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Art on the Move: The role of joint attention in visitors' encounters with artworks

ABSTRACT

Most visitors arrive at museums and navigate their way through the galleries as part of a group, a constellation requiring them to oscillate their attention between their companions and the curated exhibition. This paper focuses on two examples of videotaped data collected at an art museum in the UK to explore the ways in which visitors achieve joint attention with their companions in front of a painting. The analysis draws on interaction analysis and foregrounds the ways in which pairs of visitors achieve joint attention, especially when there is distance between them and they are not attending the same artwork. The findings contribute to a better understanding of attention as a resource for meaning making in the museum and complement the line of research exploring how visitors negotiate and make meaning in and through social interaction.

Keywords: Museum, Visitor, Social Interaction, Embodiment, Joint Attention

1. Introduction

This paper explores the role of joint attention in the setting of an art museum, a highly structured and visually complex environment which requires visitors to experience it by walking through its rooms and investing their attention in its collections (Roppola, 2012; Shapiro et al., 2017; Wineman et al., 2006). In the light of movement and focused attention being two of the main requirements for visiting a museum, researchers coined the categories of 'attracting' and 'holding power' to refer to the artefacts' ability to attract and sustain visitors' attention (Bitgood, 2010). Both categories are considered learning acts and indicators of visitors' interest and engagement, measured mainly quantitatively as the percentage of visitors stopping and looking at an exhibit, or as the duration of a visitor's pause in front of an exhibit (Bitgood, 2010; Sandifer, 1997; Serrell, 1997; Tison-Povis & Crowley, 2015).

At the same time, most visitors arrive in groups and consider museum visiting as an opportunity for socialising (Coffee, 2007; Debenedetti, 2003; Packer & Ballantyne, 2005). While navigating the galleries and experiencing 'art on the move', these visitors

are expected to oscillate their attention between their companions and the artefacts, and create opportunities for shared meaning making as a response to the artefacts they encounter. To create and elaborate upon such opportunities, visitors need to establish joint attention with their companions— that is, knowing that they are ‘experiencing the same thing at the same time’ (Tomasello & Carpenter, 2007, p. 121). As joint attention is a significant aspect of the social nature of museum visiting, it is important to investigate how it arises in this informal learning context.

This paper explores the following: (i) *how visitors configure and reconfigure their attention as they operate within the social nexus of the visit and (ii) how their ongoing encounter with each other and the museum space creates opportunities for shared meaning making.* This paper is part of a larger effort to study interaction on the move and extend methods of interaction analysis to study movement, which necessitates a focus on space, interaction and movement. To better understand the temporal and social organisation of joint attention, this paper draws upon two video excerpts, each showing a pair of visitors engaging with a painting at the Courtauld Gallery in London, UK. These excerpts exemplify instances of visitors facing different challenges in establishing joint attention with their companions.

In the first part, I discuss the social character of museum visiting, explaining the importance of joint attention in visitors’ meaning making and shared encounters. Joint attention is treated as a social phenomenon unfolding in and through a sequential relationship of actions and conditionally relevant responses, an underpinning which informs the methodological framework adopted for data collection and analysis described in the second part of this paper. The analysis of these excerpts details how visitors monitor, negotiate, regulate and successfully achieve joint attention by attending to the actions of others and their position in the gallery room and it illustrates visitors’ use of embodied practices in order to shift from the individual to the social sphere of the visit and establish joint attention with their companions, who are preoccupied with something else.

2. The role of attention in visitors’ edited versions of their meaning making

This paper unfolds on an understanding of visitors as *active meaning makers* with their meaning making seen as a visitor’s ‘personally ordered and edited’(Lave et

al., 1984, p. 71) response to the built setting and curated exhibition, produced in and through social interaction with other visitors (Christidou, 2016; Knutson & Crowley, 2010; Leinhardt & Knutson, 2004; Steier, 2014). The term “edit” is used in this paper similarly to what others in museum studies have called ‘redesign’ (Diamantopoulou et al., 2012) to refer to visitors’ transformation of the stories told by the curators through the exhibitions through their personal selections and by engaging with the exhibition and each other. In this light, visitors edit the museum ‘individually, continually, and repeatedly’ (Ma & Munter, 2014, p. 242) over time and space.

