The appearance of literacy in new communicative practices: interrogating the politics of noticing

BURNETT, Cathy <http://orcid.org/0000-0001-6087-244X>, MERCHANT, Guy and NEUMANN, Michelle

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Cathy Burnett, Guy Merchant, Michelle Neumann

Abstract

This conceptual article examines how ready-made assumptions about literacy both frame and limit understandings of new communicative practices in educational contexts. Proposing a tripartite heuristic that interrogates the appearance of literacy in terms of emergence, semblance, and performance, it uses stories from a study of touchscreen tablets in one early years setting to illustrate the social-material arrangements associated with moments when tablets became texts to be looked at, shared or made. We argue that a sociomaterial sensibility can not only sensitise researchers to new communicative practices, but also to the ways in which sociomaterial arrangements help to construct habits of noticing often active in accounts of literacy practice and research. It is our contention that exploring the relations between emergence, semblance and performance is particularly valuable at a time when conceptualisations of literacy are being challenged in response to diversifying communicative practices.

Keywords: technology, literacy, new literacies, digital devices, tablets, sociomaterial

Introduction

Human communicative practices, their conventions of use, and their material forms are characterised by change and variation. Although change and variation arise under conditions of complexity, working at different speeds and scales, the development and distribution of communicative tools or media is an important shaping factor, and one that has attracted much

attention with the rapid rise of digital communication. Over the last twenty years, the literacy research community has grappled with ways of describing and accounting for these changes and their implications in a variety of contexts, sometimes testing the very boundaries of what constitutes literacy. Educational settings have been a particular focus of interest with attention being given to how the communicative practices of children and young people can be seen as a resource, through to the pedagogical applications of new technologies (see Mills et al., 2018). Overall, although much has changed, much has remained the same. Pen and paper assessments of print literacy, curricula that make little reference to new literacies, and teacher ambivalence towards new technologies persist in many jurisdictions (Kontovourki & Tafa, 2019).

Part of the problem is that what Lankshear & Knobel (2011) describe as everyday literacies may not readily translate into classroom practices. For instance the kinds of mobility associated with the rapid and ephemeral exchange of multimodal texts on portable devices seems incompatible with the sedentary routines of textbook study still upheld in some contexts. And although there is an emerging body of work on how tablets and smartphones find their place in the communication economy of classrooms (e.g. Neumann, Merchant & Burnett, 2018; Juvonen et al., 2019), there are nagging concerns about how to describe their use in education or more specifically in literacy education. Despite all this, literacy studies as a field has, over recent years, become increasingly concerned with social interaction and meaning making on and around screens (Gillen, 2014). The twin influences of 'new literacies' (Lankshear & Knobel, 2011) and multimodality (Kress, 2010) have led to an expanded view of literacy which often encompasses still and moving image, sound and even movement. Literacy is, from this point of view, in line with Halliday's (1973) conception of 'meaning potential'- a flexible and extensive collection of socio-semiotic resources which may or may not involve lettered representation.

In contrast, professional discourses about literacy – at least in England - more readily settle on lettered representation and the skills and routines considered supportive or preparatory to the acquisition of print literacy. It is reasonable to assume that these discourses are embedded in practices learnt as teachers are drawn into the daily life of specific settings (Burnett, 2011), but others derive from curriculum documents and discourses that define or suggest that literacy is concerned with certain things (materials, skills, behaviours, and understandings) and not others. For instance, in England, at the time of writing, the literacies that are associated with screens do not feature in curriculum descriptions whereas the ability to 'sit correctly at a table, holding a pencil comfortably and correctly' (Department for Education, 2013) and to 'link sounds and letters' (Department for Education, 2018) do, and this seems unlikely to change in the near future.

All this does not necessarily equate with polarisation - an unbridgeable gulf between scholars and practitioners, or policy-makers and scholars. Much fruitful dialogue continues (e.g. Marsh et al., 2015) and hard and fast positions are unusual: there are many professional educators who are enthusiastic about new media, just as there are literacy scholars who are concerned with aspects of literacy that might be described as more traditional. Rather than suggest that literacy has become a contested term, it may be more helpful to acknowledge that it means different things to different people in different contexts. For example, when instances in which touchscreen tablets, young children and education are considered, as they are in what follows, some may say with little hesitation 'that's literacy', others may not see it at all, or others may ask the question 'is that literacy?' Perhaps in itself this is evidence of the conceptual multivalency of literacy in the contemporary world.

This conceptual multivalence can be difficult to negotiate for professionals keen to respond to changing communicative practices, but also for researchers investigating such things as tablet use in education. It therefore seems important to know more about those moments when

classroom activity seems like a particular version of literacy and when it does not. If the possibilities and challenges of changing communicative practices are to be fully explored, then there is a need to be aware of the ways in which familiar orientations to literacy practice and research may help to frame or limit understanding.

Our intention in this conceptual article is not so much to debate what literacy is but to unsettle what is taken for granted about literacy in our own research designs, methods and analyses. It is worth emphasising here that our particular focus is on how such ambiguity plays through *research* practices, although the questions we raise have relevance too for educational practitioners and this may be a valuable area for future study. Our interest therefore is in examining the habits of noticing that frame and help to construct what literacy becomes through research. Through doing so, we propose, it is possible to interrogate the politics of what might appear as literacy. We aim:

1. to review what it is possible to notice about meaning making;
2. to reflect on what shapes that noticing;
3. to hypothesise what else may be relevant that is **not** seen;
4. to consider how readings of the observable drive different kinds of thinking about literacy.

