The Role of Digital Cameras in Child and Researcher Encounters in Preschool

A Potential for a Decolonization of Childhood

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Abstract

The aim of this article is to analyze how a researcher's use of digital cameras, with children in preschool, affects the children's becoming as filmmaking subjects. The material consists of 12 months' digital videography, during which the researcher took part in children's own filmmaking. The authors used conceptual tools from Deleuze's (1986) film theory to analyze an encounter between two children and a researcher as filmmakers. The analysis demonstrates how turning towards and turning away in relation to human (children and the researcher) and non-human (digital cameras, rhythm, music, light) actors actualizes admiration and desire in varying ways. The authors pay special attention to the children's acting with abstract, constantly moving compositions. The article highlights how the children and the researcher produce different, yet related becomings using digital cameras. Acknowledging such connections between children's mingling with human and non-human actors provides ways to understand how cameras actualize the potential to decolonize childhood by decomposing and recomposing educational settings.

Keywords

videography – children – Deleuze's film theory – preschool – digital cameras – digital tablets

1 Introduction

Digital tablets and cameras are used in different ways during research studies conducted in preschool settings. The role of digital recording devices is enhanced when, in addition to filming children, children's own films become part of a researcher's data collection, knowledge production and results (Eckhoff, 2015, 2017; Elfström Pettersson, 2017; Magnusson, 2018). Such an interpretational framework, grounded in Gilles Deleuze's philosophical thinking, understands adults and children as adjacent to each other, rather than being in fixed binary opposing positions as a developed 'adult' or a developing 'child' (Bohlmann & Hickey-Moody, 2019). Children actualize assemblages and are expected to create maps of their own trajectories as they explore milieus (Powell, 2019), rather than following predetermined, developmental patterns set by adults (Bohlmann & Hickey-Moody, 2019). Moreover, when acknowledging the child as emergent within a relational field, where humans and matter are equally at play in constituting children's becoming (Lee, 2005), the researcher's position also becomes de-centered during the research process (Hultman & Lenz Taguchi, 2010).

In this article, we explore children's and adults' becoming in film events in a Swedish preschool using concepts from Deleuze's (1986) film theory when analyzing video ethnographic films. This means that the analysis is founded on a relational ontology within which children and the adult are regarded as 'equal' producers of matter, rather than positioned as 'child' or 'adult'. This contrasts with most cultural and societal understandings, which are based on the assumption that there is an adult-child divide, as also expressed in mainstream child research (Lee, 2005; Prout, 2005). The research data in this article is created by a Deleuzian 'generative child' instead of a developing child (Hickey-Moody, 2013, p. 272), as well as by a generative adult who is still developing. More specifically, we focus on understanding how digital cameras come to matter in children's and a researcher's becoming in a child institution, and the research question guiding the analysis has been: What is the role of digital cameras in child and researcher encounters in a preschool setting?

We will present examples of how children become with their cameras in unexpected ways, mingling with the researcher's becoming, and we argue that this needs to be acknowledged in order to make way for children's own generative filmmaking strategies, rather than forcing them into predetermined adult understandings of how to make a film. The children and the adult are 'carried away' by the digital cameras (Pisters, 2003), whereas the children actualize more complex relations than the adult when immersed in the film event. Acknowledging different connections between children, digital cameras, the milieu, and a researcher in their becoming might provide alternative ways to understand children's filmmaking and how childhood can be decolonized in education.

1.1 *Framing Method: Digital Videography Producing Film Events*

A digital videography (Pink, Horst, Postill, Hjorth, Lewis, Tacchi, 2016) was designed and used by the researcher to produce the material analyzed in this article in order to study how moving digital images take part in knowledge production in a preschool setting. The videography took place over a period of 12 months. A total of 29 children aged three to five years were enrolled in the preschool, and four preschool teachers supervised them. The children were in preschool for full days, approximately eight hours a day.

