferable to other educational settings in nourishing and illuminating ways. We offer reflective narrative accounts of our practice and pedagogy, relating these to characteristics of the postdigital and the iterative, intra-active workings of the apparatuses within our respective settings (Barad, 2007, p. 27).

## A postdigital, intra-active theoretical frame

Our theoretical framing supports an understanding of how a short unedited take from a fixed position, looking out into and engaging with the world, gestures towards our everyday postdigital condition (Jandrić, 2023). This condition comprises artful opportunities for visceral encounters with the environment through embodied and creative acts of filmmaking. The 'post' element of postdigitality does not connote an 'after' state; rather, as Jordan explains, it confers an interconnectedness described as 'the emerging

poetics of a postdigital condition that is inherently transmedial and hybridic, and in which the digital and the non-digital domains are increasingly entangled' (2021, p. 1).

A postdigital ontology embraces experiencing the world personally on the level of the local and the intimate (Jordan, 2021, p. 15), while seeking to develop a "post-digital poetics" capable of defamiliarising our digital condition ... making what was invisible, visible again' (Jordan, 2021, p. 16, drawing on Tabbi, 2018, p. 7). We propose that LM practices rehearse a potentially radicalising engagement with the world, thus pointing to possible resonance with participatory ethnographic research practice, the co-creation of knowledge (Pink, 2015) and the ways in which meanings emerge from a socio-material and dynamic web of relations. The web of relations is a construct originally coined by Arendt (1958) to describe her political philosophy as processes in flux; the term is now used in a variety of discourses to describe the material, embodied and ever-dynamic interrelatedness of phenomena (Burnett and Merchant, 2020), a premise on which we build below.

Ethnographic approaches to research attend to lived experience, and the relationships between people, tools, social interactions and cultural practices in specific locales, using methods that entail researchers' close observation and immersive engagement (Gray, 2003). Just as Pink argues that 'ethnographic knowledge is produced through affective, sensory and embodied engagements in the field' (2015, p. 107), we propose that LMs are helpful ways of sharpening our sensibilities towards the local environment and of foregrounding experiential and aesthetic learning. LMs energise creative practice in a postdigital paradigm that fosters plurality, hybridity and a polyvocal openness as principles (Jordan, 2021, p. 113). We can start to see the synergies between creative research practice and LM production as situated digital and virtual imaging, where participants allow for local environmental contingency and engage in meaningful and messy resistance in what are predominantly liminal spaces (Facer and Pahl, 2017). Liminality and resistance in media production settings (Cannon, 2018) suggest the existence of perceived boundaries and we explore them through two vignettes as a way of understanding emergent latent frames of reference.

To help us in this endeavour we extend the idea of the LM maker as enmeshed in Arendt's (1958) web of relations by deploying Barad's (2007, p. 139) concept of intra-action. In the former, the elements are conceived as pre-existing entities whose interactions create meaning; in the latter, it is the very intra-action between the elements that creates meaning. In this article, intra-activity describes the process by which LM makers' tools, bodies, creative acts and the prevailing material and discursive conditions – the entangled apparatus, in Baradian terms – are mutually constitutive of the observed moment. Meanings do not exist before that moment and are always open to renewal and rearrangement dependent on mutating conditions. In other words, in processes of intra-action meanings are emergent, and what is knowable shifts as a constantly reconfigured formation. When intra-actions are momentarily enacted, perceived boundaries are revealed productively, a phenomena described by Barad (2014) as an agential cut or a 'cutting-together-apart': a metaphor analogous with the generative processes of editing.

Film scholars will be familiar with the notion that cutting creates the apprehension of entire worlds (Bordwell et al., 2023; Murch, 2001). LMs are always-already an edit, an exclusive framing of the world, and we explore the extent to which agential cuts work as both an integrative and distributing force. In two distinct learning apparatuses, we examine how elements within and beyond the frame intra-act, or diffract (Barad, 2014) in ways that interrupt assemblages of settled, familiar methodological research and creative practice.

