‘Wow…what’s that Dad?!’ Fresh and Dynamic Perspectives of Young Children’s Museum Experiences

Benjamin Henry John Burbank

A thesis submitted in partial fulfilment

of the requirements for

the award of Doctor of Philosophy

Oxford Brookes University

October 2021

Word count: 98372

Abstract

This thesis explores the experiences of six young children (four and five years of age) during the flow of unstructured family museum visits. Two of the children visited a museum of art and archaeology, two a museum of natural history and two a museum that is dedicated to children's literature.

Drawing on the field of childhood studies and in order to provide a means to listen closely to the young children's experiences, a novel methodology called First Person Museum Ethnography (FPME) was developed and successfully trialled. FPME is underpinned by a novel configuration of theory that allows me to conceptualise first person video (FPV) and photographs as the children's expressions (beyond verbal articulations) of their experiences. I argue that this allows me to apply an Interpretative Phenomenological Analysis approach to exploring the children's lived experiences during the visit and afterwards in interview.

Data collection included the use of chest-mounted GoPro™ cameras worn by the children. These recorded first FPV footage during their visits. To complement the FPV footage, handheld cameras were also carried by the children during their time in the museums. The children's photographs formed the basis of photo-elicitation interviews that took place immediately after their visits. I suggest that together these two complementary tools, playing to the children's competencies, provide the children with a richer and more nuanced means to communicate their experiences than either would alone.

This research adds to the young children in museums' literature in two main ways. First, by empathetically engaging with the communications of six young children, it presents fresh perspectives on the ways in which movement, family interactions, affective reactions and patterns of attention contribute to the nature of the children's lived experiences. Second, it presents the novel methodology FPME and a critique of its implementation with young children.

Acknowledgements

To begin I would like to sincerely thank my supervisors Deb McGregor and Mary Wild for their support and advice that allowed me to gather this research into its present form. Without them this thesis would not have been possible. I am also grateful to the museum staff that allowed me access to their spaces, taking time out of their busy schedules to offer me their help. Thank you to the children and their families who so generously allowed me to share their visits; it really has been a pleasure. Behind the scenes my own family have played a huge part in facilitating this piece of work and, especially in the later stages, were often seen with furrowed brows saying, ‘haven’t you finished writing that yet!’. First, my thanks go to my daughters Annie and Ella, who, although they did not realise it at the time, were in many ways the inspiration for this thesis. Second, my parents John and Val have, as always, been hugely supportive, and I hope they feel a sense of pride that their son has finally reached this point of completion. Last but definitely not least, I would like to give special thanks to my partner Elsa (and of course our new arrival Corin) who has shared this journey so intimately with me over the years; the sacrifices you have made to allow me to finish this thesis have been considerable, for that I am very grateful.

Glossary

Competent actors: The children in this study are viewed as experts in their own lives with views and opinions that are of current value (Corsaro, 2011). Recognising children as competent social actors places great importance on gaining their perspectives (Kelly *et al.*, 2005).

Ethnographic place: Ethnographic place does not refer to the places actually experienced by the children (Pink, 2015a) instead it is the place that I create in order to communicate this research and the children's experiences to others. It is open, ongoing and its theorisation represents the '*... coming together and entanglement of persons, things, trajectories, sensations, discourses and more*.' (Pink, 2015a, pg. 48)

First person video (FPV): FPV is recorded through the attachment of a small digital video camera to the participant that supposedly records from his or her perspective, or at least from the position the camera is located (Pink, 2015b). This gave the children the freedom to express and communicate the ways in which they perceive the world (Clark and Moss, 2011).

First Person Museum Ethnography (FPME): FPME is the novel methodological approach that I designed with a view to sensitively listen to the young children's expressions of their visit experiences.

GoPro™ cameras: These were the brand of small chest-mounted video cameras that the children in this study were asked to wear during their visits

Hundred languages of children: Reggio Emilia's original pedagogical director, Malaguzzi's (Cagliari *et al.* 2016) term 'the hundred languages' refers to young children's communicative potential, recognising the many creative ways in which young children construct and articulate their views and experiences

Interpretive Phenomenological Analysis: IPA is a methodological approach that is committed to the exploration of personal experience. Its objective is to understand lived experience and explore how people make sense of their personal and social worlds (Noon, 2018).

Intersubjectivity: This refers to '*... the shared, overlapping, and relational nature of our engagement in the world*' that accounts for '*... our ability to communicate with, and make sense of, each other.'* (Smith, Flowers and Larkin, 2012, pg. 18)

Listening to young children: Listening is *'... a metaphor for having the openness and sensitivity to listen ... not just with our ears, but with all our senses (sight, touch, smell, taste, orientation).*' It also involves '*Listening to the hundred ... (languages) symbols and codes we use to express ourselves and communicate.*' (Rinaldi, 2005, pg. 49). In respect to this project, listening also involves my own empathetic engagement with the children's experiences.

Photo-elicitation: The children were given handheld cameras to take photographs of anything they want during their visits. Their photographs were then used as prompts during post visit interviews. This, like the FPV, gave the children the opportunity to

express and communicate the ways in which they perceive the world (Clark and Moss, 2011)

Table of Contents

1 INTRODUCTION: SETTING THE SCENE 33

1.1 Introduction 33

1.2 Background to the research 34

1.3 Development of my research focus 36

1.4 Thesis structure 39

2 YOUNG CHILDREN IN MUSEUMS: A LITERATURE REVIEW 42

2.1 Introduction 42

2.2 A theoretical evolution 44
2.2.1 Beginnings 44
2.2.2 A developing focus on family conversations 46
2.2.3 Moving away from a focus on conversation and foregrounding the perspectives of the child. 52
2.2.4 Gaining children's perspectives as a form of consultation 55
2.2.5 Praxeological research and children's perspectives 56
2.2.6 Moving away from a focus on learning: towards new theoretical conceptualisations of young children in museums. 58
2.2.7 Different conceptual framings of young children in museums and new theoretical horizons 60
2.2.8 The focus of my research 63

2.3 Young children's social experiences in museums 64

2.4 Young children's movement in museums 74

2.5 Young children's engagement with museum spaces 80

2.6 Summary and introduction to research questions (RQ) 1 and 2 87

3 DEVELOPING THINKING AND A REVIEW OF THE LITERATURE CONCERNING PHOTO-ELICITATION AND THE USE OF FIRST PERSON VIDEO 89

3.1 Introduction 89

3.2 An introduction to photo-elicitation 91

3.3 Understanding Kirk's innovative method 95

3.4 Critique of Kirk's (2014) method 96

3.5 Use of video in research with a focus on young children in museums. ... 98

3.6 Considering first person video (FPV) 103

3.7 Different theoretical perspectives concerning the use of first person video 104

3.8 First person video as an alternative to participant observation. 107

3.9 The use of first person video cameras with children 111

3.10 Using first person video cameras in museums 117

3.11 New ways forward? 120

3.12 Proposing a novel methodology called First Person Museum Ethnography and introducing research question 3 122

3.13 Summary 124

4 A NOVEL METHODOLOGICAL APPROACH: FIRST PERSON MUSEUM ETHNOGRAPHY 125

4.1 Introduction 125

4.2 First Person Museum Ethnography 126

4.3 Children as competent social actors 127

4.4 Positioning this study on the ethnographic continuum 128

4.5 How does this study differ from conventional ethnography? 130

4.6 Making the familiar strange? 132

4.7 Focused ethnography 133

4.8 The theoretical foundations of ethnographic place 136

4.9 How ethnographic place allows me to re-conceptualise the video and photographs as children's expressions of their experiences 140