The filming children worked in pairs and were given digital tablets by the researcher. The children were invited to make films about their preschool, and the task was formulated as an open-ended question: 'How would you describe your preschool in film?' It was thus not a learning event connected to a predetermined goal or to the curriculum, but an open ended question for the children to examine and be creative with. For practical reasons, all filming took place inside the preschool premises.

The children's film recordings have a total duration of four hours and 40 minutes. The researcher followed the children's explorations using a digital camera. Occasionally, she interacted with the children while they were filming, and hence took part in the event as another filmmaker exploring the children's explorations. The researcher also filmed while the children showed their own films to other children in the preschool. The researcher's film recordings have a total duration of 13 hours and 53 minutes. All the films have been indexed in order to address our research questions, in which Deleuze's (1986) film theory is used to analyze child and researcher encounters. The index focuses on moments where children's own choices and strategies become visible. The data comprises 14 film events altogether (28 researcher's films and 14 children's films; hence, the researcher produced more films than the children during the film events).

A film event, according to Deleuze, is one event containing different events within it (Deleuze, 1986, p. 120). In this article, we make an analogy with this description of a film event, whereby the children's and researcher's moving machine-perception-images constitute one event with differing events within it. The particular film event analyzed in this article lasted for nine minutes and has been singled out because it includes many levels of how perception and movement, and moving images, can be understood as part of children's becoming in a preschool. The analysis includes children's own filming and the researcher's filming of the same event. This provides unique data through which children's filmmaking can be analyzed from both their own machine-perception-images (Figures 4–6) and the researcher's machine-perception-images (Figures 1–3) within the same event.

1.2 *Theoretical Framings: Film Theory and Its Implications for the Analysis*

Our aim is to investigate how a theory of film images can be related to a videography of children's and a researcher's film practices in preschool. Moreover, and in line with Deleuze, we pay special attention to how both human and material matter, such as digital cameras, color, light, movement, and rhythm (from electronic music) actualize how an image 'constitutes a plane of immanence' (Deleuze, 1986, p. 66). What he seems to contend with this statement is that images, movement and matter are always connected. According to Bergson, Deleuze writes, 'movement is distinct from the space covered. Space covered is past, movement is present, the art of covering' and thus the past, the present and the future are connected in the cinema (Deleuze, 1986, p. 1). He continues by presenting movement as a 'mobile section, which is a temporal section, this is a block of space-time' (Deleuze, 1986, p. 66). This means that movement is not only a moving body or a moving camera, rather it is time and thus mobile, movement works within space and hence is part of time; this is mobile sections. These mobile sections, according to Deleuze, correspond to the 'succession of universe' which, he argues, is not mechanism; instead it is 'machinism' (Deleuze, 1986, p. 66). Hence, the material universe, the plane of immanence, is the 'machine assemblage' (Deleuze, 1986, p. 66). In this article, we regard the film event as a machine assemblage, meaning that digital cameras, color, light, movement and other non-human divides correspond with human bodies acting within the event. In line with this, we highlight the ways in which movement and time connect human and non-human divides through mobile sections of time in the constitution of the images.

By following Bergson, Deleuze gives us a toolkit to analyze the potential emergence of new realities through the visualized camera shot (Deleuze 1986, p. 8), in both the children's and the researcher's film clips. Giving mobility to both the camera shot and the images, as Deleuze suggests, contributes to our analysis since it is a way to study the emergence of realities through connections between the bodies of the children, the researcher, the digital cameras and other non-human divides within a preschool environment. Deleuze describes the camera shooting act as being like a consciousness in which human and non-human divisions mix in a single perception, a 'whole' consisting of humans and non-humans (Deleuze, 1986, p. 24). The camera shot is consciousness, according to Deleuze, and it traces a movement. This means that things arise within movement and continuously reunite into a whole, while the whole is continuously dividing between things (Deleuze, 1986, p. 24). Thus, movement diverges the elements by dividing them into 'fractions in differences', which 'decomposes' and 'recomposes' the set (Deleuze, 1986, p. 29). A recomposition creates an 'open whole' which constantly becomes and changes in two different forms. In this way, Deleuze describes how movement is extracted from persons and things in two different forms; firstly, through the mobility of the camera, the shot becomes mobility by itself and, secondly, through montage, by the continuous connecting of each shot (Deleuze, 1986, p. 29).