We develop our ideas by drawing on empirical data from a study of young children between the ages of 1 and 4 engaging with touchscreen tablets (iPads) in one early years setting approaching this with a sociomaterial sensibility. In doing so, we do not aim to contribute in any substantive way to the literature on young children's use of portable devices such as iPads - numerous literacy researchers have already made significant strides in this regard (e.g. Flewitt, Messer, & Kucirkova, 2015; Rowe & Miller, 2016), and their work provides a valuable resource for re-casting curriculum and assessment frameworks for literacy in the

digital age. Nor indeed do we propose specific methodologies or conceptual frameworks for investigating such practices per se. Instead we consider some of the data generated through this study in order to speak to the questions raised above and, through doing so, propose a heuristic for investigating the implications of new communicative practices for educational settings. Our heuristic supports a reflexive interrogation of the ways in which sociomaterial relations play through research processes as well as through the practices we investigate - and, in doing so, help to sustain certain habits of noticing. This is manifest, for example, in the ways in which more conventional views of meaning-making practices easily seep back into observations of new literacy practices. We begin by outlining the sociomaterial sensibility which shapes our orientation to the appearance of literacy.

The appearance of literacy: a sociomaterialist perspective

As dictionary definitions suggest, the word appearance has multiple meanings. Across these definitions, appearance slips from something that is perceived (checking one's appearance in the mirror), to something performative (listening with every appearance of interest) or bound up in events (being well known for stage appearances). For us this slipperiness is central to the paradox we consider in this article.

Our starting point for investigating the changing nature of literacy is to examine communication in practice, focusing particularly on what happens in educational settings. However, doing this always involves a process of extraction, of bounding the activity that is perceived to be literacy. As a result aspects of literacy practices as they play out in the moment are inevitably overlooked, and the outcome of this process – as we go on to explore - helps to construct literacy in certain ways and to sustain certain kinds of literacy practices. To interrogate this phenomenon, there is a need to consider not only *what* seems to us to be literacy, but the assumptions that underpin such designations. With this in mind, our heuristic

works *with* the ambiguity of appearance, prompting consideration of three different kinds of appearance – emergence, semblance and performance - and of how these interfere and interface with one another. In doing so, we approach appearance with a sociomaterial sensibility, regarding literacy not as individual accomplishment but as an effect of social-material-semiotic relations.

Sociomaterialist approaches reflect a range of theoretical commitments that bring materiality to the fore, and recognise the role that things (such as objects, documents, policies) play in social life, and what those things become as they enter relations with others (Fenwick, Edwards & Sawchuk, 2011). Sociomaterialism is a rather ambiguous term which has been used in different ways: by some as an over-arching term to encompass a wide range of theoretical perspectives that acknowledge the relations between the material and the human (e.g. posthumanism or new materialism), and by others to refer specifically to the body of research associated with actor network theory (Fenwick & Landri, 2014). In recent years there has been a growing interest in relational ontologies in literacy research as a way of thinking with the ephemeral, affective dimensions of literacies that can be missed by both sociocultural and psychocognitive accounts (Leander & Ehret, 2019). Such research has drawn on non-representational theory to articulate aspects of meaning making that frequently escape description, such as atmosphere and liveliness (e.g. Boldt & Leander, 2017; Ehret, 2018).

Our particular sociomaterial sensibility is shaped by the writings of Law, Mol and colleagues (e.g. Law & Hazard, 1999; Law & Mol, 2002; Mol, 2002), sometimes referred to as post actor network theory, through which people and things are seen primarily as 'relational effects' (Law & Mol, 1995) – in other words, produced in relation rather than as separate entities. Specifically, we have used the notion of 'literacy-as-event' to describe the fluid and elusive nature of meaning-making, in which: 1. event is generated as people and things come

into relation; 2. what happens always exceeds what can be conceived and perceived; and 3. implicit in the event are multiple potentialities (for fuller discussion, see Burnett & Merchant, 2018). An important dimension here, which arguably distinguishes our perspective from some others working in the field, and one that is central to the argument made in this article, is that we regard research processes themselves as both participating in and generated through relational effects. Research, for us, does not sit outside the literacy practices we observe, but helps to produce what they become.

In thinking about the appearance of literacy, we are interested therefore in how relational effects can work to uphold routine ways of doing and being. For example, league tables, standardised testing, textbooks, teaching methods, curricula, evidence-based practice, the standards debate and so on, can assemble together in a process of 'purification', to enact literacy as an individual, skills-based, cognitive activity (Edwards et al., 2009 after Latour, 1993): certain things get to be seen to be literacy and others do not. However, given that relational arrangements are inherently unstable, there is always the potential for things to turn out differently as people and things gather in new ways; practices – as well as the people and things that produce them - are always contingent. In considering early literacy, for example, constructions of childhood, media narratives, family literacy practices, educational toys and peer relations are part of what Law (2004) calls the 'hinterland', and these things too come into dialogue with the stuff of classrooms and with different children and adults.

From this perspective, literacy 'appears' in certain ways as people and things gather together, but if things shift, relations are created differently. This may happen, for example, following the introduction of a new initiative or a changing school population or, as the data we draw on in this article illustrate, new resources (iPads). Ways of doing and knowing literacy therefore are contingent and always open to change. Understanding this is important at a time when conceptualisations of literacy are being challenged in response to diversifying

communicative practices, and when the appearances of literacy may, or at least could, look quite different to those that researchers - and indeed practitioners - are accustomed to noticing. Therefore our interest here is in how established ways of seeing, knowing, and doing intersect with these shifts, and the extent to which researchers notice what gets made moment to moment, as children, adults, and materials (including digital devices) come into relation in educational settings. These challenges, as we explore in what follows, are exacerbated as our research practices themselves emerge through relational effects: noticing, therefore, is not a solely human achievement.

In expanding our heuristic, we focus specifically on data from our study in which we recorded iPads being treated as texts to be looked at, shared or made: moments which in effect seemed to involve the *production of the iPad as text.* As we have explored elsewhere, touchscreen tablets become multiple things in classrooms (Burnett, 2017; Burnett, Merchant, Parry & Storey, 2018), and indeed become multiple things simultaneously: in our study, for example, iPads variously became sledges or trays or simply items to be banged or stroked. For us, iPad activity became literacy-like at the point at which iPads were treated as text (in the form of a game, book, photograph or other form).