4.10 Interpretative Phenomenological Analysis 142

4.11 Can IPA be used to explore the lived experiences of young children? . 143

4.12 Phenomenology 144

4.13 Hermeneutics 145

4.14 Idiography 146

4.15 The research locations 147

4.16 Participant recruitment 149

4.17 Handheld cameras 152

4.18 Chest-mounted GoPro Hero Session 4™ FPV cameras 153

4.19 Photo-elicitation interviews 154

4.20 Ethical considerations 156

4.21 Process of analysis 159

4.22 Interview transcription 159

4.23 Photograph logging 160

4.24 Video logging 160

4.25 Transcription using Elan™ software 161

4.26 Movement maps 165

4.27 Defining affective reactions 167

4.28 Reading and note-taking 170

4.29 How specific episodes developed into points of analytical interest 170

4.30 Notes to emerging themes 172

4.31 Connecting themes 174

4.32 Moving onto the next case 174

4.33 Looking for commonalities across cases 175

4.34 Summary 176

5 FINDINGS PART ONE: THE SIX CHILDREN'S INDIVIDUAL VISIT EXPERIENCES 177

5.1 Introduction 177

5.2 Edward's visit to Museum A 181
5.2.1 Introduction 181
5.2.2 Movement 183
5.2.3 Family Interactions 192
5.2.4 Affective reactions 198
5.2.5 Patterns of attention 201
5.2.6 Summary 211

5.3 Sophia's visit to Museum A 213
5.3.1 Introduction 213
5.3.2 Movement 214

5.3.3 Family interactions 220
5.3.4 Affective reactions 225
5.3.5 Patterns of attention 230
5.3.6 Summary 239

5.4 Noel's visit to Museum B 240
5.4.1 Introduction 241
5.4.2 Movement 242
5.4.3 Family interactions 253
5.4.4 Affective reactions 260
5.4.5 Patterns of attention 266
5.4.6 Summary 278

5.5 Bill's visit to museum B 280
5.5.1 Introduction 280
5.5.2 Movement 282
5.5.3 Family interactions 297
5.5.4 Affective reactions 310
5.5.5 Patterns of attention 317
5.5.6 Summary 325

5.6 Una's visit to Museum C 327
5.6.1 Introduction 327
5.6.2 Movement 328
5.6.3 Family interactions 339
5.6.4 Affective reactions 348
5.6.5 Patterns of attention 354
5.6.6 Summary 368

5.7 Wilbur's visit to Museum C 370
5.7.1 Introduction 370
5.7.2 Movement 371
5.7.3 Family interactions 381
5.7.4 Affective reactions 386
5.7.5 Patterns of attention 391
5.7.6 Summary 401

6 FINDINGS PART TWO: COMMONALITIES OF EXPERIENCE BETWEEN THE PARTICIPANTS 403

6.1 Introduction 403

6.2 Movement 404
6.2.1 Exploration 405
6.2.2 Stuttering through the museum 410
6.2.3 Invisible ties between children and caregivers 411
6.2.4 Architectural traffic lights 413
6.2.5 Synchronisation of movement and vocalisations 415

6.3 Family interactions 418
6.3.1 Conflict between children's and other family members' agendas 418

6.3.2 Enquiring about their surroundings 421
6.3.3 Enjoyment in finding things 423

6.4 Affective reactions 425
6.4.1 Variation of affective reactions 425
6.4.2 Wonder 427
6.4.3 Curiosity 428
6.4.4 Playfulness 430
6.4.5 Humour 432
6.4.6 Negative affective reactions 432

6.5 Patterns of attention 434
6.5.1 Varied and Idiosyncratic 435
6.5.2 Object properties: breaking with expectations 435
6.5.3 Naming 437
6.5.4 Describing 441
6.5.5 Considering the children's naming and describing behaviours together 445

6.6 Summary 450

7 A REFLECTION ON THE IMPLEMENTATION OF FIRST PERSON MUSEUM ETHNOGRAPHY 452

7.1 Introduction 452

7.2 The FPV trace and how it is complemented by the photographs and interviews 453
7.2.1 FPV trace 453
7.2.2 Photographs 456
7.2.3 Photo-elicitation interviews 458

7.3 A reflection on empathy 464

7.4 Intersubjectivity 466

7.5 FPV trace and the social context 470

7.6 The FPV trace and the sensory context 472

7.7 FPV trace and the material context 478

7.8 Were these data appropriate for taking an IPA approach? 479

7.9 Reflecting on the implementation of IPA 483

7.10 Summary 486

8 CONCLUDING REMARKS: AN ENTANGLEMENT OF TRAJECTORIES 487

8.1 Introduction 487

8.2 Individual visits 487

8.3 Commonalities of experience 489
8.3.1 Movement 490
8.3.2 Family interactions 492
8.3.3 Affective reactions 493
8.3.4 Patterns of attention 495

8.4 Methodological contributions 497

8.5 Limitations of First Person Museum Ethnography and avenues for future research 500

8.6 Recommendations for practice 503

8.7 Final remarks: a note on ethnographic place 506

List of Tables

Table 4.1: A table to illustrate the key differences and similarities between FPME and traditional and focused ethnography (pg. 134)

Table 4.2: A table summarising key details about the six participants including family composition. (pg. 149)

Table 4.3: Definitions of children's key affective reactions (pg. 168)

Table 6.1: A table to show common themes relating to movement (pg. 403)

Table 6.2: A table to show common themes related to family interactions (pg. 417)

Table 6.3: A table to show common themes relating to the children's affective reactions (pg. 424)

List of Figures

All figures are extracts of Elan transcript unless otherwise indicated

All figures will be abbreviated when referred to in the text to F4.1 or F4.2 and so on.

Figure 4.1 Images of the Fisher-Price kid-tough™ handheld camera (pg. 151)

Figure 4.2: A screenshot of the Elan transcription software (pg. 163)

Figure 4.3: Sophia's movement map with added annotations to aid interpretation (pg.165)

Figure 5.2: A FPV screenshot of Edward just having a look around (pg.180)

Figure 5.2.1: Edward weaving his way through the crowds (pg. 181)

Figure 5.2.2: A movement map to show Edward's stop-start, exploratory progress through the Italian Renaissance Art Gallery (pg. 184)

Figure 5.2.3 (parts one to three): Edward joining in with his sister's activity (pgs. 185-186)

Figure 5.2.4: Edward checking his sister's whereabouts (pg. 187)

Figure 5.2.5 (parts one and two): Edward moving in a stop start pattern down a corridor lined on both sides with marble statues and busts (pg. 188)

Figure 5.2.6: Edward's photograph of a marble bust (pg. 189)

Figure 5.2.7: Edward investigating the space between two pillars (pg. 190)

Figure 5.2.8: Edward synchronising vocalisations and movement (pg. 191)

Figure 5.2.9: (Parts one and two): Edward waiting for the lift (pg. 192)

Figure 5.2.10: Edward climbing the stairs (pg. 193)

Figure 5.2.11: Edward exploring a corridor (pg. 195)

Figure 5.2.12: Edward being lifted then carried by his mum (pg. 195)

Figure 5.2.13: Edward being asked not to touch (pg. 196)

Figure 5.2.14: Edward excitement and wonder, and subsequently taking a photograph (pg. 197)

Figure 5.2.15: Edward laughing at the sumo wrestlers (pg. 198)

Figure 5.2.16 (parts one and two): Edward being impatient (annoyed and disappointed) (pgs 198-199)

Figure 5.2.17: Edward wondering at a plate (pg. 201)

Figure 5.2.18 Edward commenting on a large shirt (pg. 201)

Figure 5.2.19 (parts one to three): Edward exploring the Italian Renaissance Gallery (pgs 202-203)

Figure 5.2.20: Edward's photograph of a skylight (pg. 203)

Figure 5.2.21: Edward's photograph of a 'fireman' (pg. 204)

Figure 5.2.22: Edward stopping to photograph a bright object (pg. 205)