Each bit of matter, each moment of time, each position in space is a multiplicity, a superposition/entanglement of (seemingly) disparate parts. Not a blending of separate parts or a blurring of boundaries, but in the thick web of its specificities, what is at issue is its unique material historialities and how they come to matter. (Barad, 2014, p. 176)

Recalling the anthropologist Clifford Geertz's (1973, p. 10) ethnographic 'thick descriptions' of superimposed, knotted social and cultural structures, we recount the thick web of our unique vignettes and the multiplicity and specificities of the context. The one is illustrative of a micro-onto-epistemic ripple of research insight on an MA module; the other relates to the macro-pressure of popular culture (Storey,

2024) as primary school children resist LM constraints (Bergala et al., 2016). In both scenarios, LMs facilitate our understanding of the imbricated tensions – acts of ‘cutting-together-apart’ – between human and non-human agents, chance events, cultural traditions and discursive systems (Barad, 2014).

## Michelle’s research ‘take’

My research interests focus on digital making and storytelling rooted in the theories and discourses related to cultural studies, popular culture, film and media education, and dynamic spaces of learning (Buckingham 2019; Hall, 2013; Potter and McDougall, 2017; Storey 2024, respectively). For me, what binds these fields of enquiry is an emphasis on researching lived experience and the links that can be made between current popular cultural practices and agentic film and media arts production by and with young people (Cannon and Potter, 2019). Working with LMs is fertile territory to consider these relations in conjunction with the disposition, positionality and mindset of the reflexive researcher (Berger, 2013) and the LM maker (Aidelman Feldman et al., 2021). Qualitative researchers often locate themselves in their settings on a sliding scale of participation – that is, as unobtrusive observers on the fringes of their objects of study at one end, and as overtly and deeply immersed participants at the other. LM makers could be figuratively located in the middle of such a continuum, entwined in the experience as watchers and witnesses, originators and interpreters, necessarily edged out by the physical presence of the camera, but still organically attached to and invested in the environment. The choice and framing of the LM/research location excludes as it includes, positioning the agentic creator in that liminal zone which imposes objective strangeness in a familiar terrain, laced with expectancy and the thrill of happenstance.