Nonetheless, most visitors arrive in the company of others. Previous research (i.e. Christidou, 2015; Packer & Ballantyne, 2005; Shapiro et al., 2017; Sintas et al., 2014) has argued that having a companion during the visit informs visitors’ attention practices and movement patterns, transforming the museum experience into ‘a social venture’ (Diamantopoulou et al., 2012, p. 18). For example, visitors who converse with their companions while in the museum seem to follow more unstructured paths than those who do not verbally interact with others (Tröndle et al., 2012). This happens as the urge to keep up with their companions often results in visitors having to bring their ongoing individual engagements prematurely to an end (Tolmie et al., 2014).

At the same time, visitors may encounter others who happen to visit the museum on the same day (Christidou, 2015; Fosh et al., 2016). These encounters may have an effect on visitors’ practices, attention and movement patterns, as ‘the entire atmosphere and the sensual perception of people in relation to spaces, objects, and humans’ (Biehl-Missal & vom Lehn, 2015, p. 238) shape one’s museum experience. For example, being among a large number of other visitors may influence the time one stays at an exhibit, as ‘visitors feel the pressure to move quickly from one exhibit to another to allow other visitors their turn to interact with exhibits’ (Sandifer, 1997, p. 698).

With visitors not only ‘seeing’ but also ‘being seen’ (Christidou & Diamantopoulou, 2016), they are expected to oscillate their attention not only between the individual and the social sphere of their own group, but also within the social collective which emerges from and through social interaction with others outside their own group who happen to be in the same gallery room. It thus argued that an individual’s ‘personally ordered and edited version’ will inform the edited version of others, while prompting opportunities for ‘socially edited versions’— the versions

emerging from visitors' editing in interaction with others. In this light, the museum experience is seen as 'socially produced in the collective editing and activity of participants' (Ma & Munter, 2014, p. 238) – those being, the other visitors and museum staff.

3. Joint attention and meaning making in the art museum

Research on museum learning has foregrounded visitors' engagement and meaning making as the result of visitors exercising focused attention (Bitgood, 2010; Morrissey, 2002; Sandifer, 1997) as they experience the exhibition 'conceptually, attentionally, perceptually, as well as physically' (Roppola, 2012, p. 174). Seen as an integral part of visitors' meaning making, researchers have attempted to measure attention in the museum either as the percentage of visitors stopping at an exhibit and the viewing time (duration) of their stop (Bitgood, 2010; Tzortzi, 2015; Yalowitz & Bronnenkant, 2009), or the sweep rate index (SRI) and percentage of diligent visitors (%DV) as introduced by Serrell (1997).

Visitors in making their own personally edited version move through the galleries while paying attention to certain aspects of the exhibition, as evidenced in the orientation of their eyes and bodies toward a 'target' often accompanied with pointing gestures, posture, footing, and indexical speech. At the same time, visitors are often drawn to particular artefacts by paying attention to what their companion and others sharing the same space attend to, using the attention of the others as a prompt in navigating their way.

Contrary to definitions of attention arising in the fields of psychology and neuroscience, a social account of attention, befitting the sociocultural framework of museum visiting adopted here, would require an understanding of attention as a process situated in and unfolding through social interaction. For those instances when visitors need to coordinate their actions with those of others and in relevance to the location and what others attend to, one of the prerequisites is to achieve joint attention (Kidwell & Zimmerman, 2007; Sebanz et al., 2006). To accomplish this, visitors visually and verbally mark the features of the moment-by-moment unfolding context as relevant through a wide range of verbal and nonverbal communicative resources, such as pointing gestures, talk, posture and footing (Bangerter, 2004; Clark, 2003; Goffman,

1971; Sacks, 1992; Tomasello & Carpenter, 2007). At the same time, they draw upon similar resources to signify the person they address verbally and nonverbally by looking or gesturing at them. Concomitantly, they monitor and negotiate their context in relation to the bodies of others who happen to share the same gallery space (i.e. Christidou, 2015; Fosh et al., 2016; Jafari et al., 2013; vom Lehn, 2013a). During such instances of joint attention, opportunities for shared meaning making emerge.

Nonetheless, achieving and sustaining joint attention across physical space and time is not always feasible as participants may encounter difficulties in speaking, hearing, and understanding what is being communicated and shared with them, especially in cases when the participants are not in close proximity to each other. These difficulties are often evidenced in the lack of verbal and embodied responses in turns in talk such as not gazing at the speaker or responding to a question, responses which would confirm that the participants share joint attention and a mutual orientation towards an artefact. To address such difficulties, participants use ‘repairs’ (Schegloff, 1997), with the speakers revisiting what they said or done by repeating it or by changing it.