Figure 5.2.23: Edward's photograph of a bronze figurine (pg. 206)

Figure 5.2.24: Edward surprised, pointing at a naked statue (pg. 207)

Figure 5.2.25: Edward touching sofa on his way past (pg. 208)

Figure 5.2.26: Edward touching a sofa (pg. 208)

Figure 5.2.27: Edward excitedly entering lift (pg. 209)

Figure 5.2.28: Edward playing with the camera (pg. 209)

Figure 5.2.29: Edward's photograph of his mum (pg. 210)

Figure 5.3.1: A screenshot of the GoPro footage showing a queue of pushchairs outside the lift (pg. 212)

Figure 5.3.2: Sophia impatiently twirling while waiting for her dad (pg. 214)

Figure 5.3.3: A movement map showing Sophia waiting for her dad (pg. 215)

Figure 5.3.4: Sophia exploring the European Ceramics Gallery (pg. 216)

Figure 5.3.5 (parts one and two): Sophia walking a few feet through the doorway before returning to her dad chanting and twirling (pg. 215)

Figure 5.3.6 (parts one and two): Sophia leading her dad (pg. 219)

Figure 5.3.7: Sophia getting help with the camera (pg. 221)

Figure 5.3.8 (parts one and two): Sophia first encountering a statue of a 'girl' (pgs 221-22)

Figure 5.3.9: Sophia's interest in a pair of sumo wrestlers (pg. 223)

Figure 5.3.10: Sophia's photograph of a plate during the finding game (pg. 224)

Figure 5.3.11 (parts one and two): Sophia excited when seeing a hoard of coins (pg. 225)

Figure 5.3.12: Sophia's photograph of the 'pennies' (pg. 226)

Figure 5.3.13 (part one and two): Sophia choosing and photographing a plate (pg. 227-228)

Figure 5.3.14: Sophia's interest in a fire hydrant (pg. 228)

Figure 5.3.15: Sophia's dad initiating a finding game (pg. 229)

Figure 5.3.16 (parts one to four): Sophia naming a horse, paying attention to a camel, taking a photograph and moving in a stop-start manner (pgs. 230-231)

Figure 5.3.18 (parts one and two): Sophia looking for the lift (pg. 233)

Figure 5.3.19 (parts one and two): Sophia excited and curious about the statue (pg. 234)

Figure 5.3.20: Sophia's photograph of a statue's 'bum, bum' (pg. 235)

Figure 5.3.21 Sophia talking to a stranger outside the lift (pg. 236)

Figure 5.3.22: Sophia playing with the camera (pg. 237)

Figure 5.3.23: Sophia's photograph of her dad (pg. 237)

Figure 5.4.1 Noel's photograph of a plesiosaur jawbone (pg. 239)

Figure 5.4.2 Noel effortfully climbing the stairs (pg. 240)

Figure 5.4.3 (parts one and two) Noel rotating to explore (pg. 242)

Figure 5.4.4: Noel following his grandfather (pg. 243)

Figure 5.4.5 (parts one and two): Noel wanting to stop and investigate a screen (pg. 244)

Figure 5.4.6 (parts one to four): Noel interested in the bright rotating DNA model (pg. 245-246)

Figure 5.4.7. A movement map showing Noel's trip along a narrow corridor containing the museum's entomology collections including several live specimens (pg. 247)

Figure 5.4.8 (part one and two): Noel approaching an archway (pgs. 248-249)

Figure 5.4.9 (parts one and two): Noel underlining his interest in the touch screen (pg. 250)

Figure 5.4.10 (parts one and two): Noel combining vocalisations with movement (pgs. 251-252)

Figure 5.4.11 (parts one and two): Noel's grandfather pointing out the tuna skeleton (pg. 253)

Figure 5.4.12: Noel's grandmother commenting on the size of an object (pg. 255)

Figure 5.4.13 (parts one and two) Noel's attention being drawn to the snakes (pg. 256)

Figure 5.4.14: Noel's photograph of the python and her eggs (pg. 257)

Figure 5.4.15: Noel asking a question (pg. 258)

Figure 5.4.16: Noel's excitement at seeing a 'fox cub' (pg. 259)

Figure 5.4.17: Noel's photograph of the Red Panda (Fox cub) (pg. 260)

Figure 5.4.18: Noel's exhilaration on seeing a T-Rex head model (pg. 261)

Figure 5.4.19: Noel's humorous response to the Peacock Mantis case (pg. 262)

Figure 5.4.20 (parts one to three) Noel bored, frustrated and impatient (pg. 263)

Figure 5.4.21 (parts one and two): Noel touching the black bear (pg. 266-267)

Figure 5.4.22: Noel's photograph of some bright and sparkly Beryllium (pg.267)

Figure 5.4.23: Noel's photograph of the pygmy shrew (pg. 268)

Figure 5.4.24 (parts one and two): Noel asking about the stairs (pg. 269-270)

Figure 5.4.25: Noel taking a photograph of an ostrich (Moa) (pg. 270)

Figure 5.4.26: Noel's photograph of a Moa (pg. 271)

Figure 5.4.27 (parts one to three): Noel investigating a gap between two pillars and playing with the camera (pg.272-273)

Figure 5.4.28: Noel naming an eagle (pg. 274)

Figure 5.4.29: Noel describing the spider crab as 'mahoosive' (pg. 275)

Figure 5.4.30 (parts one and two): Noel's interest in the cockroaches (pg. 276)

Figure 5.4.31: Noel spotting the Peacock Mantis (pg. 277)

Figure 5.5.1: Bill's photograph of a bird (pg. 279)

Figure 5.5.2: Bill (a bit bored) walking down a corridor (pg. 280)

Figure 5.5.3: A movement map showing Bill's energetic movement (pg. 282)

Figure 5.5.4 (parts one to four) Bill comprehensively scanning the spaces as he moves (pgs.284-286)

Figure 5.5.5: Bill's photograph of the Iguanodon cast and T-Rex (pg. 286)

Figure 5.5.6 (parts one to four): Bill begins his stop-start movement along a corridor containing common British birds (pg. 287-289)

Figure 5.5.7 (parts one and two): Bill's dad showing him the tuna (pg 290)

Figure 5.5.8: Bill being prevented from exploring a different part of the building (pg. 291)

Figure 5.5.9 (parts one to three): Bill asking his dad to wait (pgs. 292-293)

Figure 5.5.10 (parts one to three): Bill exploring the archway (pg. 294-295)

Figure 5.5.11: Bill dancing and singing (pg. 295)

Figure 5.5.12 (parts one and two): Bill walking and singing in synchronisation (pg. 282)

Figure 5.5.13: Bill laughing with his dad at his dad's photograph of him with the crocodile (pg. 297)

Figure 5.5.14 (parts one and two): Bill over excited, jumping and humming over to his dad (pg. 298)

Figure 5.5.15 (parts one and two): Bill's impatient to see the whale bones (pg. 299-300)

Figure 5.5.16 (parts one to three): Bill enjoying answering his dad's question (pg. 300-301)

Figure 5.5.17 (parts one to four): Bill's conversation about skulls (pgs. 303-304)

Figure 5.5.18 (parts one and two): Bill's sister drawing his attention to the flying fish (pg. 306)

Figure 5.5.19: Bill's photograph of a flying fish (pg. 307)

Figure 5.5.20: Bill experimenting with the camera and asking for dad's help (pg. 308)

Figure 5.4.21: Bill's wonder at seeing a giant tortoise (pg. 309)

Figure 5.5.22 Bill investigating the UV booth (pg. 310)

Figure 5.5.23 (parts one to three): Bill asking to look inside the T-Rex cast's mouth (pg. 311-312)

Figure 5.5.24 (parts one to four): Bill being prompted by his dad (pg. 312-314)

Figure 5.5.25 (parts one and two): Bill bored, chanting and moving (pg. 315)