Some might regard this focus on text as problematic as it risks sidelining other creative or productive activity (Kuby & Gutshall Rucker, 2016), because it elides the flow between textual engagements and other meaning-making (Lenters, 2016), or because it reflects an anthropocentric conceptualisation of young children's communicative practices (Hackett & Somerville, 2017). Indeed such concerns intensify when thinking about very young children, not least because the extent to which they can be regarded as engaging in literacy at all may be contested. Important as such considerations are, we maintain there is value in thinking about textual engagement for two reasons. Firstly, texts have held - and continue to hold - the attention of literacy researchers and practitioners who, as argued above, play a part in

upholding certain kinds of literacy. Secondly, texts have distinctive qualities as complex semiotic objects. We suggest that there are particular qualities to encounters with text, whether in the form of words, image, moving image or whatever; qualities that distinguish them from other kinds of activity, and are associated with the ways that signs hold people in relation across time and space (Bryant, 2014). In focusing on text, moreover, we also foreground how researchers and research processes help to produce literacy in certain ways. In interrogating both *what* is noticed and *how* it is noticed, we hold together the ideas that the appearance of literacy is something that happens as well as something that is perceived. We argue that it is through interrogating the tensions therein that the politics of literacy can be approached.

Illustrative material

The illustrative material referred to in this conceptual article draws on a small-scale study of iPad use in an early years' setting in the North of England, which took place over five consecutive mornings in a week in November 2017 in a local authority maintained nursery school catering for approximately 150 children in the 2 to 5 age range. The study was granted institutional ethics approval. During the week we spent time with different age groups, visiting rooms for children aged 0 to1, 2 to 3 and 3 to 4. The setting, like many others across the UK, operated a system of continuous provision in which children were relatively unconstrained in their movement between activities. This meant that literacy-like activity could, and indeed did, emerge spontaneously - guided by the availability of materials and resources, children's interest, and through the spoken and unspoken invitations of adults and materials. We provided a basket of six iPads which was made freely available to children in whichever room we were based. We did not place iPads in particular centres; children were encouraged to fetch an iPad from the basket if they wished. iPads were often left on the floor or a table, where they were picked up by other children. Otherwise, normal staffing roles and

activities continued throughout the week, although one adult with an interest in technology supported and encouraged tablet use. Apps included those available through factory settings and a number of pre-loaded apps designed for young children of different ages, such as shape-matching games and story apps.

Given the short timescale of this study we did not aim to gain in-depth insights into children's evolving uses of iPads, or histories of iPad use, within and beyond the setting. Instead we focused on what happened as children, iPads, adults and other things came into relation in the moment. Consistent with our sociomaterial perspective, we observed how children took up iPads, what iPads did, and what they became as they came into relation with children, adults and other materials in each room. As researchers, we generated video data, fieldnotes and reflective accounts, participating at different levels in ongoing activity: Michelle stood back at a distance, often standing by a wall or in a corner of the classroom using a video camera to follow and record the children's use of iPads. Cathy used field-notes and video to document different perspectives, sometimes scanning the whole room and sometimes tracking individuals, groups of children, or specific iPads. Guy worked as a participant observer and usually sat on the floor interacting with children if they approached, informally inviting them to engage with iPads and joining in iPad-related play as and when it unfolded. When possible Guy kept field-notes in situ, which were expanded upon in a daily journal. Interviews were also held with selected staff and parents to explore their views on young children and tablets at home and school and to contextualise the observations (see Neumann, Merchant & Burnett, 2018). Given our interest in appearance, our approach to analysis was to work reflexively with the data to interrogate not just what was observed but what had been framed through field-notes and video footage, what this implied about our own assumptions about literacy, and how this process itself helped to produce what was happening.

Three appearances of literacy

In what follows we draw on two illustrative stories from this project (constructed from video footage and fieldnotes) to expand our ideas about the appearance of literacy. We refer to these as 'stories' rather than vignettes or data extracts, to foreground their constructed and positioned nature. These are extracted from the larger dataset and framed in particular ways by us as researchers. That very process has constructed them in certain ways, reifying the selected moments above others, fixing them in time, and eliding much of the complex, shifting events in which they occurred. Other perspectives - from the children, from other adults in the room, and so on - would have generated other kinds of stories - as would attempts to democratise the research process through co-production (see Banks et al., 2018). Moreover, longitudinal studies or studies that traced practices across sites and over time would have generated richer accounts that paid greater attention to personal and social trajectories and how these were inflected by broader social, cultural and economic factors. However, building on arguments that the production of all data - however rich and complex - involves not just extraction but construction (St Pierre, 2013), our interest here is in the role such constructions themselves play in sustaining certain versions of literacy. While other kinds of accounts may well be richer or may provide alternative insights, they are always constructions and inevitably rely on foregrounding some aspects of experience over others. Our stories then are offered as examples with which to illustrate what might be gained by thinking with our proposed heuristic, a heuristic that could be used to review other kinds of data generated through other kinds of studies. It is a tripartite heuristic that approaches the appearance of literacy in terms of:

- *emergence* (how literacy seemed to take shape);

- *semblance* (what literacy seemed to look like);

- *performance* (how literacy was consciously or unconsciously enacted).

In doing so, for reasons explored above, we focus specifically on moments involving *the production of text*, that is those moments when iPads seemed to become texts to be created, looked at or shared, for example in the form of story apps, games, video or photographs. We reflect critically on our orientations toward appearance, manifest as emergence, semblance and performance, and consider how resonances between these three 'appearances' work to produce literacy in certain kinds of ways.