4. Methodological framework

Based on an understanding of visitors’ interactions as emerging *sequentially* and *in situ* in a continuously changing context, shaped moment-by-moment through their interactions, video-based research was conducted to facilitate the preservation of details of space, resources and embodied action (Hall & Stevens, 2016; Knoblauch et al., 2009; vom Lehn & Heath, 2016). Interactions of visitors in pairs were recorded in the gallery room 4 at the Courtauld Gallery in London, UK, in front of Seurat’s painting *Woman Powdering Herself* (Figure 1).

Two excerpts are analysed here, drawn from a corpus of 75 hours of videotaped data collected as part of my doctoral research project (Christidou, 2012). Both excerpts evidence instances in which the social context interferes with the ongoing negotiation of joint attention, either by hindering or by enabling it. The selection of these episodes aims at reflecting phenomena which are expected to take place in a museum, a place visited by several people at the same time. Additionally, seeing the museum as a microcosm of everyday life, this paper describes phenomena which occur all the time in

the conduct of everyday activity.

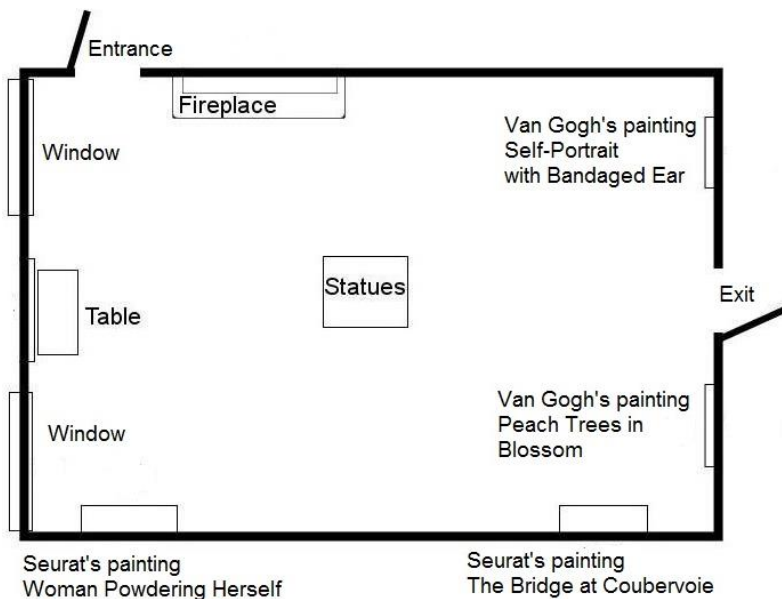


Figure 1. Floorplan of Room 4, Courtauld Gallery.

By taking an Interaction Analysis perspective to the study of meaning making (Jordan & Henderson, 1995), the analysis zooms in on encounters of visitor dyads with the painting and others who happen to be around, as these are marked by observable actions, such as gestures, talk, movement, footing, and posture. I attend to how attention is negotiated by focusing on ‘ambulatory sequences’ – a term coined by Marin (2013) to refer to the shifts in movement and posture of parents and children as they pace their walk and hold their bodies while in a forest park. Here, the analysis takes into consideration visitors’ shifts of movement as enacted through their walking and stopping, their gestures and shifts in posture, shifts from one location to another. In both excerpts, visitors have been captured while slowing down and approaching Seurat’s painting. At such moments when the pace changes, members of the group who are at a distance are often called over to participate in a shared meaning making.

The first excerpt illustrates how visitors monitor, negotiate and regulate their joint attention which is interrupted by the action of others in their vicinity whereas the second excerpt exemplifies how the presence of others around them informs the ways in which visitors prompted, regulated and achieved joint attention. By choosing these two excerpts, the analysis brings into discussion how joint attention arises and fades as the


personally edited version becomes entangled with the socially edited version.




5. Analysis


5.1. Excerpt 1: *Discovering the painting through another person's eyes*

In the first encounter, we join Jeremy and Lucy as they walk into the gallery room. Jeremy walks ahead and approaches the first painting to the right, followed by Lucy shortly after. Once they look at it for a few seconds, they turn her back to the painting and starts walking straight ahead towards the opposite side of the room.

While walking ahead, Jeremy pauses for a few seconds and turns to his right towards Seurat's painting. Lucy does not notice his shift in posture and pace. Jeremy then uses both spatial deixis ("that one") and a deictic verb ("Look"), while also drawing on his body posture to attract and direct Lucy's attention (line 1). While holding his left hand extended, pointing at the painting, Jeremy turns and faces Lucy to his left and repeats 'look at the'. He then puts his hand down and starts walking closer to the painting. Upon reaching the painting, Jeremy situates himself on the right side of the painting while leaving space on his left for Lucy to occupy (line 2, Figure 2).