The shots we visualize in this article are taken from digital hand-held cameras and they are constantly mobile. Thus, we are attentive to the mobility and montage that the camera brings with it and we take our starting point in Deleuze's exploration of three levels of how closed systems work; 'that of the movement which is established between the parts of a system and that of a changing whole which is expressed in movement – there is a circulation between the three which enables each to contain or prefigure the others' (Deleuze, 1986, p. 33). Hence, in the analysis of movement in this article, we regard the montage as prefigured and contained within the shot and the frame and not within the montage itself.

The 'camera-consciousness' actualizes a liquid perception that is 'genetic and differential' (Deleuze, 1986, pp. 89, 95). Hence, liquid perception is molecular and gives us tools to examine how child, adult, digital cameras and other non-humans can be understood as fluid and not as binaries. In this way, it becomes possible to break up categories and thus examine how humans and non-humans are connected and dependent on each other and hence come to matter in the analysis. Breaking up categories can also pave the way to multiple becomings and hence novel ways to understand how realities in the children's and researchers' film event may materialize.

Deleuze continued to explore these aspects in his collaboration with Felix Guattari. They described binaries as passing through molecular assemblages, creating a dual and mutual dependence (Deleuze & Guattari, 1988, p. 249). In line with this, both child and adult belong to a diverse molecular becoming.¹ Deleuze and Guattari (1988, p. 277) argue that becoming is not a correspondence between relations or an imitation, nor is it fantasy or imagination. Becoming is real and produces nothing other than itself, involving a multiplicity. Theoretically, the phrase 'movement images' in this article refers to how movement is integrated into the machine-image-perception itself, and thus generates multiplicity.

In our analysis, the concept of machine-perception-images is used as a conceptual tool to understand how both the children and the researcher are becoming material and molecular in the way Deleuze describes 'machines' (Deleuze, 1986, p. 44) within the apparatus through which the children's and the researcher's image production is passing. Special attention is directed towards subjective affection-images such as close-ups, and objective action-images of actions, materiality and environment. Moreover, movements towards something and movements away from something, turning to and turning away (Deleuze, 1986, p. 118), are used in a detailed analysis of how admiration and desire are actualized in the film event.

To be clear, even though we use conceptual tools from Deleuze's (1986) film theory, we are aware of the fact that the analysis performed in this article is of a different kind than the film analysis performed by Deleuze, or by researchers inspired by his film theory. In this article, films produced in ethnographic settings are analyzed, while Deleuze was analyzing films produced by professional directors. The children were clearly informed that their films would be included in the researcher's data gathering and would form part of a forthcoming book. In addition, they knew that they could leave the filming activities at any time and withdraw their films. The research project was approved by a regional ethics board in Sweden.

¹ Hence, the cultural and social division of child not as adult and adult not as child, is, according to such a theoretical framework, no longer valid since they are connected and related in multiple ways.

2 Analysis of Children's Becoming as Filmmakers in Preschool

The film-theory-inspired analysis of children's and a researcher's encounter with digital cameras in this article uses two interrelated sources, the children's film and a researcher's film. These different, yet related, filmmakers took part in the same filming event, the same image-producing assemblage, and the analysis was performed using moving images from both filmmakers, to examine how they created images during the same film event. The researcher had a pre-established interest in filming the children's filmmaking. However, the children did not necessarily have any interest in the researcher's filmmaking. Nevertheless, it is clear that the children did want to participate in the film event, and they knew that they could choose not to participate at any moment.² Each film event was introduced by the researcher, who talked about the fact that the children could film their preschool. She did not specify how to film or what the film should be about.