Figure 5.5.26: Bill not allowed to touch (pg. 316)

Figure 5.5.27 (part one): Bill describing the Iguanodon's thumbs (pg. 317)

Figure 5.5.28: Bill naming a 'small' mallard (pg. 318)

Figure 5.5.29: Bill exploring the black bear via touch (pg. 319)

Figure 5.5.30: Bill naming and reading the label to confirm that it is a T-Rex (pg. 320)

Figure 5.5.31. Bill describing a struthiomimus skeleton (pg. 5.5.31)

Figure 5.5.32: Bill marching enthusiastically towards the television (pg. 321)

Figure 5.5.33: Bill proud that he has a camera (pg. 322)

Figure 5.5.34 (parts one to three): Bill finding the queen bee (pgs. 323-324)

Figure 5.6.1: Una's photograph of a huge bed in the Time for Bed exhibition (pg. 326)

Figure 5.6.2: Una pointing to Shadow Cats exhibition (pg. 328)

Figure 5.6.3 (parts one to seven): Una hurrying after her cousin and moving away from her dad (pg 330)

Figure 5.6.4: Movement map showing Una's trip to investigate the exhibitions and then return to dad for support (pg. 334)

Figure 5.6.5: Una's dad worried (pg. 335)

Figure 5.6.6 (parts one and two): Una running upstairs behind her cousin and not being as observant as usual (pg. 336-337)

Figure 5.6.7: Una chanting as she walks and reaches out to touch the dressing gowns (pg. 337)

Figure 5.6.8: Una asking her dad a 'where' question (pg. 339)

Figure 5.6.9: Una's wonder at the 'dead end' alcove (pg. 339)

Figure 5.6.10: Una asking her dad a question (pg. 340)

Figure 5.6.11: Una imitating her cousin (pg. 341)

Figure 5.6.12: Una playing with story tube while dad is reading labels (pg. 343)

Figure 5.6.13 (parts one to five): Una struggling to climb onto the bed while her dad is reading a story (pgs. 344-346)

Figure 5.6.14: Una explaining to her uncle how to use the listening stick (pg. 347)

Figure 5.6.15 (parts one to three): Una entering the Wallace and Gromit exhibition (pgs 349-50)

Figure 5.6.16: Una entering the wardrobe (pg. 351)

Figure 5.6.17: Una's photograph of a large mounted and lit image of the '*very big'* witch Jadis (pg. 351)

Figure 5.6.18: Una playing with dad (pg. 352)

Figure 5.6.19 (parts one and two): Una becomes irritated when she does not get her own (pg. 353)

Figure 5.6.20. Una's photograph of the 'big bear' (pg. 354)

Figure 5.6.21 (parts one and two): Una's attention drawn to fairy lights (pgs 355-356)

Figure 5.6.22: Una's Sylvanian families cabinet photograph (pg. 357)

Figure 5.6.23a Una's photograph of her dad (pg. 358)

Figure 5.6.23 (parts one to three): Una exploring while heading to the throne room (pg. 359)

Figure 5.6.24 (parts one and two): Una approaching the cupboards and then opening and closing doors (pgs 360-361)

Figure 5.6.25 (parts one and two) Una reaching out for the typewriter and asking cousin a question (pg. 362)

Figure 5.6.26: Una looking for a listening point (pg. 363)

Figure 5.6.27: Una's blurred photograph of a television playing Wallace and Gromit (pg. 364)

Figure 5.6.28 (parts one to four) Una, calling for her dad to hurry up after finding the large basin and toothbrushes and then playing with them (pgs. 365-366)

Figure 5.7.1: Wilbur's photograph of the teapot (pg. 369)

Figure 5.7.2: Wilbur stomping up the stairs (pg. 370)

Figure 5.7.3 (parts one to five): Wilbur's exploration of the Jungle Book room (pgs. 372-4)

Figure 5.7.4: A movement map showing Wilbur's movement around the Jungle Book room (pg. 376)

Figure 5.7.5 (parts one and two): Wilbur leading his mum (pg. 377)

Figure 5.7.6 (parts one and two): Wilbur's stop-start movement (pg. 378)

Figure 5.7.7: Wilbur pausing in doorway of the Jungle Book room (pg. 379)

Figure 5.7.8: Wilbur conflict with his mum (pg. 381)

Figure 5.7.9 : Wilbur's mum reading label (pg. 382)

Figure 5.7.10: Wilbur and his mum laughing together (pg. 383)

Figure 5.7.11 (parts one to three) Wilbur's playful interactions with the giant basin and toothbrushes (pg. 384-385)

Figure 5.7.12 (part one): Wilbur being playful with the camera (pg. 386)

Figure 5.7.13 (parts one and two): Wilbur entering a dark space (pg. 388

Figure 5.7.14 (parts one to five): Wilbur being read a nursery rhyme (pgs 389-390)

Figure 5.7.15: Wilbur adjusting his wristband (pg. 392)

Figure 5.7.16: Wilbur seeing the entrance to a ‘water voles nest’ for the first time (pg. 393)

Figure 5.7.17: Wilbur’s mum encouraging him to take a photograph (pg. 394)

Figure 5.7.18 (parts one to four):Wilbur exploring through touch, movement and gaze(pgs. 394-396)

Figure 5.7.19: Wilbur finding a listening point, but not staying long (pg. 396)

Figure 5.7.20: Wilbur playing with the tea set (pg. 398)

Figure 5.7.21: Wilbur hearing something unexpected (pg. 399)

Figure 5.7.22: Wilbur making a creative connection (describing) (pg. 400)

Figure 6.1: Edward’s photograph of the ‘Queen’ (pg. 437)

Figure 6.2: Edward naming the ‘Queen’ and taking a photograph (pg. 438)

Figure 6.3: Edward naming a teapot (pg. 440)

Figure 6.4: Noel excitedly pointing out the ‘plate fish’ (pg. 442)

Figure 6.5: Edward naming an Egyptian chariot wheel replica a ‘tyre-wheel’ (pg. 443)

Figure 6.6: Sophia reaching out to touch the claws of a sphinx (pg. 444)

Figure 7.1: Noel’s grandfather asking him to remove his hands from the GoPro lens (pg. 453)

Figure 7.2: Una saying she will not take a photograph because it is too dark (pg. 457)

Appendices

Appendix 1: An extract of video log (pg. 509)

Appendix 2: An example of note taking underneath a corresponding extract of Elan transcript (pg. 510)

Appendix 3: Two extracts of Elan transcript and a table showing my notes to the emerging theme ‘invisible ties’ including how it connected to the new subordinate theme ‘reluctance to move through doorways’ (pg. 512)

Appendix 4: Sophia table of themes (pg. 514)

Appendix 5: A table showing the commonality ‘synchronisation of movement and vocalisations’ across the participants (pg. 516)

Appendix 6: Noel interview extract: Museum C (pg. 517)

Appendix 7: Ethics approval letter (pg. 522)

Appendix 8: A flow chart illustrating the process of analysis (pg. 523)

Appendix 10: Burbank, McGregor and Wild (2018) (attached to end of the pdf)

1 Introduction: setting the scene

1.1 Introduction

One evening just as we were settling down to read stories before bed, I stumbled into a conversation with my youngest daughter about our visit to a museum in Oxford earlier that day. She had been all smiles during the visit, racing around and playing with her older sister and cousins. She was aged 4 at the time. I asked her if she enjoyed her visit, she nodded. I then asked what she enjoyed about it and she replied, '*It was good, just good.*' If pressed she might have given a little more detail, but the fact remains that she was not very informative. I think this type of encounter rather sums up the difficulty of understanding a young child's point of view. This conversation did, however, make me curious and I made a mental note to be more observant the next time we visited a museum together. It also sparked the beginnings of an academic interest as it made me begin to consider ways in which it might be possible to allow young children to express their views more comfortably and clearly. Aptly, therefore, this thesis seeks to reveal fresh insights into young children's museum experiences.