Turn	Speaker	Talk	Action(s)	Figures
01	Jeremy	That one! Look at that one.	Shifts his left hand and points at the painting while turning slightly to his right. Lucy turns towards Jeremy.	
02	Jeremy	Look at the	While holding his left hand extended, pointing at the painting, he turns and faces Lucy to his left, puts his hand down and starts walking closer to the painting. Jeremy is standing in front of the painting, with his body	 <p>Figure 1</p>

			slightly turned to the right, leaving space for Lucy to his left, which she immediately occupies.	
03	Jeremy	Dot, dot dot dot dot dot dot dot.	Lifts his right hand and starts gesturing small dots in the air. Jeremy stops gesturing upon finishing his utterance, and they both remain silent while facing the painting. Jeremy's body is slightly leaned towards the label's location on his left.	 <p>Figure 2</p>
04	Jeremy	They paint in small dots. And when you squint or look in the long way, I feel it's all painted with water	Shifts from left to his right, and leans towards the painting. He takes a few steps backwards while squinting with his right eye. Lucy squints also with her right eye and steps backwards. Jeremy starts approaching the painting.	 <p>Figure 3</p>
06			Jeremy turns and looks at Lucy, who he approaches after a few seconds. They are standing next to each other, with Lucy positioned on Jeremy's	 <p>Figure 4</p>

			left. Some noise and an incident with a flashlight prompts Jeremy to turn his head towards his left where the incident occurred, while standing tilted, with the painting on his right.	
07	Jeremy	The painting () ways of capturing the feelings rather than ().	He starts walking away, towards the other side of the gallery. Lucy looks to her left while staying still. Jeremy stops halfway. Other people start approaching the painting.	 <p style="text-align: center;">Figure 5</p>
08			Lucy turns forward. Jeremy turns his head backwards to Lucy's direction. Lucy starts walking towards Jeremy, she approaches him and stands next to him, moving away together.	

A few seconds later, Lucy approaches Jeremy and occupies the space on his left, assuming a similar posture to that of Jeremy (Figure 3). He then turns and faces Lucy to his left and after shifting his right hand, Jeremy starts making a gesture in the air resembling the act of ‘punctuating’ (line 3) while repeating the word ‘dot’ eight times. While remaining silent for a few seconds, Jeremy concludes his performance by saying ‘they paint in small dots’, elaborating upon the information he has previously given

through his gesture and the word ‘dots’ (line 4). He then suggests that ‘when you squint or look in the long way, I feel it’s all painted with water’ while squinting as he walks backwards (line 4). Lucy also squints and steps backwards (line 4, Figure 4).

An abrupt sound caused by a few visitors entering the room triggers Jeremy to turn towards their direction. Meanwhile, another female adult arrives at the same painting and stands next to Lucy (line 6, Figure 5). Jeremy attempts to conclude his sentence while slowly stepping away from the painting (line 7, Figure 6) and turning towards the other side of the room. Lucy lingers for a while in front of the painting, looking to her left (line 8). Jeremy pauses for a second, turns backwards and looks at her. Lucy starts walking closer to him (line 8).

In this episode, we see that Jeremy opened up his own ‘personally edited version’ of the painting to Lucy by first monitoring her position through a shift in his posture towards her direction. Specifically, while walking ahead, Jeremy pauses for a few seconds and turns to his right towards Seurat’s painting. Lucy does not notice his shift in posture and pace, as reflected her not aligning with him. Lucy’s positioning in the room is seen as an indicator of her attention which Jeremy attempts to attract through a series of what Sacks (1992) calls ‘announcements’: he announces to Lucy his interest in the painting and invites her to ‘look at it’. For this invitation, Jeremy uses both spatial deixis (“that one”) and a deictic verb (“look”), while also drawing on his body posture to indicate direction. His body posture, the shift in his gazing, the use of a directive verb ‘look’ which invites Lucy to perform a specific action, and the deictic term ‘that’, are all orchestrated as part of his attempt to direct and achieve joint attention with Lucy (line 1). Pointing gestures and deictic verbs and adverbs rely on the visibility and audibility between the participants in interaction (Clark, 2003; Goodwin, 2000) and require from their recipient an act of confirmation of having paid attention to them (Szymanski, 1999). Here, both conditions do not exist as Lucy does not react nor respond to Jeremy’s visible and audible vectors towards the painting created through gestures and verbal deixis. His performance in front of the painting is not sufficient enough to ‘attract Lucy as an audience’ (Christidou, 2013).