Focusing on **emergence** highlights how social-material-semiotic arrangements took shape in ongoing play activity and then melted back into it. Emergence, as we define it here, is concerned with the arising of literacy, or how it seems to come into being. Whilst our focus is on this, rather than emergence as the ongoing unfolding of events (as in Leander & Boldt, 2012; Stornaiuolo et al., 2017), there is clearly some overlap. The following story constructed from video and fieldnotes provides an illustration (names of adults and children in the setting are pseudonyms):

Four children are sitting on the floor, two with legs outstretched, one kneeling, one on Lisa's (adult) knee. On the floor with stuff: a trolley with a toy digger on top, a basket, a bench, a pile of bricks, a man - Guy - with a notebook. And two iPads in the middle. Two children are looking down at the iPads while one, Jackson, is building something with bricks. Another - Bobby- is looking ahead- hammer and saw on his lap. Every now and again an adult reaches in and taps or swipes to bring something to life, and George starts to do this too, although occasionally looking around at other things going on. Sophie leans in, strokes the nearest iPad and at Lisa's suggestion picks it up and puts it on the table, standing on the edge of another iPad as she does so - 'Be careful' urges Lisa. Jackson is now slowly laying bricks

over an iPad: lift and place, lift and place. Next to him, Guy is swiping the shape game in an exaggerated gesture - hoping to entice Jackson in I guess, but Jackson just keeps on with the bricks: Guy's 'swipe, swipe' keeping time with his 'lift and place'. Guy's gestures though do seem to have attracted George who leans forward and starts swiping the shape game. (1 to 2 year-olds room. Story constructed from Cathy's video)

In this account there is a sense of liveliness and movement, in the stacking of the bricks, the shifts in posture, the stroking, swiping and tapping of iPads. If literacy is here, and that is something we return to below, it is deeply embedded in a steadily unfolding mix of play, play materials, technologies, interests, routines, adult intentions and much more. We could identify certain moments when iPads, children and adults come together in ways we might identify as literacy-like - when iPads appear to be treated as text - but such transactions are ephemeral. At the start the tablets are part of an array of bodies and things, taking their place amongst bricks, notebooks, diggers and toy saws. In one moment an iPad is just there, lying on the floor, in the next it is something to balance bricks on, and then it is something to stroke or tap, or play a shape game with. As events continued to unfold, the story tells how Bobby and George seemed to be gathered in, interested in either Guy, the iPad or both, but their responses to Guy's tacit invitation are quite different, and while for George the iPad appeared to be produced as text, for Bobby it did not:

The iPad has been left on the floor in front of the basket. Guy picks it up, taps it awake, opens the Fireworks app and shows it to Bobby and George. Bobby must have dropped one of the tools, because one hand is empty and, at one point, his fingers start to curl into a pointing gesture, just as if he was getting ready to tap. I don't know if he ever would have tapped, but he doesn't, and grabs hold of the screwdriver again instead. George puts the iPad on top of the yellow iPad basket, and bangs it and bangs it with his flat hand. Bobby is still staring at

Guy. The iPad must have fallen off the basket a bit, because now it's resting half on the basket and half on Bobby's foot. Bobby still hasn't looked at it.

George picks up the iPad and holds it up. He passes it so it's in front of Bobby and I THINK moves to take his arm to guide him to swipe the screen or tap. But just at that moment, Guy reaches across and taps something on the iPad and George turns away from Bobby. I feel a stab of disappointment – an opportunity missed.

George moves the iPad back in front of himself, looks at it, and kneels on it. He taps the iPad, then heads over to get my pen. He takes the pen over to the iPad and uses it to swipe from screen to screen.

Bobby walks off, screwdriver in one hand, saw in the other. He takes the toolbox and puts the screwdriver and saw inside, then takes them out and wanders off to the workbench, into which he posts the tools. Then he takes them back and places them in the toolbox, and then takes the box over to the oven where he takes them out and places them in the oven.

(1 to 2 year-olds room. Story constructed from Cathy's field-notes. Part of this story is originally cited in Burnett & Merchant, 2018, but here it is extended from video footage).

In George's handling of the tablet, there appeared to us to be some sort of action that corresponds to literacy-like activity, analogous perhaps to early book handling, and in these moments the iPad seemed to become text. This, for us, was an appearance (or emergence) of literacy, albeit one that was closely entangled with other kinds of tactile engagements with the tablet and other materials. Bobby meanwhile may also have been teetering on the brink of engagement with the iPad, but in the end it just didn't happen – perhaps through a lack of awareness on Guy's part, maybe because of the presence of George, or simply because the play tools were more effective in sustaining his interest. On another occasion Bobby may well have tapped the iPad rather than grasped the screwdriver; if George's attention hadn't been drawn by Guy, he may well have guided Bobby's finger to tap the iPad; and if the iPad

had emitted an inviting sound just at that moment, or if there had been fewer children around, then Bobby may well have been drawn in.

A focus on emergence, then, by foregrounding how literacy-like activities are produced in the relations between people, materials and text, does useful work in unsettling individualist notions of literacy. It encourages us to pay attention to how things unfold, to how literacy can appear (or not) as sociomaterial arrangements configure and reconfigure, and to how such appearances are contingent to what happens moment to moment. As the story illustrates, different kinds of activity can co-exist, appear and disappear on separate or overlapping timescales, and sometimes such activity emerges as something that might seem literacy-like. Such shifts are particularly easy with devices such as iPads, given their 'layered architecture' (Yoo, 2010) and extensive mutability, so a tap (whether intentional or not) can rapidly bring up a text, that then participates in an interaction, perhaps moving participants into literacy-like activity. Appearances of literacy, from this perspective, may be as much about serendipitous concurrences as they are about individual cognitive accomplishments. A focus on emergence then offers much to thinking about new communicative practices by alerting us the shifting sociomaterial arrangements that may associate with digital devices.

And yet there are problems with such an approach, because however much researchers are open to new kinds of appearances, the delineation of emergence relies on pre-existing assumptions about what literacy looks like. This paradox can be tackled directly by focusing reflexively on appearance as *semblance*. This involves a shift in focus. Rather than attending - godlike - to what unfolded before us, we consider *how* we made sense of what, *to us*, was literacy-like. Semblance here is used to draw attention to how activity might resemble something called literacy rather than in the more technical sense used by Massumi (2013).