More specifically this thesis has two main aims. The first is to explore the experiences of six young children (aged four and five years of age) during unstructured family visits. The number of participants was narrowed down from the visit experiences of 28 children in order to allow an appropriate degree of focus on each individual child. I will provide more detail on this selection process in Chapter 4. The research was carried out in three museums in a university town in the south

east of England. Two of the children visited a museum of art and archaeology, two a museum of natural history and two a museum dedicated to children's literature. I define unstructured family visits as the time spent in a museum with family members that is not organised or planned by museum or school staff. The second aim, building on my earlier work (Burbank, McGregor and Wild, 2018) was to develop and trial a methodology that will allow me to listen closely to these young children's expressions of their lived experiences without unnecessarily impinging on their time before their visit of after they have left the museum. By listen I refer to the sensitive, empathetic and nuanced process of engaging with the many ways in which young children can express themselves (Rinaldi, 2006). The reason I wanted to minimise the impact on the children and their families was twofold. First, so that the participants did not begin to consider how they should behave during their visit and second to develop a methodology that might in the future be adaptable as an evaluation tool that allows intensive data collection in a short period of time.

This chapter will first set the research in its academic and professional context, before reflecting on my role in the initial development of this project. It will end by outlining the structure of this thesis.

1.2 Background to the research

Young children (aged 4 and 5) are considered a valuable museum audience and consequently feature in many research and evaluation projects (Hackett, Holmes and MacRae, 2020; Graham, 2011). This recognition has come a long way since the Harris report, published by the Museums and Galleries Commission in 1997, which

noted younger siblings were often considered by museums as a cause of frustration for families visiting with older children (Graham, 2013).

In their review of museum learning research, Hooper-Greenhill and Moussouri (2000) comment that young children are under-represented in the literature. Since the millennium there has been a growing recognition of the importance of young children as museum audiences (Graham, 2011) with more than twice as many academic papers being published since the turn of the century than in its entirety before (Kirk, 2014). This notwithstanding, research concerning young children in museums is still a fairly young discipline (Piscitelli, 2020). However, it has evolved from one that focussed primarily on young children as 'little learners' to more expansive ways of considering young children's presence in museums (Hackett, Holmes and MacRae, 2020; Kirk and Buckingham, 2018; Dunn, 2012).

The research that recognised children as learners originally developed within the 'new museology' paradigm (Macdonald, 2011; Hackett, Holmes and MacRae, 2020). This focus underpinned a large body of research looking at family conversations in museums which had an emphasis on the construction of meanings between adults and children (Hackett, Holmes and MacRae, 2020; Ellenbogen *et al.*, 2007; Leinhardt and Knutson, 2004). In contrast to research that focusses on family learning conversations, or that which forms part of a museum consultation or evaluation of an exhibition or programme, a body of work began to emerge that focussed on revealing young children's museum experiences during the time of their visit (Hackett, 2014b; Kirk and Buckingham, 2018; Dunn, 2012). This more recent research, drawing on the field of childhood studies, recognised the child as being a social person with views that are of current value rather than just being in the process

of becoming a competent adult (Qvortrup *et al.*, 1994).

Although perhaps drawing attention to children's viewpoints in its own way risks privileging the learning perspective, a focus on children's own expressions (beyond purely verbal articulations) of their experiences can potentially prove helpful to others. These others might be museum professionals who are seeking to engage children of this age group, exhibition and programme designers, and parents visiting museums with young children. As Kirk points out:

> '*... If researchers ignore the viewpoints of children then they are missing half of the equation that could make museum learning effective, for example by missing opportunities that are only apparent from the children's perspectives, or by failing to notice aspects of the children's experiences that make the museums meaningful for them.'* (Kirk, 2014, p. 39)

1.3 Development of my research focus

Several months volunteering in Museum C in 2016 gave me the opportunity to informally observe visiting children and their families. These observations combined with my contemplation of several informal conversations with staff from Museum C seeded the initial foundations of this research.

The museum staff clearly set out their vision to curate a museum that engages visitors of all ages with stories. In interview the museum director at the time explained that the exhibits were designed to:

> '*Have a sort of nostalgic effect on you visiting something you sort of imagined, for example going through the wardrobe into Narnia, which is something you've always wanted to do. But for the person who doesn't know the book the aim is… in a sense it's like a three-dimensional blurb, it's the thing that makes you want to read on, and so that's what we're hoping that people will do. So we try and pick an exciting moment that will engage you emotionally, make you curious or scared or something and sort of explain what that moment's about and have some activity that gets you engaging with the question that lies at the heart of the book.'* (*Director of Museum C, 2016b, pg 1*)

Another member of staff suggested that:

> '*I think that idea of … portals into stories going into imaginary worlds is one that it's very difficult for people not to respond to in some way. And the vast, vast majority of people the responses are very, very positive, you know it's like everybody wants to be taken into other worlds.*' *(*Deputy Head of Learning, 2016a)

These comments are based on a rich experience of the setting and are not necessarily focused on young children. However, they did, on reflection, combined with volunteering in the museum and visiting with my own children, prompt me to wonder what exactly the experiences of the visitors themselves were. For example, my own young children (four and seven years old at the time) and I had a great time at the museum, but this appeared to be geared around the girls' exploration rather than a particular engagement with the imaginary worlds the managers of the spaces were

alluding to. As a result, I began to consider whether young children's experiences of unstructured family visits tallied with the clear visions of engagement held by the museum's staff. In addition, when taking my two children to different museums in the local area I began to consider the degree to which children's approaches to informal visits varied between contexts.

Beyond this, my extensive experience as a teacher taking children to museums and other informal learning contexts provided me with a (somewhat naïve) understanding that children's reactions to museums and other out-of-school settings often appear unpredictable at first glance but with time and understanding of the characters and spaces involved (not withstanding individual differences) begin to become more predictable. I was therefore, at this point in time, of the view that gaining insight into children's experiences of their time in a museum by in depth study might yield useful 'insider' knowledge for educators, museum staff, parents, and designers wanting to provide the best possible educational experience for young children.

This project emerged from these initial considerations which triggered my engagement with the young children in museums' research literature. This is also the starting point for my own reflexivity and consequent acknowledgment of my role in the production of knowledge presented in this thesis from the very beginning of the project to the representation that exists here in this thesis.

1.4 Thesis structure

In Chapter two I outline the literature from which the first two research questions (RQ) emerged. This review has two main foci. First, the evolving theoretical and methodological approaches taken by previous research focussing on young children in museums and second the salient themes that emerge from this research. The second part of the review is divided into the following sections: social interactions, movement and engagement with museum spaces. The purpose of this review is to enable me to position the theoretical underpinnings of this thesis within the wider body of research into young children in museums, and subsequently to synthesise the salient themes from the literature that are of relevance to exploring young children's museum experiences. To conclude this chapter, I introduce the first two research questions. In Chapter 3, in order to illustrate my developing thinking, I consider the use of photo-elicitation, video and first person video (FPV) in research with young children in museums and beyond. I also present and critique Kirk's photo-elicitation method (Kirk, 2014; Kirk and Buckingham, 2018) as this underpinned the initial development of my own approach (see Burbank, McGregor and Wild, 2018). As a result of my engagement with this literature I propose the implementation of a novel methodology that I call First Person Museum Ethnography (FPME). I suggest this approach will allow me to listen closely to the young children in this research and provide them with the means to communicate their perspectives freely. I then outline my third research question. In Chapter 4, after summarising FPME, I outline the novel configuration of theoretical foundations that underpin FPME. These are considering children as 'competent actors' (Qvortrup, Corsaro and Honig, 2009), elements of a focused ethnography (Knoblauch, 2005), Malaguzzi's concept of a