The film event analyzed in this article, during which the pair of children were filming together with the researcher, lasted for nine minutes and the process of filmmaking that was going on will be presented via six still images: three from the researcher's film (Figures 1–3), and three from the children's film (Figures 4–6). We start with the images from the researcher's film (Figures 1–3) because they give an overview of the event, including information about what the child³ is filming (Figures 4–6). What the child is filming in researcher's Figure 1 can be seen in the child's Figure 4, and this continues in Figures 2 and 5, and Figures 3 and 6. Via these shifting positions, it is possible to analyze both the researcher's and the child's machine-image-making. As can be seen in the six still images (Figures 1–3 & 4–6), there were several participants in the film event: two cameras (one digital tablet and one digital camera), a female researcher in her forties, one four-year-old girl and one four-year-old boy, and the material environment provided by the interior decoration of the room, its floors, walls and ceiling. There was a carpet on the floor and a lamp made of mirror mosaics rotating and projecting dots of moving light of varying colors. What cannot be observed in the images is the music that was playing during the event. At the preschool where the event took place, the room was designed with attributes for experiencing music

² Parents and teachers gave written consent to participation and, in addition, the children gave oral consent for all film events. Two children chose not to participate in any film events.

³ We shift between 'children's film' and 'the child's film' since the two children filmed as a joint project even though only one was holding the tablet.

and dance, and for showing the films that teachers made when documenting the children. The music player and speakers were located on a shelf on the wall, which was out of reach of the children. The analysis is centered on the six still images, even though what happened in-between the still images will also be included.

FIGURES 1–3 The researcher's machine-perception-images. Preschool, Event F, 2017-03-22. Images are blurred to avoid identification

FIGURES 4–6 The children's machine-perception-images. Preschool, Event F, 2017–2022. Images are blurred to avoid identification

The researcher's and the child's machine-perception-images co-exist and cross over to each other because, and here we use a concept from Deleuze and Guattari, they are 'inseparable' (1988, p. 249) and operate differently with different multiplicity by grasping different things. Hence, the child's and the researcher's images highlight different things within the milieu upon which they act. The researcher's images are filmed in a stable, centralized, classic and less fluid way, which can be interpreted as molar (Figures 1–3). These images visualize how the camera shot traces movements that show us long distances and wide perspectives. The camera shot traces movements and rhythms through the children's dancing and filming actions and thus not through the electronic sound of the music or the electronic

rhythms themselves. Hence, bodies and things in the environment are filmed in such a way as to frame a set for the images whereby the children's actions can be understood as a binary in relation to the researcher and the educational environment. This could be interpreted as an honored approach to academic research and, also, the advanced role of education and learning in an educational setting. In contrast, the child's images are filmed in a decentralized and fluid way, which could be interpreted as molecular (Figures 4–6). These are affection-images and visualize how the camera shot traces movements that show distances and close-ups, they pan and tilt with different intensities. Hence, the bodies and things in the environment are filmed in a way that does not make the educational setting for the images visible from a wider perspective. Instead, the set for the images visualizes the invisible with close-ups and high intensities and thus creates the potential to break through, decompose and recompose the organized educational environment.

Deleuze describes the set as an ensemble of things, including the milieu. A set is composed of elements. The image itself is the system of relationships between its elements, which is a set of relationships in time. Hence the movement-images are things that are caught in movement (Deleuze, 1986). The researcher's and the child's two film clips reveal a set in the images whereby the mobility of the camera visualizes things that reunite into a whole through distances, high and low intensities, and close-ups. The clips from the child's film show how the mobility of the camera traces movements and intensity and thereby visualizes the invisible. Theoretically, the two hang together and work simultaneously; yet, importantly, researchers (and adults) need to be aware of what position they are taking in relation to the positions that children might actualize in their specific forms of becoming as knowledge production. Therefore, we argue that the molar and molecular could be advanced as a way to understand an adult perspective on children as filmmakers versus a child's perspective on children as filmmakers. As adulthood and childhood interact and depend on each other, molar and molecular articulations hang together. As can be seen in Figure 5, the children included the researcher in their film, meaning that they could return the researcher's machine-perception with their own machine-perception. In addition, Figure 6 is a close-up and a 'facial image', that 'returns the look' (Marks, 2000, p. 94). This reveals that children have an interest in re-turning the researcher's machine-perception when given the opportunity (*cf.* Sparrman & Lindgren, 2010).