Re-reading the story above, for example, we can trace some of the assumptions that informed such designations. Part of the story, for example, hinges on what is presented as a missed opportunity as Bobby opted for the screwdriver rather than the iPad. It is framed as a 'nearly but not quite' appearance of literacy, as Lisa's then Guy's, and then perhaps George's invitations to engage with the iPad were not taken up. On this occasion, interested as we were in the intersections between literacy and digital devices, Bobby's actions are framed as 'not literacy', marked by the disappointment Cathy writes into her narrative. However, while Bobby did not take the iPad, he did follow an interest in the tools: his movement and the tapping, posting and placing of tools marking a sustained engagement that mattered in some way to him. On another day, therefore, Cathy might well have told this story differently, framing Bobby's actions as the kind of focused imaginative play often associated with early literacy, and the offering of the iPad as an interruption he does well to avoid.

But we could also have framed George's actions differently. While George did take the iPad, in many ways his actions were not that dissimilar to Bobby's. Bobby holds and places while George holds and bangs, and his tracing of the pencil over the iPad might have been described as the manipulation of one object against another (much like Bobby with saw, screwdriver and oven), rather than literacy.

And yet as the iPad leaps into life, the moment is presented by us as literacy-like, and the screen appeared to be produced, by at least some of those present, as text. Such reactions (both our own and those of other adults) reflect certain assumptions about the importance of actions and interactions that happen around text, and about trajectories of early literacy learning which have played through our own professional lives. For example, George's engagement with the shape game – and our foregrounding of shape-matching and swiping - associates with literacy through particular histories of pedagogy and practice. Originally seen as an important pre-reading activity (e.g. Moyle, 1976) the significance of shape matching

persists despite the development of other ways of seeing reading. Swiping (with its links to page turning) might be seen as closely associated with making meaning through lettered representation because of its role in navigating written texts. In our commentary, we can also trace the influence of Clay's seminal work on concepts of print, or Hall on the emergence of literacy, both of whom recognised particular behaviours as signs of an 'emerging' literacy (Clay, 1967; Hall, 1987), as well as the influence of our ongoing research interest in the mutability of things to our fascination with what children do with devices (e.g. Burnett, 2017; Merchant, 2015).

Importantly, semblance – as we define it here- is not simply a social, cultural or an individual achievement. Semblance itself is generated through social-material-semiotic arrangements. We might consider for example how our physical positioning as researchers, e.g. sitting alongside or standing back, inflected what we saw. Or how the material affordances of our research tools (e.g. video cameras, notebooks) played into appearances: by what it was possible to fit into a video frame for example, or how choices about framing reflected prior experience of placing children in photographs and of seeing children framed in the photographs of others. Or how careers spent in and around schools subtly shaped how we entered those settings, affecting how we become entangled with bodies and things, how we found comfort and discomfort in the familiar - and hence the sorts of things we noticed.

Focusing on semblance then enables us to identify how certain kinds of texts and textual transactions involving iPads, such as story sharing, page turning and shape matching, readily associate with certain appearances of literacy, and schooled literacy in particular (Gee, 2004). It is notable that semblances of literacy-like behaviour, for us, often occurred in a sedentary position, involving a locked gaze and particular ways of holding the device (Merchant, 2015). But this process of extrapolating from patterns or combinations of observable behavior can lead us to approach literacy as an individual accomplishment, a tendency that works in

tension with the emergent, serendipitous appearances of literacy described above. Moreover when, on other occasions, children used the tablet's camera function to take still and moving images, they were involved in different ways of using classroom space, in other ways of holding the devices and in other sorts of interactions - relational patterns that became more familiar as the week progressed. In these cases, the production of text involved quite distinct social-material-semiotic arrangements, and different bodily adjustments. Such arrangements however, might be easily missed, differing as they do from more familiar appearances of literacy.

This focus on the semblance of literacy- on what is noticed as literacy-like - is particularly important because it is closely associated with a third appearance of literacy: appearance as *performance*. It could be argued that pupils as well as adults develop a reasonably clear and shared sense of what sort of arrangements and activities are approved of and therefore 'count' as literacy in educational settings. It certainly seems likely that these continually negotiated and re-negotiated approximations of literacy-like behaviour are both consciously and unconsciously performed.

In our study, performance manifested in moments when children seemed to self-consciously demonstrate their prowess or invite others to note their accomplishment, or when adults deemed something worthy of note and framed it as such, or in what we as researchers chose to attend to, or as our research tools (e.g. the video camera) framed things in certain ways. Acknowledging semblance, in effect, seemed to lead to performance. In our first story, for example, when Sophie begins to interact with the screen, this is quickly picked up by Lisa (the adult), who suggests that Sophie sits at a table. It could be argued that this moment of recognition affirms Sophie's transition to literacy-like behavior and the kinds of

sociomaterial arrangements often associated with literacy at school. In this instance, the tablet becomes text as people and things coalesce in an arrangement that appears literacy-like, an arrangement that is legitimated and perhaps subsequently performed by children, educators - and researchers. Tablets are easily absorbed into this nexus of practice because, unlike their technological predecessors, they are relatively portable and book-like in size and heft, and often settle into social-material-semiotic arrangements that look very like those associated with print texts (Merchant, 2015). As such, they are noticed, remarked upon and validated by adults (including teachers, parents and researchers).

As particular routines and social-material-semiotic arrangements come to be viewed as being desirable indications of literate behaviour, children will, under certain conditions, perform them, and this will attract attention, recognition and praise (e.g. see Daniels, 2018). Indeed this was something that we noticed in this setting. Our focus on tablets not only meant that there were more iPads available, but that their use gained a certain credibility (after all this was what we were interested in) and as a result adults took time to share iPads with children and to draw our attention to what seemed to be important. We noted that the children quickly adapted to the presence of both researchers and tablets, and by the end of the week seemed to be demonstrating certain aspects of what they had learnt. As the week progressed, iPads were used more regularly in some ways rather than others, i.e. for looking at story apps or for taking pictures, so their mutability as objects was less noticeable, and tablet-as-text became more common. The introduction of iPads, in this context, perhaps unsettled what sort of literacy might be valued, but new norms were quickly established. In a second story Ava is presented as performing what became an acceptable and approved kind of use.