hundred languages (Rinaldi, 2006), ethnographic place (Pink, 2015a) and Interpretative Phenomenological Analysis (IPA) (Noon, 2018). This discussion allows me to illustrate how FPV and the children's photographs can be considered as expressions of the children and therefore appropriate for use in an IPA approach to analysis. Following on from this I turn to the more practical aspects of the research such as a description of the research sites, method, ethical considerations, transcription and the process of analysis. In Chapter 5, I present the themes that emerged from the analysis of each of the six individual children's visits. This is with a view to remain true to the idiographic concerns of the analysis and provide a response to RQ 1. In Chapter 6, I address the commonalities that emerged across the participants. By doing this I present a response to RQ 2. This is again with an effort to remain in tune with an IPA approach. In other words, not being averse to generalisations, instead locating them in the particular and therefore developing them cautiously (Smith, Larkin and Flowers, 2009). In Chapter 7, I reflect on the methodology's efficacy in allowing me to listen closely to the young children's experiences. This includes a focus on the modes of data collection, indicating how the children's photographs and photo-elicitation interviews complement the FPV trace. I will then reflect on the degree to which the FPV trace allowed an engagement with the children's emplaced experiences. Next, I focus on the use of IPA and how successful this approach was in addressing the aims of this research. Chapter 8 will begin by summarising the key contributions to knowledge made by this research. Subsequently limitations of this project are considered and avenues for further research are outlined. I then reflect on implications for practice. Finally, I will draw the thesis to a close with a reflection on 'ethnographic place' (Pink, 2015a). That is the synergy of theory, people, experiential knowing and more that I

have intentionally gathered together (and recorded in this thesis) in order to invite the reader to imagine the places that the children themselves experience.

2 Young children in museums: a literature review

2.1 Introduction

The key concern of this thesis is to engage with how young children experience their time in museums. In order to present the literature that underpins this thesis I will first begin by providing an overview of the theoretical and methodological evolution that this still '... *fairly young*' (Piscitelli, 2020) area of research has undertaken. This part of the chapter will review studies that focus on young children in museums from behaviourist beginnings to a more diverse theoretical landscape today. This exercise will allow me to position this thesis within this growing body of work.

The second part of the review will draw together findings from this work. This is with the appreciation that findings that derive from a variety of different theoretical perspectives are all potentially relevant to understanding the young children's experiences that are the focus of this research. This section will be divided into the following themes: social interactions, movement and engagement with museum spaces.

The literature in this review will refer to studies that reference young children (aged between 4 and 5). Although the age ranges included in the studies might vary to include both younger and older children, they will not be the focus of discussion. I will, for the most part, avoid reference to non-academic 'grey literature' such as internal or heritage consultants' museum reports and evaluations (Kirk, 2014),

although on a few occasions this type of publication will warrant inclusion because of its relevance to work in the field. Although this 'grey literature' is not entirely incompatible with peer reviewed academic research it cannot be treated with the same neutrality. For example, there is rarely enough detail concerning numbers of participants, recruitment, data collection, and analysis to make these studies directly comparable (Kirk, 2014). As the focus of this thesis is on informal family visits this review will only consider studies that focus exclusively on school visits or museum learning programmes if they warrant inclusion because they are exploring the nature of children's perspectives or experiences or are of particular relevance to one of the themes developed within this review. To reflect the variety in the three different museums that are the focus of my research, this review will include studies from a range of museum types. In order to ensure a comprehensive coverage of the literature I have searched the following databases and search engines: JSTOR, ERIC, Google Scholar, Brookes Radar, Bodleian Solo, Web of Science. I searched using the following key phrases: young children in museums, young children museums, young children's museum experiences, young children's museum perspectives, young children's family visits to museums, young children family visits, young children art museums, young children children's museums, young children natural history museums, young children science museums, young children archaeology museums.

2.2 A theoretical evolution

2.2.1 Beginnings

Although research into young children in museums has to some extent followed the classic evolution through behaviourist, constructivist and then socio-cultural paradigms and is educational in nature (Crowley, Pierroux and Knutson, 2014), the majority of research into young children and museums derives from constructivist and social constructivist perspectives (Kirk, 2014). Within these two frameworks:

> '*... subsequent changes in knowledge and understanding are produced through the individual's exposure to successive experiences, which are interpreted in the light of their own prior knowledge and understanding. Thus an individual's knowledge and understanding is in a continual state of change as new experiences, mediated through social contexts are encountered and interpreted by the learner.*' (Piscitelli and Anderson, 2000, pg. 4)

Much of the early research in museums was observational in nature and sought to document and understand who and why people visited museums and what they were doing during their visits (Dierking, 1989). Much of this work derived from North America, although there is a small component that heralds from the UK (Kropf, 1989; Diamond, 1986). Early work from the UK used the National Curriculum (DfE, 1989) as impetus for research to provide help for museums to support school learning objectives. The transparency provided by the United Kingdom's National Curriculum created a drive for research to provide help for museums to support

school learning objectives (Kirk, 2014; Moffat, 1992). This trend tends to be reflected in the UK based research literature. An important early observation that underpins much of the later work is that families make up a significant proportion of museum visitors. This figure is reported to be 60% by Alt's (1980) mid 70s survey of visitors to the British Museum (Natural History) and similar figures were reported in the US (Dierking, 1989). More recently family groups are estimated to make up 40 % of all museum audiences and significantly higher percentages in science and children's museums (Borun, Cleghorn and Garfield, 2011). Today in the UK and globally more young children seem to be entering museums than ever before (Hackett, Holmes and MacRae, 2020).

The Early Years Foundation Stage (EYFS) (2021; 2008) has given a similar steer to research in UK museums. The EYFS (DfE, 2008) pointed out the importance of 'positive' relationships with adults and peers and the most recent edition emphasises the importance of '*... strong, warm and supportive relationships with adults*' (DfE, 2021, pg. 8). This focus on relationships makes it understandable that museums, amongst their many other qualities, consider their spaces as having the potential to develop and nurture family relationships in this age group. Building on this point I will move to the large body of work focussing on family learning in museums (Hackett, Holmes and MacRae, 2020).

2.2.2 A developing focus on family conversations

In the late 1980s museum professionals began to reflect on whether their museums were suitable for families to visit and called for more research to examine the ways in which museums could support families learning together (Wolins, 1989; Feder, 1989; Laetsch, 1982; Wurtak, 1987). This body of work soon expanded into the dual agenda of understanding learning as will be outlined below and continuing observational research into visitor behaviour. In particular a focus on whether or not children in museums were learning or just being entertained became a concern (Haas, 1997). In addition to a more detailed appreciation of museum visitor demographics an increased focus on families at this time derived from an appreciation of two points:

i) The recognition that families were increasingly united by mutual interests, as opposed to work and external pressures apparent in more traditional family structures (Wolins, 1989)

ii) The reflection that learning was far from an individual enterprise but a shared, social and cultural process that involved others (be it friends, siblings or adults) shaping and enhancing the museum visit experience within and beyond the museum walls (Leinhardt and Crowley, 1998)

This approach can be considered socio-cultural in that it was heavily influenced by theorists such as Vygotsky and Bruner (Wolins, 1989; Haas, 1997). For example, Bruner and colleagues (Wood, Bruner and Ross, 1976) coined the term ‘scaffolding’.

Scaffolding describes someone more experienced helping another achieve something that they could not do unaided. This is often used interchangeably with Vygotsky's notion of the Zone of Proximal Development (ZPD) which he defined as:

> '*... the distance between the actual developmental level as determined by independent problem solving, and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.'* (Vygotsky, 1978, pg. 86)

This emphasis on the social nature of learning, viewed in combination with the Vygotskian assertion that language is the pre-eminent tool for teaching and learning (Ash *et al.*, 2007), meant that museum researchers have focussed the majority of their attention on verbal exchanges between family members as evidence of the social learning processes that are taking place (Kirk, 2014). The pragmatic consideration that conversation tends to be easily recordable both digitally and when observing visitors further reinforced this approach (Leinhardt and Knutson, 2006).