Jeremy notices the subsequent lack in Lucy’s alignment with his indicated object, which he attempts to repair by turning to his left, facing Lucy and saying ‘look at the’ while continuing pointing and moving closer to the painting. Here, we see how




the absence of a confirmation by Lucy forces Jeremy to ‘repair’ his first attempt to achieve joint attention (Schegloff, 1997) by moving closer to the painting while using the deictic verb ‘look’ coupled with a pointing gesture directing towards the artwork. Moreover, Jeremy also prepares the ground for Lucy’s arrival by situating himself on the right side while leaving space for Lucy to occupy on his left (line 3). A few seconds later, Lucy approaches Jeremy and occupies the space on his left, aligning her body with his, an embodied confirmation of them having established joint attention.




Once they have secured joint attention, Jeremy elaborates upon his initial invitation by indicating to Lucy a way to ‘see’ the painting ‘through his own eyes’. Specifically, he instructs her verbally to squint her eyes and look at the painting by taking a few step backwards so as to see how ‘it’s all painted with water’ (Figure 4). Lucy, by imitating Jeremy’s squinting and stepping backwards, accepts his invitation to be his ‘audience’ and share his meaning making by experiencing the painting in the light of his performance and thereby, ‘see it through his eyes’. Jeremy’s personally edited version of the painting has now become a ‘socially edited version’. Despite Jeremy’s prompts for elaborating their learning on the move, the noise distraction seems to end their encounter abruptly. This hints at the ways in which the wider ‘museum atmosphere’ (Biehl-Missal & vom Lehn, 2015) may influence the unfolding and emerging interactions and reinforces previous research arguing that crowding affects the time spent with an exhibit (Sandifer, 1997).

5.2. Excerpt 2: Negotiating joint attention

The next pair enters the room, while numerous people are standing to the left side of the room, attending a guided tour, leaving a small passage unoccupied for those who pass by. What unfolds next exemplifies how visitors establish joint attention and how they hold this unoccupied space for their engagement with the painting within the gallery tour realm, without disturbing those participating in the guided talk.

Turn	Speaker	Talk	Action(s)	Figures
9			John is walking ahead, when Lynn, upon approaching <i>Seurat’s painting</i> , immediately slows down and turns towards her	

			left where John is.	
10			While remaining turned towards John, Lynn lifts her left hand and starts moving her palm back and forth for two times. John does not respond and he continues walking ahead.	 <p>Figure 6</p>
11			By extending the same hand, Lynn snaps her fingers twice and John turns towards her. She then uses the same hand, shifts her palm and moves it back and forth.	 <p>Figure 7</p>
12			John starts walking towards Lynn, who is still facing him. While John is approaching her, Lynn lifts her right hand and points at the painting. Another female adult visitor approaches the same painting, standing at Lynn's right side.	 <p>Figure 8</p>
13	Lynn	So this is pointillism. It is tiny tiny.	Lynn turns and faces the painting. Jon has approached Lynn and the painting, and he is now standing next to her, looking at the painting.	

14	Lynn	= It is tiny tiny	Lynn is pointing at <i>the painting's</i> left corner while leaning towards it. Lynn steps backwards, lifts her right hand and performs a gesture of punctuating dots in the air.	 Figure 9
15	John	Yeah.		
16	Lynn	He is the one ()	Pointing with her left hand at the painting's label while looking at it. Lynn places her right hand down while still standing next to John.	 Figure 10
17	John	= Yeah.	John turns and faces Lynn while having his back to the painting	
18			Lynn turns towards John and they start walking away together.	 Figure 11

John (adult male wearing a dark sweater and trousers while carrying a backpack) walks first ahead, going straight leaving the crowd to his left. He walks rather fast, an indication of him being rushed to the next room. Lynn (adult female holding her jacket in her right arm) walks more slowly behind him, and upon seeing Seurat's painting, she slows down and pauses in front of the painting (line 9). She then lifts her left hand and calls over John, who is looking to his left, and thus fails to see her summoning (line 10, Figure 7). After snapping her fingers, Lynn secures John's attention and positions

herself in front of the painting while beckoning to John with her left hand. John is seen walking towards Lynn (line 12, Figure 9), who then moves slightly to her right, leaving the space on the left unoccupied for John. Upon John's arrival next to her (Figure 9), Lynn points with her right hand at the painting while facing him (line 14, Figure 10). Lynn starts speaking *sotto voce* about pointillism—that is, the technique used by Seurat in this painting—while pointing out aspects of the interpretive text by using her left hand (line 16, Figure 11). John responds with several utterances of 'yeah' (lines 15 & 17) before withdrawing from the painting (line 18, Figure 12).