Ava comes up to me straight away. 'Have you got any tablets?' She takes an iPad. She hesitates, not sure how to wake it up and I help out with the 'slide to open' swipe. She opens Peppa Pig, and goes through all the games one by one, faster and faster. Rapidly moving between each game and choosing whether to 'repeat' or 'continue', rarely listening to the instructions, never listening to the summative story-ending within each game. She plays the letter posting game six times, and the cake making game several times too. She stops only when there are transitions and there's a hiatus, often signalled by music playing. She fills the pause though, and her actions get ever more extravagant: early on she gazes around the room while waiting for the next game to start; later she twirls round and round on the floor. She moves through the admin quickly on each game too: if a name's to be chosen, she taps one quickly, moving through the stages. She doesn't say anything, doesn't look up. At the end of the cake making game though the app announces, 'well done' and she holds it up for Lisa [an adult] to see - 'Look.' (2 to 3 year-olds room. Story constructed from Cathy's field-notes)

This story presents Ava as performing proficiency to the researcher and to Lisa, aided by the iPad that moves nimbly between applications. Here it is 'doing it', and being seen to do it, that appears to be important, not anything else she may gain from the encounter, perhaps symptomatic of the realisation that demonstrating what you know and can do is a valued part of being at school. Of course successful performance rests on shared assumptions about what success looks like. This story could well be read as illustrative of all that is problematic about apps for this age group. Ava's play - skilled as it is - appears perfunctory and mechanistic. As such, it might plausibly be read as not-really-literacy, focused as it seems to be on acting out skills rather than meaningful engagement with text. Children, as well as adults, may be caught up in shifting perceptions of the worth of different kinds of literacy-like activity.

The politics of appearance - unsettling habits of noticing

Focusing separately on emergence, semblance and performance helps to distinguish between what *happens* (emergence), how what is happening is *read* (semblance), and the *effects* of the value bestowed through what we overtly read (performance). At the same time we recognise that emergence, semblance and performance are bound up with one another in complex ways. Performance relies on semblance, and attributions of emergence rest upon the witnessing of prior performances. In any case, however, attending to literacy-like behaviour is strongly dependent on our *habits of noticing*, sustained through discourses of literacy, technology, teaching and learning, and developed through research and practice over time.

There is no doubt that others will have noticed different things about what was happening with iPads in this early years setting, or interpreted these in different ways. And with more time and a more extensive range of research methods, we also would have noticed other things, perhaps being better placed to trace the ongoing articulation of personal, social, material and cultural practices. We do not therefore present our illustrative appearances as representative of what other researchers and practitioners might conceive as literacy, or indeed of what might happen in other settings. These might reflect more - or less - traditional orientations to literacy. Our stories and commentaries are simply indicative of how researchers and educators might make sense of ongoing activity, and are intended to illustrate the diverse ways in which the notion of 'appearance' resonates with thinking about new communicative practices, and the ways in which preconceptions about 'literacy-like' behaviour seep into our analyses. Importantly, as we have attempted to illustrate, such judgements are not necessarily the result of conscious reflection, but wrought through shifting sociomaterial relations produced partly through research processes themselves. As researchers interested in the implications of new communicative practices for literacy provision, we therefore face an ongoing tension between our own histories of conceptualising

literacy, which frame what we see as significant, and what it is possible to notice about new communicative practices.

To some extent this is to state the obvious – researchers find what they are used to looking for, and as a result, schooled literacy is defined as much by habits of noticing as it is by the familiar routines and practices that circulate around certain uses of print and book reading. For reasons explored in this article, an iPad readily takes its place alongside other more familiar textual artefacts (books, comics, board-games and so on). But as it does so, it is all too easy to attend to what is the same and to disregard what is different as something other than literacy, and this can limit what is noticed in educational settings. This is particularly the case as the social-material arrangements associated with our research processes work to uphold familiar habits of noticing. If this is the case, how can researchers remain attentive to new – or alternate - appearances of literacy, to the shifting configurations of social-material-semiotic relations associated with changing communicative practices?

Attending to this question matters not just to early years practice. These habits of noticing become harder to disrupt or dislodge as children progress through their school careers. In the early years setting we describe in this article, continuous provision allowed for fluid movement between areas of activity and interest, and as children moved around, their engagements with text often escaped familiar arrangements: literacy emerged in ways that looked unlike more familiar semblances or performances. In the later years of schooling, however, emergence, semblance and performance may be harder to disentangle. Performance and semblance become the matter of high stakes, written as they are into curriculum, assessment and accountability processes, and as certain kinds of social-material-semiotic arrangements become increasingly normalised (Daniels, 2018). There is a need then to unsettle the habits of noticing that are so ingrained in literacy research, if progress is to be made in conceptualising, researching and supporting literacy in new ways.

Of course noticing and appearance suggest a bias in favour of what is seen rather than felt, on what is done as opposed to what is understood. And with that are all the shortcomings of ocularism in which it is tempting to confuse what is seen with what is known (Jay, 1993). Focusing on what it is possible to see confines us to visible behaviours, leaving out what is felt or thought as well as what is simply   seen. Moreover, it confines us to what fits into our field of vision, a process that is particularly salient when video is used, as in our research. Various researchers have explored ways of unsettling observational habits in order to look anew at what is going on, experimenting with slowing down video footage (McRae, 2017), using multimodal transcription (e.g. Taylor, 2012) or movement mapping (Daniels, 2018). Some have recruited different senses - sound for example (Bailey, 2017; Wargo, 2017) - or foregrounded feeling in accounts of meaning making (Hollett & Ehret, 2017), while others have documented classroom activity in ways that unsettle the neat framings of people and text that, even in studies that attempt to know differently, may easily be reproduced. Hall's use of musical notation to explore resonances of activity across a classroom is one example of this approach (in Smith, Hall, & Sousanis, 2015).