From this base a more precise dialogic approach emerged that continued to build on and be interpreted with socio-cultural models of learning in mind. This was combined with the close analysis of conversations within family groups. As articulated by Leinhardt and Crowley (1998: 2) conversation is considered to be at the '*... core of museum learning*'. Therefore, much of what is known about the social, emotional and educational aspects of informal family activity is derived from the study of parent-child conversational interactions within museums (Leinhardt and Knutson, 2006; Leinhardt and Knutson, 2004; Crowley and Callanan, 1998; Eberbach and Crowley, 2017). Other studies cover a wider age group that

incorporates young children (Borun, Chambers and Cleghorn, 1996; Crowley and Callanan, 1998; Sanford, Knutson and Crowley, 2007; Siegel *et al.*, 2007; Dooley and Welch, 2014).

Within this new genre of studies, the children's age, adults' educational level, ethnic background, museum type and educational style were increasingly made explicit (Kirk, 2014). This demonstrated an increasing appreciation that understanding participant characteristics is an important building block in synthesising both the similarities and variations in the findings from different studies. In addition, the conversational strategy, degree of learning and the amount and focus of conversations were all areas of interest (Melber, 2007; Siegel *et al.*, 2007). Within this approach there are a number of studies that focus on young children (4 and 5 years) alone (e.g. Callanan, Jipson and Soennichsen, 2002; Ash, 2004; Ash *et al.*, 2007; Palmquist and Crowley, 2014; Melber, 2007). Other research covered a wider age group that incorporates young children (Borun, Chambers and Cleghorn, 1996; Crowley and Callanan, 1998; Sanford, Knutson and Crowley, 2007; Siegel *et al.*, 2007; Dooley and Welch, 2014).

This body of work used methods based on detailed observation and recording of the conversations between adults and children in museums. These observations were either written out by hand (covertly or unobtrusively) (Dooley and Welch, 2014; Shine and Acosta, 2000), or, with participants' consent, involving audio and/or video recording (Borun, Chambers and Cleghorn, 1996; Crowley and Callanan, 1998; Palmquist and Crowley, 2014; Ash *et al.*, 2007; Melber, 2007; Sriprachya-anunt, 2016; Tison Povis, 2017; Povis and Crowley, 2015; Vandermaas-Peeler, Massey and

Kendall, 2016). As Kirk (2014) points out this type of study often focusses on parent-child dyads in order to make the recording process more manageable.

This body of research encouraged a theoretical movement away from more child-centred or constructivist approaches for engaging young children in museums towards encouraging a more family centred perspective. For example, in the way interactions can support learning and how exhibition design might support learning in a family context (Wolf and Wood, 2012; Dooley and Welch, 2014).

Many of the family orientated studies involving young children foreground the perspectives and role of the adult, most commonly the parent (e.g. Ash, 2004; Ash *et al.*, 2007; DiBianca Fasoli, 2014; Eckhoff, 2008; Palmquist and Crowley, 2014). In addition, many focus on the acquisition of scientific skills and concepts. This is not surprising considering the majority of the conversation research relates to science learning (Kirk, 2014). Methods used by many researchers, for example prioritising parental rather than child interviews after the museum visit (e.g. Shine and Acosta, 2000; Haas, 1997), suggested a belief that young children can only express themselves via their outward actions during a visit whereas only adults can satisfactorily recall, reflect and articulate details of their visit experiences (Kirk, 2014). The focus is not on the child as a competent, agentic actor in their own right but instead as someone who needs to be helped or is in the process of becoming competent.

Over time there developed an increasing recognition of the child's role and this became noticeable in the methods employed by researchers. For example, Palmquist

and Crowley (2014) interviewed the children and gave the parents a questionnaire, Dooley and Welch (2014) interviewed both the children and adults after observing them in the museums, and Acosta *et al.* (2021) audio and video recorded children's post visit reflections. Although clearly with young children's education in mind and providing interesting insights into young children's interactions in museums, these studies do lack a sense of the perspectives of the children involved. Although children's voices are present in the transcriptions, and evidence of their learning present in tests, their internal perspectives and experiences are often absent, or glossed over (Kirk, 2014). Indeed, these approaches for the most part ignore young children's multi-layered communicative practices (Flewitt, 2005; Cagliari *et al.*, 2016), and a recognition that listening to young children's perspectives of their time in a museum can help inform practice (Kirk, 2014; Piscitelli and Anderson, 2001).

There is another body of work that focusses on children's conversations that is slightly different from the above. This is in the sense that its concern is not only on conversation as the mode in which learning takes place, but also as a means to understand the children's thought processes in relation to scientific learning (Tunnicliffe, 2000; Parsons, 1999; Kirk, 2014). For example, inferring that children mainly use anatomical features to identify animals using existing mental models (Tunnicliffe and Reiss, 1999). Tunnicliffe and colleagues work has focussed on understanding the ways in which museums and zoos, as is common in the UK, can support children's school learning (e.g. Tunnicliffe, 1995; Tunnicliffe and Scheersoi, 2009; Tunnicliffe, 2015; Tunnicliffe and Reiss, 2000; Tunnicliffe and Reiss, 1999; Tomkins and Tunnicliffe, 2015; Reiss and Tunnicliffe, 2011). Her work does not specifically focus on young children as such, but often includes a small number,

sometimes as low as 10% (e.g. Tunnicliffe, 2000) for cross-sectional purposes within a larger sample (Kirk, 2014). For example, comparing the responses of children under and over seven years old. In contrast to the research above her work includes references to peer-peer as well as adult-child conversations that allow insights into children's interactions that are not necessarily present in adult-child conversations (Kirk, 2014). She is particularly concerned with understanding what children and their accompanying adults' notice at exhibits. This can be then be used as a *'...baseline around which we design and implement educational strategies ...*' that can aid children in the construction of biological knowledge (Tunnicliffe, 2000, pg. 739). Her work, in a similar vein to the American research, has predominantly used conversation analysis to explore children's learning in museums. Again, this work is focussed on analysis of children's conversations with an emphasis on scientific learning and does not focus on children's wider perspectives and experiences.

The emphasis on talk as learning generated assumptions that young children, peers and adults should ideally be deep in didactic conversation during their visits (e.g. Dooley and Welch, 2014). With this in mind, Hackett, Holmes and Macrae (2020, pg. 3) make the point that:

> '*Overall, the child-as-learner-through-talk-with-adults seemed to be a figure strangely abstracted from the museum building, from sensory engagement with the stuff in the museum and from physical embodiment of the experience of moving through and in a museum space.'*

The limitations discussed above should not be taken to suggest that the findings that developed from this body of work are not of importance in understanding young children's time in museums. In fact, quite the opposite, they are the foundations on which further understandings, including those that are part of this study, are built. From this foundation and with an appreciation that research has predominantly focussed on conversation, a genre of research began to develop that increasingly took into account young children's perspectives in a broader sense.