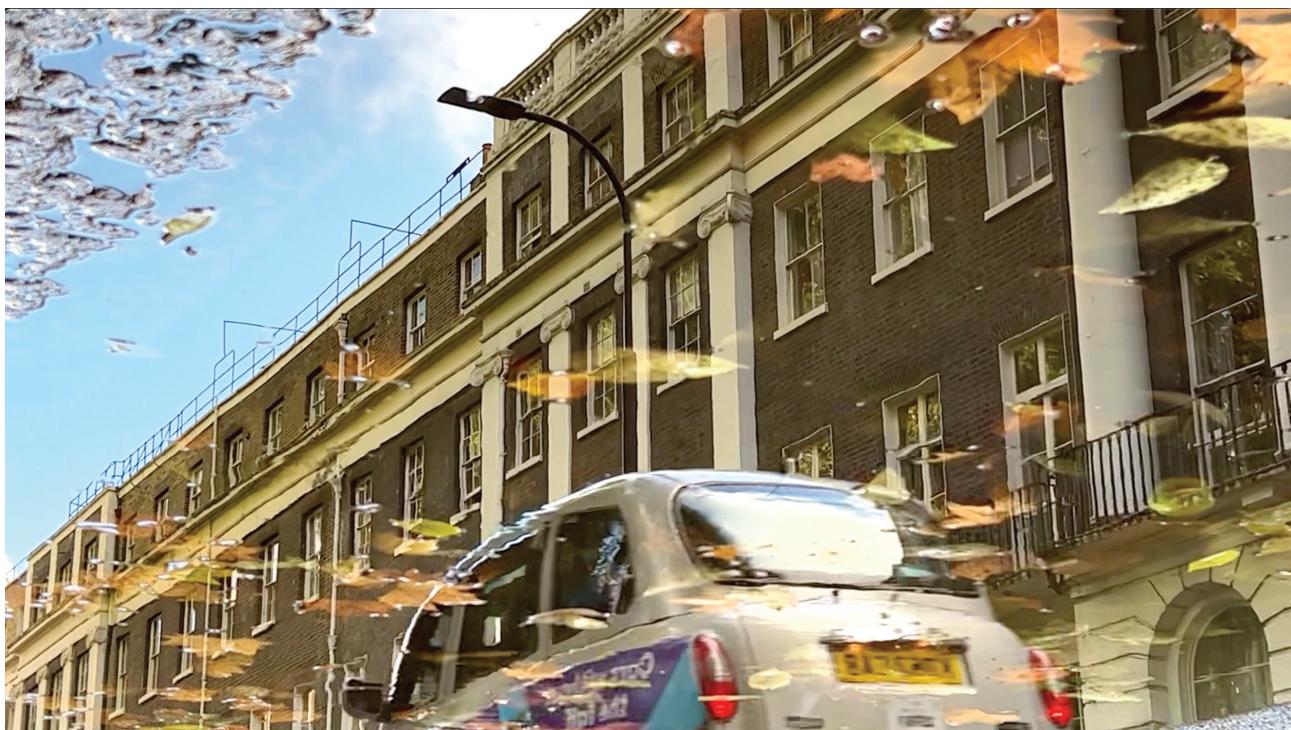
My study of the CCAJ programme took place in the 2013–2014 iteration and the aspect of film language being studied for that year was *le plan-séquence* (the long take). I drew on many facets of Bergala et al.’s work (2016) in my doctoral thesis, which was subsequently published (see Cannon, 2018, pp. 167–70 for an exegesis of children’s LMs along a major North London road). As creative director of the CCAJ programme, Bergala created a typology for understanding the properties of a long take, part of which was the expressive potential for long takes to record process and mutation over time, whilst engaging in the generative process of filming itself. Below we share an LM made by an MA student that we believe demonstrates the complexities inherent in filming a slice of everyday life, where film art and research insight unfold, using process, mutation and intra-action as theoretical framing devices.

Our MA students were asked to film a minute drawn from their life in London in a location of their choosing, and to film it with a dual purpose – that is, with filmic attention to framing and *mise-en-scène*, while feeling an ontological shift, as ‘real life’ transforms into data for analysis. The exercise was meant as practice in the art of observation – an established ethnographic method that sensitively attunes the researcher to their research setting (Gray, 2003).

Bergala’s process element in the typology above relates to the filming of process, but CCAJ is also very much concerned with the creative process of filming itself as learning. Such a ‘process-on-process’ state of mind is as pertinent to the researcher as it is to the LM maker as they keep a present and watchful eye on the viewfinder in anticipation of occurrence, poised to make meaning, if elusive. We characterise this as a moment of still attentiveness, deep in the interstices between the latent and the real, where learning or insight is imminent.

In what follows we discuss an MA student’s LM in which the camera is fixed on a puddle in an area of central London called Bloomsbury. This LM can be found at <https://mediacentral.ucl.ac.uk/Player/aAJFe0C4>. First, we are introduced to the glassy puddle, as shown in Figure 1: the hue and texture of the autumn leaves stud the foreground, and the Bloomsbury buildings stand firm in the background – until tiny ripples start to disturb the image.

As viewers we accept movement in the image foreground – passers-by and vehicles are semi-expected elements of an urban street – but our perception becomes unsettled as the leaves remain oddly constant while the buildings shake. Further disorientation occurs as the third vehicle in particular intra-acts with the elements in view, significantly distorting the image, leaving receding traces of vibration, as shown

**Figure 1. Bloomsbury puddle: the establishing shot**

in Figure 2. This we construe as a metaphor for diffraction in action: the elements of social phenomena are not broken, nor indeed are boundaries dissolved; these all remain intact while our apprehension of the whole is permanently changed by the intra-action of a latent external force on current conditions.