Tactics such as these attempt to disrupt habitual ways of noticing, and to push at the boundaries of what is perceived and conceived as literacy. Such disruption is needed if the distinctive qualities of meaning making practices in emerging economies of communication are to be interrogated. And as others have argued, if children's meaning making moves fluidly across time, spaces and places, then educational provision needs to be open and flexible enough to facilitate and account for this (Daniels, 2018). However, working to notice diverse appearances of literacy is problematic. If, for example, the social-material-semiotic arrangements associated with iPads are in a state of constant flux, then does the notion of literacy itself become redundant, subsumed within a broader focus on meaning making that is expansive enough to account for diverse interactions with artefacts and environments that

may or may not involve text? Some, for example, have argued that thinking more fluidly and expansively about literacy can provide a productive drive for developing practice (e.g. Kuby & Gutshall Rucker, 2016). Or is there benefit in holding to a focus on text production as a distinctive kind of meaning making as we have done here? Distinguishing between emergence, semblance and performance, we suggest, supports such reflexivity by teasing apart some of the processes that underpin designations of literacy-like behaviour and how these may illuminate emerging practices involving tablets in early years settings, and new literacies more broadly.

Conclusion

This is a time of changing appearances, in which new communicative practices are taking shape in day to day life. What literacy looks like now is more varied than ever as newer practices co-exist with older ones. In this article we have focused on the implications of habits of noticing for researchers. If communicative practices are diversifying there is also a need for educational practitioners and policy-makers too to revisit and to reflect on what gets noticed in educational settings. Recognising and articulating appearances of literacy will become increasingly challenging as technological developments continue to push at our thinking about what constitutes text and what is recognisable as literacy in the context of new communicative practices. Just as the increased sophistication of voice recognition software and text-to-speech functionality recasts what it might mean to write and read, so the challenges of artificial intelligence, social robots and virtual reality promise to provoke far more radical shifts in relations between texts, people and materials. In this article our example illustrates how researchers may struggle to articulate - and to notice - the literacies associated with young children's iPad use. The divergent and fluid communicative practices that are evolving at the interface between literacy and artificial intelligence, however, involve far more complex relationships between people, materials and text.

In unsettling prior assumptions and sensitising us to new arrangements, the sociomaterial perspective on appearance explored in this article approaches literacy not as an individual accomplishment but as an effect of social-material-semiotic relations, and yields insights into the habits of noticing that, we have argued, themselves help shape such arrangements. We have also suggested that noticing appearances of literacy - activity involving text - remains important, but that this may manifest in diverse, fluid and sometimes unexpected ways. Moreover, our tripartite heuristic highlights ways in which sociomaterial arrangements generated through - and generating - the research process themselves shape how literacy appears, with implications for subsequent appearances. Through interrogating relationships between emergence, semblance and performance, it prompts a reflexive stance on the appearance of literacy which offers to unsettle ingrained habits of noticing. This matters as such habits, whether manifest in curriculum, pedagogy and assessment, or in research practices and perspectives, shape what it is possible to notice and to know about literacy. If our curriculum, pedagogical practices and research methodologies are tethered to established habits of noticing, and if these habits are perpetuated through curriculum documents and support materials as well as through research designs and findings, researchers could simply end up keeping up old appearances.

References

Bailey, C. (2017). *Investigating the experience of an after-school Minecraft Club*. Doctoral thesis. Sheffield Hallam University. Available at http://shura.shu.ac.uk/15872/.

Banks, S., Hart, A., Pahl, K., & Ward, P. (2018). *Co-producing research: A community development approach*. Bristol: Policy Press.

Boldt, G. & Leander, K. (2017). Becoming through the break: a post human account of a child's play. *Journal of Early Childhood Literacy*, 17(3), 409-425.

Bryant, L. (2014). *Onto-Cartography: An ontology of machines and media.* Edinburgh: Edinburgh University Press.

Burnett, C. (2011). Pre-service teachers' digital literacy practices: exploring contingency in identity and digital literacy in and out of educational contexts. *Language and Education*, 25(5), 433-449. Burnett, C. (2017). The fluid materiality of tablets: examining 'the iPad multiple' in a primary classroom. In C. Burnett, G.Merchant, A.Simpson, M. Walsh (Eds.), *Mobile Literacies: The Case of the iPad in Education*. (pp.15-30). New York: Springer.

Burnett, C., Merchant, G. (2018). Literacy-as-event: accounting for relationality in literacy research. *Discourse: Studies in the Cultural Politics of Education.* [Online First.]

Burnett, C., Merchant, G., Parry, B., Storey, V. (2018). Conceptualising digital technology integration in participatory theatre from a sociomaterialist perspective: ways forward for research. *Research Papers in Education*. [Online First.]

Clay, M. (1967). *Reading: The patterning of complex behaviour*. Auckland, New Zealand: Heinemann Educational.

Daniels. K. (2018). *Movement meaning and affect: The stuff childhood literacies are made of.* Doctoral thesis. Sheffield Hallam University. Available at http://shura.shu.ac.uk/21513/.

Department for Education (DFE). (2013). *English programmes of study: Key stages 1 and 2, National curriculum in England*. London: DFE.

Department for Education (DFE). (2018). *Statutory framework for the early years foundation stage*. London: DFE.

Edwards, R., Ivanic, R., Mannion, G. (2009). The scrumpled geography of literacies for learning. *Discourse*, 30(4), 483-499.

Ehret, C. (2018). Moments of teaching and learning in a children's hospital: affects, textures and temporalities. *Anthropology and Education Quarterly*, 49(1), 53-71.