In this episode, we see Lynn attempting to invite John to her 'personally edited version' of the painting by performing a summoning gesture with her left hand (Figure 7). Specifically, Lynn accomplishes her beckoning through an up turning of her palm and extending and retracting all of her fingers twice while facing John. Beckoning is used especially when verbal communication is suboptimal due to situational factors and distance. Here, it is both the distance between Lynn and John, and the specific 'museum atmosphere' with the guided tour taking place in the same room. In this instance, beckoning invites attention and proximity and prepares the ground for engagement—Lynn invites John to come closer to her and engage with her attention focus.

Similar to all attempts for communication, beckoning requires confirmation from the person being summoned, mostly performed through physical movement towards the summoner. As Lynn's beckoning falls unnoticed, she immediately repairs her performance (Schegloff, 1997) by revisiting her previously given beckoning and altering it in order to achieve attracting John's attention. She now is snapping her fingers twice (line 11, Figure 8). Snapping fingers is often considered an alternative version of beckoning with the difference being that it produces a subtle sound when performed. This sound is what the participant uses to attract the other's attention. Gestures that produce sensory reactions similar to the snapping sound of the fingers can be used to achieve joint attention such as extending one's hand to reach out towards another's arm (Hornecker, 2016). This can be thus considered an alternative way to attract John's attention while minimizing the disturbance to the course of the guided talk. Her attempt to invite John to her 'personally edited version' of the painting through the beckoning gestures and the snapping of fingers are embodied prompts inviting him to engage in their 'socially edited version' while remaining attentive to the guided tour

taking place at the same time.

An analysis of their talk leads us to examine the linguistic choices they make. Specifically, once they have achieved joint attention, Lynn identifies the painting as 'pointillism' as she emphasises the adjective 'tiny tiny'. She does not use a word to complement her identification of this painting's style, but instead represents her interpretation through a very specific gesture qualified by the word 'tiny', suggesting tiny dots. She lifts her hand and punctuates several dots in the air. Lynn's interpretation suggests to John who has been 'attracted as her audience' and thus, 'arrived second' at the painting, a specific way of 'seeing' the painting through her eyes. John responds in the form of 'yeah, yes, mm hmm, uh huh' utterances that been called 'continuers' and 'acknowledgement tokens' (Jefferson, 1984; Schegloff, 1982) displaying attention, understanding and interest. Here, the use of 'yeah' assigns to John the role of listener and imply that the other participant, Lynn, is actively engaged as the speaker. At the same time, the use of these tokens demonstrates that John is orienting to what Lynn talks about, while also allowing Lynn to continue. After answering with 'yeah', John turns his back to the painting (line 17, Figure 12), and his posture, along with his acknowledgement token, signifies the end of his engagement in being Lynn's audience. Indeed, John turns to his right and starts walking ahead, followed by Lynn (line 18, Figure 13).

6. Discussion - Negotiating Attention

The above two excerpts exemplified two key instances of achieving and negotiating attention within social contexts which impact on the communication between the two visitors. While both exemplify the role of one visitor offering prompts for shared attention, each excerpt foregrounds different ways of monitoring, regulating and negotiating attention as each encounter is completely rooted in the immediacy of the moment in which it unfolds.

The pairs' movement, gestures, speech, posture and footing become part of the visitors' repertoire of attentional practices for 'attracting the other as an audience' (Christidou, 2013), facilitating them in the creation of both their 'personally edited' and a 'socially edited' version of the painting which potentially extends or elaborates the meaning of the painting in ways relevant to the personal and social history of the pairs.

During their engagement with the painting, both pairs have arranged themselves in different types of interactional ‘formations’ (e.g. how people spatially organize their bodies in interaction) (Kendon, 1990) and ‘ambulatory sequences’ (Marin, 2013) where the distance between them is not only related to the spatial layout and curation of the museum galleries but is also an interactional phenomenon, emerging in and through visitors’ interactions.

The analyses of the two excerpts illustrate a way to use interaction analysis in order to begin to think across space and time in museum gallery spaces in new ways. This paper links concepts, such as arriving second and seeing/being seen, with units of analysis like f-formations and ambulatory sequences, while highlighting the significant need for specific approaches, e.g. interaction geography, in order to describe, represent, and interpret space, interaction (conversation, gesture etc.) and movement simultaneously. Thus, this paper furthers existing work which discusses learning across scales.