Subsequent to filming, the student made comments on the online platform where we shared everyone's LMs:

It was raining when the sky suddenly cleared. The sky was blue and the clouds were big, so I felt very relaxed walking on the street. I passed by a puddle of water, and the reflection in the water gave me the experience of tearing between 'virtual' and 'real'. So I squatted on the curb, stabilised my phone, and recorded the passers-by and cars that passed by within a minute. Every time a car passed by, the vibration would bring up ripples in the water. But when the car was far away, the water was as still as a mirror, and only occasionally a few pedestrians passed by to remind the viewer that this is not the real world, but the world of reflections. (MA student, October 2022)

The student had a visceral sense of their interstitial positioning, indicated by the reference to 'tearing between "virtual" and "real"'. The reflection ripped the student from the real, and liminally positioned them to record what turned out to be an artful and serendipitous LM moment in terms of light, colour, angle, depth of field, movement and composition. The way in which the student chose to move their body closer to the earth, 'squatting on the curb' by the puddle, phone in hand, acutely alert to events and surroundings, speaks to the idea of embodied, postdigital interconnectedness, as described by [Jordan \(2021\)](#) above. Further, there is a crescendo at around 24 seconds, when the vibrations of the taxi tear us further from the real with a series of undulating ripples.

Bergala's idea of the long take as an appropriate choice of shot to show mutation relates to the glitchy movement of the puddle responding to the vibrations of passing traffic, as if nature is imitating a digital dissolve. The ripples alter our relation to the image, producing a short instance of wonder, a shift in perception. Arguably, this shift represents a pivotal learning moment which [Bergala et al. \(2016\)](#) would ascribe to the aesthetic function of the shot. In addition, we suggest that the pleasing, liquid, aesthetic quality of the

**Figure 2. Bloomsbury puddle: the dis-establishing glitch**

ripples aligns with an epistemic and ontological shift: what you thought was a relatable, knowable, indexical representation is transformed, and nothing remains the same with this emergent knowledge.

The student understood the rippling as representing a 'tearing between "virtual" and "real"', but for our purposes we argue that this disjunction performs an agential cut, illustrative of an emergence from latency, effecting a reconfiguration of meaning. The glitch illustrates the temporary, hybrid entanglement of nature, physics, machine, digitalia, materiality and an embodied and affective act of creative human agency, all caught up in the discursive structures of MA research.

The moment recalls the power of Grant's (2020) 'shudder of a cinephiliac idea' – a sudden uncanny sense of connection and revelation as a viewer – where thought and affect are inextricably intertwined on a personal and intellectual level. We posit that this shuddering opens up particular space and transforms our disposition to learn, in ways that generate and deepen scholarly and aesthetic knowing. Rascaroli (2017, p. 21) suggests, in the context of the essay film, that audiovisual writing involves disjunctive and imbricated practices that 'thrive in gaps'. In the following section, a nexus of filmic thought, feeling, agency and knowing, as provoked by the LM exercise, is instantiated and problematised in the liminal not-school, not-home (Sefton-Green, 2012) gap occupied by a CCAJ after-school club.

### Sa-Ra's primary 'take'

My work as a film educator is rooted in community arts facilitation, with a focus on particular film education pedagogies that intertwine critical, creative and collaborative approaches. Through my engagement with the CCAJ programme, I've come to see the LM as an important pedagogic tool: one that cultivates an understanding of the world around us through encouraging an intentional process of 'letting go' – in other words, allowing a mediated but unedited historical moment. What follows is a reflection on a particular affective moment during an LM exercise as part of the CCAJ programme which we feel offers thoughts on the 'pedagogy of creation' (Bergala et al., 2016) in relation to postdigital 'entangled epistemologies' (Jandrić and Knox, 2022) within film education and research practice.