We now present a more in-depth analysis of the moving images and the role that digital cameras might play when children are making films of their

own. The analysis was performed using Deleuze's (1986) conceptual tools of turning away and turning towards in the analysis of the film event. Turning towards and turning away relate to different aspects of action-images and affection-images and concern affect as admiration and affect as desire. For us, using these concepts provides novel understandings of children's becoming via machine-image-making practices (i.e. when using digital tablets/cameras).

2.1 *Turning Away and Turning Towards Digital Cameras: Movements of Admiration and Desire*

The researcher's film clips show a set, using a wide-angle perspective in the machine-perception-images (Figures 1–3). The mobility of the camera visualizes how the filming researcher acts on the moving children with their digital tablet. According to Deleuze's (1986, p. 77) references to Pierce, these images are action-images organized in space and time, where actions depend on things in the milieu. Hence, the images constitute what Deleuze refers to as a real milieu around a center; they actualize a situation in relation to a subject, in this case the researcher's image-making. These action images are 'individuated like people and things' within an event and are not as complex, melting, boiling or coagulating as affection images (Deleuze, 1986, p. 116). Action images actualize an objectivity that is highly regarded in western philosophy (cf. Daston & Galison, 2007; Hacking, 2002). The children's machine-perception-images in the same film event are blurred, without a defined center or milieu, and they image any-space or emptied space, linking up with mobile and unsettled lines and subjectivities in close-ups, as affection-images (Figures 4–6). In addition to close-ups on a face, acknowledged by Deleuze (1986, pp. 97–98, 117, 120), the children use close-ups of the milieu, a wall and a carpet (not visible in the images presented here), and moving light. This is, however, a way to actualize qualities and powers from the milieu, 'forces' from the milieu incurring on the event (Deleuze, 1986, p. 160).

The researcher's machine-perception-images show how the mobility of the camera traces movements with low intensity, almost unnoticeably (Figures 1–3). It is as though the low intensity of the researcher's film enhances the sense of movement performed by the filmed children with their tablets and the moving lights on their bodies and the walls. At the same time, and as perceived by the researcher's machine-perception-images, the children's movements are coordinated in relation to the slowly moving researcher, whose machine-perception-images are not coordinated with the rhythms of the music or the moving lights. Instead, the researcher's images

are coordinated in relation to the moving and filming children. The researcher's machine-perception-images *turn towards* the children, actualizing movements of *admiration*, a form of affect (Deleuze, 1986, p. 118).

When the event starts (Figure 1), the machine-researcher is turned towards the machine-children, who are turning their backs to and moving away from the machine-researcher. The boy is turning towards the girl and both are turning towards the tablet in the girl's raised hands (Figure 1). As can be seen in the children's machine-perception-images, they turn towards and direct the camera-lens directly onto the colorful dots moving on the wall (Figure 3). Turning away and moving away actualizes what Deleuze (1986, p. 118) refers to as *motor movement of desire*, a form of affect. A mutual turning away from the filmmaker (and spectator) is interpreted, in Deleuze's film theory, as something that actualizes existential feelings such as survival by moving in sync and moving away in togetherness. Hence, a movement away becomes a joint movement towards something else, which is perhaps unknown. These machine-children are moving away from the researcher towards a screen displaying moving lights of varying colors (Figure 3). It is as though the raised tablet in the hand of the girl actualizes a desire that is leading the children forward together with the rhythm of the electronic music and moving colored spots projected by electric lights. The clip from the child's film shows how the mobility of the camera traces movements and intensity and thereby visualizes moving colored spots, electric lights and also the invisible sound of electronic music, and rhythmically decomposes and recomposes them to become visible *rhythmic-images*.