Fenwick, T., Edwards, R., Sawchuk, P. (2011). *Emerging approaches to educational research: Tracing the socio-material.* London: Routledge.

Fenwick, T., Landri, P. (Eds.) (2014). *Materialities, textures and pedagogies*. London: Routledge.

Flewitt, R., Messer, D., Kucirkova, N. (2015). New directions for early literacy in the digital age: the iPad. *Journal of Early Childhood Literacy*, 15(3), 289-310.

Gee, J.P. (2004). *Situated language and learning: A critique of traditional schooling*. London: Routledge.

Gillen, J. (2014). *Digital literacies*. London: Routledge.

Hackett, A., Somerville, M. (2017). Posthuman literacies: young children moving in time, place and more-than-human worlds. *Journal of Early Childhood Literacy*, 17(3), 374-391.

Hall, N. (1987).*The emergence of literacy*. Portsmouth, NH: Heinemann.

Halliday, M. A. K. (1973). *Explorations in the functions of language*. London: Arnold.

Hollett, T., Ehret, C. (2017). Relational methodologies for mobile literacies: Intra-action, rhythm, and atmosphere. In Authors 1 and 2 and colleagues.

Jay, M. (1993). *Downcast eyes: The denigration of vision in twentieth-century French thought*. Oakland CA: University of California Press.

Juvonen, R., Tanner, M., Olin-Scheller, C., Tainio. L., & Slotte, A. (2019) 'Being stuck'. Analysing text-planning in digitally rich upper secondary school classrooms. *Learning, Culture & Social Interaction,* 21, 196-213.

Kontorvourki, S., Tafa, E. (Eds.) (forthcoming). Early Years and Primary Teachers' Digital Literacies in Personal Lives and Professional Practice: A Cross-Country Report. Cost Action: DigitilitEY.

Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication.* London: Routledge.

Kuby, C., Gutshall Rucker, T. (2016). *Go be a writer! Expanding the curricular boundaries of literacy learning with children.* New York: Teachers College Press.

Lankshear, C., Knobel, M. (2011). *New Literacies: Everyday practices and social learning.* Maidenhead: McGraw Hill

Latour, B. (1993). *We have never been modern.* Trans C. Porter. Cambridge, Massachusetts: Harvard University Press.

Law, J. (2004). *After method: Mess in social science research.* Abingdon, Oxon: Routledge.

Law, J., Hazard, J. (Eds.). (1999). *Actor-network theory and after.* Oxford: Blackwell.

Law, J. Mol, A. (1995). Notes on Materiality and Sociality. *Sociological Review*, 43(2), 274-294.

Law, J., Mol, A. (Eds.). (2002). *Complexities: Social studies of knowledge practices.* Durham, NC: Duke University Press.

Law, J., Mol, A. (2008). The actor-enacted: Cumbrian sheep in 2001. In C. Knappett, L. Malafouris (Eds.), *Material agency: Towards a non-anthropocentric approach* (pp. 57-77). Dordrecht: Springer.

Leander, K., Ehret, C. (Eds.) (2019). *Affect in literacy learning and teaching: pedagogies, politics and coming to know.* New York: Routledge.

Lenters, K. (2016). Riding the Lines and Overwriting in the Margins: Affect and Multimodal Literacy Practices. *Journal of Literacy Research*, 48(3), 280-316.

Marsh, J., Plowman, L., Yamada-Rice, D., Bishop, J. C., Lahmar, J., Scott, F.,Winter, P. (2015). *Exploring play and creativity in pre-schoolers' use of apps.* Available at: http://www.techandplay.org/reports/TAP_Final_Report.pdf .

Massumi, B. (2013). *Semblance and event: Activist philosophy in the occurrent arts.* London: MIT Press.

Macrae, C. (2018). Colliding bodies and vibrant objects. Paper presented at AERA annual meeting, New York City, NY. April 13-17.

Merchant, G. (2015). Apps, adults and young children: researching digital literacy practices in context. In Rodney Jones, Alice Chik, Christof Hafner (Eds.) *Discourse and Digital Practices: Doing discourse analysis in the digital age* (144-158). Oxford: Taylor and Francis.

Mol, A. (2002). *The body multiple: Ontology in medical practice*. Durham: Duke University Press.

Moyle, D. (1976). *The teaching of reading*. London: Ward Lock Educational.

Mills, K, Stornaiuolio, A., Smith, A., Pandya, J. (2018). *The handbook of writing, literacies, and education in digital culture.* London: Routledge.

Neumann, M., Merchant, G., Burnett, C. (2018). Young children and tablets: the views of parents and teachers. *Early Child Development and Care*. [Online First.]

Rowe, D. W., Miller, M. E. (2016). Designing for diverse classrooms: Using iPads and digital cameras to compose eBooks with emergent bilingual/biliterate four year olds. *Journal of Early Childhood Literacy*, 16(4), 425-472.

Smith, A., Hall, M., Sousanis, N. (2015). Envisioning possibilities: Visualising as enquiry in literacy studies. *Literacy*, 49(1), 3-11.

St Pierre, E. (2013). The appearance of data. *Cultural Studies ↔ Critical Methodologies*, 13(4) 223-227.

Stornaiuolo, A., Smith, A., & Phillips, N. C. (2017). Developing a transliteracies framework for a connected world. *Journal of Literacy Research*, *49*(1), 68-91.

Taylor, R. (2012). Messing about with metaphor: Multimodal aspects to children's creative meaning making. *Literacy*, 46(3), 156-166.

Wargo, J. (2017). Rhythmic rituals and emergent listening: Intra-activity, sonic sounds and digital composing with young children. *Journal of Early Childhood Literacy*, 17(3), 392-408.

Yoo, Y., Henfridsson, O., Lyytinen, K. (2010). The new organizing logics of digital innovation: An agenda for information systems research. *Information Systems Research*, 21(4), 724- 735.