On a Thursday afternoon, in a primary school in East London, a group of 10-year-old children were shown early vignettes made by the Lumière brothers. The 60-second black-and-white clips of everyday life in late-nineteenth-century France fascinated them. The silent films offered space for the students to comment during viewing, and to make observations about the textual components and modalities of what they were seeing. They noted, for example, that the film was in black and white, that there was no sound and that the speed of the film seemed unnatural. These comments provided an opportunity to discuss the extent to which art forms might be shaped by the technological affordances of their time.

We explored the practicalities of making a film in the time of the Lumière brothers. A Google image of a *cinématographe* – a portable, hand-cranked camera/projector mountable on a tripod – was met by a class of transfixed faces. The class teacher and I explained that film stock in the 1890s was limiting, such that the Lumière brothers could only film for about 60 seconds, and that their work created a new cinematic style of documentary film-making.

The students were itching to get started and do some filming of their own; in groups of three, they were given an iPad and the established creative constraints of the LM:

Record something from the world around you.

Don't move the camera while you're filming.

Record for 60 seconds without interruption.

We reiterated that whatever the students decided to record, there should be no intervention with what was happening in front of the camera: it was to be a minute of 'real life' that was unplanned. The constraints given were designed to replicate some of the constraints of the technology and cultural preferences at the end of the nineteenth century. Given the highly mediated digital landscape that many of the students inhabit, where the demand for their attention is arguably constant and erratic, students engaged with the world in a manner that felt novel to them. They were encouraged to slow down and observe an organic moment of everyday life, and to enact the still attentiveness as mentioned above, all in the relative tranquillity of an empty school. Some readers might already detect a challenge to completing this exercise in these conditions, given that the typology associated with this year's CCAJ theme included the filming of process and change within the frame.

The film club students dispersed to find a space to film in. The age group and the time of year meant that the physical space to explore during the film club was limited: at 4 p.m. on a February afternoon it is already dark, which meant that the children were unable to leave the school grounds. Having set up their iPad in an empty classroom, one group took a flight of fancy and acted out a semi-scripted, comedic situation in front of the camera, relishing the freedom afforded by a less formal and playful environment (Potter and McDougall, 2017). Another group decided to film outside; they framed an empty bench on the playground, only to then ask their class teacher if it was okay for them to sit on the bench and pretend to do an everyday action, like reading a book, as part of their LM. Seemingly the children were puzzled by having to film what to them was an empty frame; either this or they could not resist the opportunity the camera afforded to perform in front of it, even after receiving the brief.

Initially, doubts about my teaching set in: did I not introduce the activity clearly? Maybe I should have taken a moment after explaining the exercise to check the students' understanding before they headed off. I looked to the class teacher for his insight; he was equally surprised and fascinated. Perhaps it was unusual to grasp that you can make a film where 'things just happen' or 'things just don't happen'. Or maybe the stillness of the school after hours provoked the students to make something happen, to make an intervention in the circumstances of their reality.

As an educator, my mind turned to the practical limitations of fulfilling the exercise. While their responses did not match the brief, they revealed a social rendering of the disrupting ripples in the puddle above. I have presented this exercise to many different primary school groups, and their rebellious response effected a diffractive ripple. The children changed my perception of the exercise, which had hitherto been

familiar in its pleasing, liquid and aesthetic quality. This group's playful and arguably pragmatic response to the exercise, and their instinct to vocalise their wish to restructure or reframe 'reality', reflects what we understand as a kind of postdigital agency. We interpret the children's response as enacting an agential cut amid mutually entangled conditions. Their experience of screen-based media is largely rooted in the tropes and genres of popular culture, and they were acting, in one case, on an impulse to replicate aspects of popular texts familiar to them (the amusing scene) and, in the other case, on a desire to partly fulfil the brief while not resisting the urge to perform an everyday happening (reading on the bench), albeit it static. These intra-actions sent forth a ripple of repercussions that could be interpreted as rubbing up against the rules of an established cinematic tradition unsympathetic to adjustment.