As can be seen in the second researcher-machine-image (Figure 2), the machine-children turn around and move towards the machine-researcher and, in addition, the machine-girl directs her camera lens directly at the machine-researcher, saying 'I'm filming everything' (Figures 2, 4), as though producing machine-perception-images of/with the researcher, in this specific milieu and event, equates to a holistic, all-embracing filming of 'everything'. Through this machine-girl's verbal affect, we come close to how Deleuze (1986, p. 78) explains the hero in action-images and perception-images: 'the hero only acts because he is the first to see, and only triumphs because he imposes on action the interval or the second's delay *which allows him to see everything*' (our emphasis). We argue that the girl's verbal affect, when seeing through the camera she is holding in her hands, could be interpreted as an instance of a child's potential to actualize the kind of molar, wide-angle perspective that is usually actualized by adults. In relation to the machine-girl in the researcher's machine-images, this could mean that the machine-

girl, herself, actualized by movements in many forms (the lights, sound, her own body, other bodies, camera), reifies admiration as appreciation.

Being able to move towards and re-turn the researcher's camera-lens, and at the same time connect to the researcher's machine-perception-image (Figure 4), influences the girl's desire to use yet another aspect in addition to sight, hearing and body movements, namely *voice*. Her utterance is exclamatory, indicating excitement and force (Eriksson & Sand, 2017). This could be an acknowledgment of the possibility to actualize shifting positions between being child and being adult. This verbal comment, the only verbal utterance in this particular film event, could imply that the machine-girl felt enabled when producing these particular images, in which the researcher was filmed in the same way as the children. Hence, the machine-researcher was, for an instant, actualized as 'the known', a condition usually ascribed to children, and the machine-girl was actualized as 'the knower', a position usually ascribed to adults (Blaise, 2013, p. 814). The film event thus opens up space for the possibility of the children's machine-perception-images becoming both knower and known, just as the researcher's machine-perception-images do.

In the third researcher-machine-image (Figure 6), the machine-girl turns away from the researcher, again actualizing motor movements of desire (Deleuze, 1986, p. 118). Turning away from something simultaneously means turning towards something else; turning from and towards are inseparable movements, according to Deleuze. The machine-girl's move homes in on her fellow, the other child, who is turning towards her. The children continue their movements towards each other and towards the tablet in the hands of the girl. Interestingly enough, the girl's machine-perception-images become a close-up on her peer's face (Figure 6). This is also a turning towards that actualizes admiration, now directed towards themselves as children in the preschool. In these movements, the camera both connects the children and directs their affect towards each other, and at the same time it divides them, being a more-than-human device becoming in-between them. The machine is something the children turn towards, yet again actualizing admiration, but now in relation to the more-than-human device. These movements are affected by another movement; namely, the desire actualized by turning away from the researcher-machine.

3 Concluding Discussion: How Digital Cameras Actualize the Potential to Decolonize Childhood

We have shown how the classifications of perception-image, affection-image and action-image work together and how they can contribute ways of thinking about children with cameras in an educational setting. We found a way of understanding how this classification of images produces becoming as knowledge from within the films themselves and with potential to change the educational setting. More specifically, we found that the children's and the researcher's machine-perception-images visualize the mobility of the cameras, tracing movements and intensity in their own unique ways.

Hence, the mobility of the researcher's camera and the child's camera mix together things and human bodies by pointing out and acting on things and human bodies in their own ways in the same ongoing film event. Thus, the images visualize how the children, the researcher, and more-than-humans such as moving colored spots of light, electric lights and the electronic sound of music are divided and external to each other. Thus, they are capable of changing connections and hence things emerge and take different forms, which also change the whole of the child's and researchers' two separate film clips. What we found, in a sense, was expected ways of how the researcher actualizes a molar, objective, low-intensity movement, and detached machine-image-perception in the film event, while the adjacent children's machine-image-perception was unexpectedly molecular, subjective, and filled with high-intensity movement.