Crafted in and through social interactions with their companions and co-present visitors, visitors encountered the painting and created ‘a personally edited version’. By shifting the attention from their co-visitors to the painting and vice versa, relating them to each other, both Jeremy and Lynn transformed their personal meaning making into a ‘socially edited version’, creating new meanings while sharing it with others. For this sharing, it was important for both pairs to sustain a common orientation, visibility and audibility. As seen in both excerpts and specifically in the second, visitors provided prompts for their companions to rejoin their group through their positioning and by giving out small gestures like beckoning, pointing, and snapping of fingers. At the same time, by inviting them to align their attention, they were also requesting visitors to stop doing something else. This finding is supported by previous research (Tolmie et al., 2014; vom Lehn & Heath, 2016) which found that visitors who had left their group at a point during their visit to attend an exhibit individually, were forced to move on quicker in order to preserve their close proximity to those they are ‘With’ (Goffman, 1971).

Often the coalescence of visitors’ attention is signalled through positioning, and alignment of gaze. Through practices of ‘seeing and being seen’ (Christidou & Diamantopoulou, 2016), visitors draw upon each other’s positioning and orientation as resources informing and preparing the ground for achieving and sustaining joint

attention. The examples illustrate the close coordination between talk, gestures, positioning, and gaze as visitors orientate themselves towards the exhibits and the other visitors. Specifically, we saw both Lucy and Jeremy using indexical gestures (i.e. pointing) to (i) channel their own attention, (ii) single out specific aspects of the painting while identifying them, (iii) direct their companions' attention, and (iv) create links among different semiotic resources within their perceptual field. These are also the same resources which visitors use so as to repair any instances of their attention not being aligned.

During their ambulatory sequences, we witnessed these pairs being involved in 'unresolved interactions'—that is, an opportunity for meaning making which is shared without coming to an end verbally. Through the two excerpts analysed here, we see how these visitors created opportunities for meaning making, while looking at art on the move, which were not further elaborated. It is interesting that, in both excerpts, the visitors put a lot of effort, both verbally and nonverbally, into attracting the others as their audiences, whereas they displayed their disengagement mainly nonverbally by progressively stepping away from the painting. It is also worth mentioning that their disengagement with this painting is part of them encountering 'art on the move' as they continued their visit, browsing the rest of the exhibition.

In both excerpts, the individual disengagement of one of the visitors is a prompt for the disengagement of the other. Additionally, each visitor withdraws from the painting without marking his/her disengagement verbally, an act that further prompts their co-visitors to withdraw without making any verbal remarks. For example, in the second excerpt, John signified the end of his engagement both with the painting and Lynn by turning his back to both of them and moving ahead, followed by Lynn, while in the first excerpt, Lucy turned her head towards the other side of the room and then started walking away, followed by Jeremy. This may be due to the visitors having already established joint attention, and, thus, any verbal indication of them moving was deemed unnecessary.

The analysis has also highlighted that the sequence of arriving at an exhibit is also important for visitors' negotiation of attention and their meaning making. We see in both excerpts that the visitor 'arriving second' to the painting displayed in embodied ways the moment when their attention was aligned. For instance, Lucy, as "arriving" at

the painting “second”, had to display to Jeremy her joining in front of the painting by occupying the space he left empty for her. By publicly acknowledging their re-joining, Lucy signalled the beginning of *sharing joint attention* with Jeremy and the beginning for her own and their shared meaning making. In this moment, we see how Jeremy has ‘designed’ for Lucy a learning opportunity on the move, in which Lucy participates. Once they establish joint attention, Jeremy continues facilitating their meaning making. Similarly, Lynn invites John to join her at the painting, a summoning that he accepts and arrives at the painting second. Upon his arrival, Lynn introduces him to her ‘personally edited version’, inviting John to partake in an opportunity for shared meaning making by framing their ‘socially edited version’ of the painting together. This supports findings from previous research arguing that visitors who arrive at an artwork may experience it through the input of the person who has been there just before them (Christidou, 2015; vom Lehn, 2013b).

In the first excerpt, Lucy discovered aspects of the painting in the light of the performance of Jeremy who had arrived there first. Lucy was not only drawn to and drawn away from the painting by his performance but saw the painting ‘through his eyes’, both figuratively and literally, as she imitated a specific way to use her eyes. Throughout this excerpt, Lucy was the audience of Jeremy’s performances in front of the painting. She remained silent and confirmed her attendance nonverbally by aligning her posture to the painting, being in close proximity to Jeremy and imitating his actions. In other words, Lucy experienced the painting through Jeremy’s eyes, who not only told Lucy what to notice but also indicated a very specific way for her to look at the painting (line 4) .