We suggest that the children's urge to co-author a version of 'authentic reality' based on their own experience of moving image was not necessarily in opposition to the LM's aesthetic form, but could attend to what [Jandrić and Knox \(2022\)](#) describe as an entangled epistemology – or the effects of an agential cut – which offers additional knowledge and perspective. Indeed, Baradian thought could be described as permissive, as inimical to dichotomies: her work encourages the rethinking of binary thought, as might be perceived between the cultural contours of an LM documentary and the performative comedy traits of a shortform Instagram story. Indeed, even the Lumière brothers' LMs were largely staged lived experiences: could it be that the children were inadvertently acknowledging that their own interpretation of the world shapes what is being framed in the camera and that their captured moment was inevitably and overtly framed?

The Lumière brothers' original films are seemingly simple and spontaneous: a long shot of an entrance to a factory shows groups of workers leaving the factory at the end of a work day; a medium-long shot of a tram passing in front of the camera in the middle of a busy square. Yet, this is merely an impression of authenticity: '[The Lumière brothers] researched when the best moment to take the shot is, and they've achieved the most extraordinary thing, [...] without changing the camera's position, they've managed to get the most out of the shot that they possibly could' ([CCAJ, n.d.-a](#)).

Spontaneity, in this sense, was studied – a performance of authenticity underpinned by an intention on the part of the LM maker to capture a moment of their choice. Bergala's understanding of the pedagogy of creation frames this idea of 'studied spontaneity' as a way to 'push our logic and imagination to an earlier time in the creation process, to the moment in which the filmmaker has to choose between different options' ([Bergala, 2007](#), p. 128). By embodying these moments of creative decision making, the young LM filmmakers expressed what felt authentic and important to them. Chambers reflects on issues of authenticity in his work as a film education tutor with children:

We must ask difficult questions of the fundamental goals and pedagogical philosophy underlying any given programme of film education: is the goal producing 'good' work (to the extent that a sense of what is 'good' can be shared by both those running a project and those experiencing it as students), or is it enabling students to freely explore what is important to them, with a significant degree of independence from adult mediators and interlocutors? ([2019](#), p. 45)

From this point of view, the children's decisions become less about misunderstanding the exercise and more about asserting authorship: reframing the LM not as an observational task, but as an expressive and self-directed creative act. In hindsight, discussions that 10-year-olds might relate to around 'unique material historialities and how they come to matter' ([Barad, 2014](#), p. 176) and the evolving specificities of culturally situated preferences might have made the exercise more meaningful for these particular children. For example, considering LMs as in some way reminiscent of a temporary documentary-style TikTok story or a WhatsApp status, both designed for *in-the-moment*, ephemeral sharing rather than permanent posts, might be of value here.

The idea of capturing 'real life' in an LM recalls what [Bazin and Gray \(1960\)](#) claim as the ontology of the photographic image. Examining the technological qualities of filmmaking, they argued that cinema is intrinsically a medium to capture reality. The camera is a machine that records what is happening in the

moment when the shutter opens and closes. The photographic medium therefore is one that possesses an 'objective nature' and a 'quality of credibility absent from all other picture-making' (Bazin and Gray, 1960, pp. 7–8). And yet, even Bazin and Gray conclude their essay by acknowledging that, 'on the other hand, of course, cinema is also a language' (1960, p. 9). As with all languages, the language of cinema entails processes of selection, composition, structuring and imaginative interpretation.