In addition, what we did not expect was how the molar explored the molecular and vice versa, and we interpret this as an actualization of liquid perception whereby binaries become fluid. We would argue that this is an intense liquidity reified by the research design of using more than one digital camera. Giving the children their own cameras creates a way for different forms of research productivity to emerge, rather than just the ability of the researcher to grasp children's perspectives and children's meaning-making. In our data production, the researcher took part in and filmed the children's filmmaking. The children's filmmaking started with the researcher's open ended question: 'How would you describe your preschool in film?' By applying this method, it was possible for the researcher to follow the children's own choices and strategies for using a digital camera, and it also made it possible for the children to follow the researcher. Hence, the use of more than one camera in the research process actualized fluid perception, a non-hierarchical encounter between the researcher's machine-perception-images and the dancing and filming children's machine-perception-images.

Moreover, this method highlights how children's filmed explorations are part of their multiple becoming as filmmakers.

What the analysis in this article makes clear is the potential that cameras provide for children as filmmakers, i.e. how children can produce and actualize machine-perception-images when they have access to machines. In addition, what the detailed analysis of movements and turnings towards and away from machine-bodies confirmed was how affects such as admiration and desire were set in motion during the film event. The children showed potential to handle varying forms of admiration and desire; they moved towards and away from the researcher-machine-body as well as towards and away from each other and the child-machine-body, as well as towards and away from moving light and objects in the environment. Hence, the child's machine-perception-images show how the mobility of the camera constantly and playfully creates a changing whole in the film event. More specifically, the images from the child's film show how the mobility of the camera traces movements such as moving colored spots of light and the electronic sound of music. The same elements are filmed in different ways and the film clips show how the camera shot traces movement and how elements themselves emerge in different ways and thus decompose and recompose the set into a creation of constantly becoming and changing electro-rhythmic-images.

Hence, using more cameras, and including how the cameras are actualized in the research process by the different participating human and non-human actors, can lead to insights into children's and adults' reciprocal becoming. The goal is *not* to make children 'develop' into copies of adults as filmmakers. Rather, we should aim to open up opportunities for children to actualize both molar and molecular machine-perception-images, and for adults to actualize less detached machine-perception-images and desires as well as admiration. Upgrading the molecular perception to the camera gives the shot the mobile potential to trace movement and affect of desire by mixing the non-human as colored spots and lights and the human as the children's and the researcher's bodies and faces into a single perception. Through this apparatus, the images can pass from the present, and connect to the future in a variable open whole. This passage allows access to children to decompose and recompose their educational settings and hence break through the category of child which defines what a child can do with a camera in an educational setting. The set in the images visualizes children's actings through abstract, and continuously moving compositions on faces, moving colored spots of light, objects in the environment and the electronic sound of music without making 'sense' (Deleuze, 1990) in relation to the attributes of the educational setting.

The abstract composition of the images is in line with Deleuze's references to Spinoza's use of 'passion', and to bodies' capacity to be affected and to act upon things. Affect is thus an ethical process of being free in a most powerful way, which is a 'possession of power of acting' (Deleuze, 1988, pp. 21, 27, 70). The children's acting of learning is a process, not about the learning itself but about a passion to explore and practice their power of acting and making a playful affect-film. Hence, the mobility of the camera gains access to complex forms of children's power of acting and multiple becomings, from being a digital filmmaker, a dancing child, and a molecular child to becoming an electro-rhythmic child. This would be a strategy for decolonizing childhood from adultist perceptions and expectations. It would probably benefit adults' being and becoming in educational settings as well.

In sum, to shift children's role in videography with the use of digital cameras, following a relational ontology, would not automatically shift the role of the researcher. However, we argue that access to machine-perception could actualize multiple 'shiftings', including ways of perceiving both adulthood and childhood. We have not looked beyond movement, as Deleuze aspires to do. Instead, we have focused on ways to see movement in the empirical material produced in a videography. This was our route to finding the way to 'the new thinking image' (Deleuze 1986, p. 239). This will further contribute with knowledge about the role of the digital camera's potential to take part and work together with children and researchers (and other adults; for example, teachers) in their filmmaking and thereby render invisible images visible in the recomposition of educational settings. Visualizing such recompositions would give rise to new images of thinking cinema within children's and researchers' filmmaking in preschool.

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