The analysis suggests that visitors remained tuned in to not only their companions but also to the moment-by-moment context as created in and through social interaction with others who happen to be around. Specifically, in the first excerpt we saw how a sudden and abrupt noise distracts and interrupts the pair’s encounter and, in the other, how the visitors remain aware of the public gallery talk taking place in the same room. Both the noise in the first excerpt and the gallery talk in the second informed the encounters in different ways as both comprise part of ‘the museum atmosphere’ (Biehl-Missal & vom Lehn, 2015, p. 252).

Concluding remarks

According to Morrissey (2002, p.285), the ‘conversations or interactions between individuals, in the presence of objects, are the foundation of learning and are core to the concept of museums as places where knowledge is created, discussed, reflected on, and passed on to future generations.’ Despite the fact that this paper focuses on studying dyads, its analysis highlights the dialectical relationship between the individual visitor’s activities and the setting, and among all other visitors’ activities and the setting. By doing so, it foregrounds museum galleries as socially produced spaces, which visitors edit while encountering ‘art on the move’. Through the two excerpts, we not only see how the architecture of the gallery room, along with the spatial arrangement of the exhibits, shapes visitors’ movement and experience but also how their experience is being shaped and renewed through socially negotiated activities among visitors. To establish these activities, aligning attention is an integral resource.

As the analysis demonstrates, while in interaction with their companions, visitors make an object or information perceptually available to another not only by drawing and sustaining their companion’s attention to it, but also by making socially perceptible to another what they expect as a response to their prompt. To establish joint attention, visitors monitor, negotiate and regulate their joint attention with their companions, while remaining alerted to the changes in the wider social context created continuously in and through social interaction with others who happened to share the same space. In the excerpts analysed in this paper, co-present visitors were called over through beckoning gestures (excerpt 2), snapping of fingers (excerpt 2), and deictic verbs (excerpt 1). The analysis focused on how these encounters begin, unfold and come to an end with visitors withdrawing from the exhibits.

This article contributes to research on visitors’ conduct in the museum galleries, while enhancing our understanding of museum learning. It is therefore useful to curators and educators who are responsible for designing such learning opportunities. The findings of this paper contribute to a better understanding of the broad range of social practices taking place in the museum, especially the use of attention, and how these impact visitors’ meaning making on the move. By foregrounding the means through which visitors mediate their meaning making with others, it also extends previous research adopting sociocultural theories of learning (i.e. Christidou, 2013; Knutson &

Crowley, 2010; Morrissey, 2002; Steier et al., 2015). Moreover, understanding the ways in which visitors learn about art on the move and the ways in which they negotiate their attention and time may inform relevant research and further the developments in the design of digital museum applications requiring the collaboration and, thus, the alignment of attention between two or more visitors (i.e. Aoki et al., 2002; Grinter et al., 2002; Katifori et al., 2016).

There is a need to study people's movement in relation to each other, the space and the available resources in the museum, and in particular to account for the ways in which visitors invite others to specific exhibits in order to share their experiences with them (Shapiro et al., 2017). This paper is an attempt to address this need by carrying out a fine grained analysis of visitors' encounters at specific exhibits, thus contributing to understanding more about (i) how groups of visitors prompt each other's meaning making, creating opportunities for shared meaning making while experiencing 'art on the move' and (ii) how visitors re-join their group and re-engage with their companions.

The analysis of visitors' encounters in this paper comes with its own limitations. As it draws upon encounters unfolding in front of a specific exhibit, it analyses only snapshots of the group's visiting practices which are indeed negotiated and emerging throughout the duration of the whole visit. Additionally, by analysing only exchanges unfolding close to and in front of the specific painting, including some seconds before and after visitors arriving at it, this study leaves unexplored the social interaction that emerges in between visitors' ambulatory sequences when moving from one artwork to another (Roppola, 2012). To address these limitations, research on the interactions of larger groups of museum visitors and throughout their whole visit can shed more light on the repertoire of the practices visitors use to attract others and establish joint attention in and through social interaction. Additionally, by including different types of groups visiting the museum and knowing more about their social ties, further research can identify how certain groups negotiate their attention throughout the whole visit. This could be further enhanced by a comparison of visitors' negotiation of their attention at different museum settings.

As the challenge remains, there is still plenty of room for advancing our understanding of visitors' interactions and realizing the role of social dynamics when it comes to museum visiting.

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