Recalling the MA student's comment above, their LM of the puddle and the ripple was interpreted as a representation of 'not the real world, but the world of reflections'. The ripple in the puddle forces the viewer to shudder out of the illusion of reality that the camera is giving us, reminding us that the language of cinema is not fixed, just as knowledge of the world and its subjects is in constant flux, and entails the iterative reconfiguring and recycling of elements, be they from popular cultural motifs and practices or from cinematic tradition. In the end, a perceived dichotomy between the undisturbed 'organic' and the agentic 'subjective' is perhaps an unhelpful construct, as their intra-action is the site where knowledge and meaning emerge, thus making the LM exercise rich in critical possibilities.

## Conclusion

Cinema is not simply a tool for representation, but a way of engaging with, interpreting and acting on the world itself (Cavell, 1979) through the development of criticality, creativity and a capacity for praxis (Cannon, 2018). In the HE scenario, our student LM makers don a researcher mindset as they are encouraged to surrender to environmental contingency, allowing any potential mess and chaos to unfold inside a constructed frame (Facer and Pahl, 2017; Law, 2004). These are the kinds of creative and open-ended arts-based intra-actions between practitioners, teachers and pupils that provide the conditions for self-determined and memorable learning and/or research moments (Thomson et al., 2012). The non-hierarchical nature of the CCAJ project and the LM exercise offers space for maker agency and negotiation based on an invitation to quietly linger and attune to the moment, all the better to heed the latency or indeed the arrival of an agential cut.

In the primary school scenario, the LM becomes a site of encounter (Aidelman and Colell, 2018) where children's agency can ripple into historical aesthetic forms and reveal how meaning-making, even with the introduction of constraints, is dynamic and co-constructed (Cannon et al., 2018). In resisting stillness, the children were producing something mischievous and hybrid: a postdigital minute where culturally rooted constraints collided with the exuberance of contemporary play (Cannon et al., 2023): what emerged was a kind of quiet radicality. Just as ethnography produces knowledge through the situated gaze of the researcher (Haraway, 1991), the LM renders concrete the situated and experiential gaze of the learner/maker, such that even the smallest choice of framing and timing carries political weight. The results may be messy, but what surfaces is a pedagogic understanding and acceptance of the learner's perspective and an emergent principle of polyvocal openness.

We suggest that CCAJ's experimental codes of practice generate an awareness of deep ontological interconnectedness with the local surroundings, as well as highlighting knowledge-forming and creative possibilities with film in a range of educational and research settings. Building on this, we propose that the unedited LM fits within broader film movement traditions relating to resistance and radical response to culturally dominant modes of production. As the camera rolls, filmmaker and researcher alike engage in praxis by negotiating entangled variables: the contingent conditions of a geographic location; the positioning and functioning of bodies, tools and entities in space; and waves of emotion, discursive forces and leaps of the imagination.

Earlier we asked how LMs generate opportunities for creative and experiential learning and critical methods of enquiry. We anticipate that our exploration of film education techniques and strategies may generate more questions than answers, in the very spirit of critical enquiry. However, we hope that we have started a conversation about our Baradian postdigital framing as a useful lens through which to develop inclusive and plural modes of pedagogy and research practice.

Learning about our environment and our relationship to it through the act of filming, and the filming of LM minutiae in particular, allows us to appreciate the complex '(im)material' network of relations (Burnett, 2011), heaving with intra-action, in which human bodies are embroiled (Potter, 2024, drawing on Burnett and Merchant, 2020). In terms of contemporary and instrumental relevance, each LM could be conceived as practice at making sense of perceived chaos in an ecology of post-truths (Buckingham, in press), but our perspective sees LM making as inhabiting the interstices between letting go and conscious manipulation, all the while engaging with the world in meaningful and interdisciplinary ways.

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## Declarations and conflicts of interest

### Research ethics statement

Not applicable to this article.

### Consent for publication statement

Not applicable to this article.

### Conflicts of interest statement

The authors declare no conflicts of interest with this work. All efforts to sufficiently anonymise the authors during peer review of this article have been made. The authors declare no further conflicts with this article.

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