2.2.3 Moving away from a focus on conversation and foregrounding the perspectives of the child.

As interest developed in young children and their families as museum audiences (Graham, 2011), there were some researchers who began to emphasise the perspectives of the child rather than the responsibilities of the adult. Although moving away from a focus on talk, it needs to be noted that this work still focussed on children's learning. Examples of this early work included Savva and Trimis' (2005) study where the researchers asked young children (5 and 6 years of age) about their first impressions and responses and preferences to art works during their visits. Zapri's (2007) doctoral research explored young children's (aged 4 and 5) perspectives of three museums in Thessaloniki Greece. Her work includes the children's perspectives and methods that play to the strengths of young children, which warrants its inclusion in the review here. Her work is also set apart from other studies in this area because she framed her research using Bronfenbrenner's ecological theory of human development (Bronfenbrenner, 1979). She used

questionnaires to probe the attitudes permeating the children's wider ecological, meso and macro contexts. As a result, her research took a much wider, more contextual view than much of the other work in this area. She also interviewed nineteen children in their own homes and accompanied them on a series of visits to the museums, initially asking them to draw and video the things that most impressed them from their visit. Kindler and Darras (1997) also examined young children's conceptions about museums and their experiences of them. The value they saw in doing this was in understanding the early 'imprints' that might affect later behaviour. Although seeing value in children's perspectives their approach was framed in what the children might become rather than what they are currently. Addressing the wider context is clearly of importance to understanding young children's experiences of their museum visit, however in the context of this research the aim was not to impinge on the time of the children and their families either before or after their visits.

Other than the above studies, much of the early work into children's perspectives was carried out by the Queensland University of Technology Museum Collaborative (QUTMC) (Kirk, 2014). This three-year research project combining a team of Australian academics and museum professionals was designed to explore '... *young children's interactive and informal learning in museums*.' (Anderson *et al.*, 2002: pg 1). The children were aged between 4 and 6 years. This project grew out of an appreciation of four main points (Piscitelli and Anderson, 2001):

i) That there was limited research or appreciation of the perspectives of young children

ii) Collecting data from young children is difficult because of a perceived limited ability to communicate and accurately reflect on their past experiences

iii) The voices and visions of children in directly expressing their perspective are missing from past research

iv) It is important that researchers study the views of children to understand which aspects children find challenging and engaging

The study diverges from much of the conversation, family focussed work because of its arts based methodology, longitudinal structure and variety of museum contexts involved (Kirk, 2014). The use of an art-based methodology is of particular relevance to this thesis because, in light of the points above, researchers have used a method such as drawing elicitation to go some way to accommodate young children's difficulties in verbal communication. This is with a recognition that children have different competencies than adults and therefore need approaches designed that account for this (Groundwater-Smith, Dockett and Bottrell, 2015).

2.2.4 Gaining children's perspectives as a form of consultation

Building on a recognition of the value of children's viewpoints and the importance of young children as a museum audience (Graham, 2011), museums and galleries began to create opportunities to take into account the views of young children when making decisions concerning the planning of exhibition design, museum programming and improving professional practice. Langsted (1994), speaking from a Danish early childcare perspective, points out that there is evidence to suggest that it is possible to improve aspects of the lives of young children by listening to and taking into account their views. There is no reason to suggest that this position cannot be extended to museum contexts. In the United Kingdom the 'Start with the Child' report (McIntyre, Morris and Hargreaves, 2002) commissioned by the Council for Museums, Archives, and Libraries and the Chartered Institute of Library and Information Professionals highlights the need for taking into account the requirements and competencies of young children to create a fulfilling and inclusive learning environment. This is something that is needed if a lifelong positive relationship with museums is to be fostered. These perspectives manifested in a drive to make consultations more participatory. Lansdown (2005) divides the degrees of engagement in the process of participation into three categories which form a continuum within which different aspects of a project may easily feature in more than one level. The first category is a consultative process in which adults lead but take into account the views of children, the second is one of participation where young children are actively involved in the research process and share power with the adults involved. The final category is a self-initiated process where children are empowered to take action themselves, for example by deciding the issues and the

strategies for responding to them. Resting in the first and second of Lansdown's (ibid) degrees of participation, these studies have used child-centred techniques derived from the Reggio Emilia concern for active 'listening'. This is the process '... *whereby researchers listen not only to the words that are spoken, but to the many ways that children ... express themselves.*' (Groundwater-Smith, Dockett and Bottrell, 2015, pg. 117; Rinaldi, 2006). They are also grounded in the childhood studies concept that young children are competent actors in their own right. In other words, they are '… *beings* ***not*** *becomings*' (Qvortrup *et al.*, 1994, pg. 2). A number of these consultations also drew on the Mosaic approach (Clark and Moss, 2011) that itself grew out of the Reggio concern for listening to children (e.g. Dockett, Main and Kelly, 2011; Kelly *et al.*, 2006; Marcus, Burke and Dobel-Ober, 2009; Fidler, Bunney and Craven, 2011). This is a multi-method approach that aims to listen closely to the perspectives of children. The Mosaic approach will be discussed in more detail in chapter 3 as it is (although significantly different from) one of the original antecedents of the research methodology developed in this thesis.

2.2.5 Praxeological research and children's perspectives

Emerging from the consultation approach and ethos referred to above, and relevant to this thesis because they reveal something of young children's museum experiences, there is a small band of researcher practitioners (Bates, 2018; Wallis, 2018) from the UK that are focussing on young children in museums and working

within the developing paradigm of praxeological research (Pascal and Bertram, 2012). Praxeological research is a broad and developing area that is:

'*... fundamentally participatory, democratic and collaborative in its nature and therefore in early childhood we believe it is best practised by those who are committed and close to the real world of children and families ... therefore eminently suited to practitioner researchers*' (Pascal and Bertram, 2012, pg. 484).

This approach has particular value in allowing research findings to be quickly fed back into professional practice. Bates (2018) acted as a participant observer, collecting observations and recordings of both children and adult responses to natural history collections. Wallis (2018) developed a relational approach (Papatheodorou and Moyles, 2008) that both valued the dialogue between researcher and child and was sensitive to the act of listening and giving voice to young children. Drawing on museum tour approaches developed by Potter (2006) and Weier (2004) she developed a type of museum tour where the children introduce a soft toy to the museum's collections. The tours were video recorded, and observations were noted by her and a colleague. She felt the approach of asking the children to lead a tour (Weier, 2004), with a soft toy or without, would impact on the authenticity of the children's behaviour during their visits.

2.2.6 Moving away from a focus on learning: towards new theoretical conceptualisations of young children in museums.

Distinct from the above body of work, in that they are not focussed on learning and are not designed to immediately feedback into professional practice or museum programme design are those studies that seek to simply explore what it is actually like for a child in a museum. Early work in this area (e.g. Wurtak, 1987; Feder, 1989; Murdock, 1987) tended to be written by adults about themselves as children or about children they have observed, therefore not including the voices of the children themselves. It is important to appreciate, when considering work of this nature, that adults' perceptions of childhood tend to be buried under the conventions of adult socialisation (Cook and Hess, 2007).

Later studies, like some of the previous research trying to capture children's perspectives drew on creative arts-based methods. For example, Fasoli (2001, pg. 1; 2003) created a number of self-directed play activities (drawings, paintings, talking about and recreating an art gallery in their pre-school) to help seven children (aged 4 and 5) '*re-present*' their experiences of visiting an art gallery in Australia. They supplemented this research with interviews, the researcher's photographs and recordings during the visits. Cook and Hess (2007) borrowing the view from childhood studies that children possess distinctive *'...cognitive and social developmental characteristics*' (Christensen and James, 2000, pg. 2) use children's photography to investigate twelve children's perspectives within a variety of contexts including an art museum in Denmark. Data collection (twelve children,

aged three to five) included pre-visit interviews, children's photographs used as a catalyst for discussion about their visit, and researcher observations.

There are a small number of studies that explore what it is like for a child during unstructured family visits. For example, Dunn (2012) used photo-elicitation as a method to investigate children's perspectives of an Australian natural history museum. She asked the children to take photographs during their family visit. She interviewed the children (ages three to eight) about their photographs and in addition sent the photographs home for the children (and families) to annotate in the form of a journal of their visit. Kirk's (2018; 2014)) study, taking an ethnographic perspective (Green and Bloome, 2004), explored young children's museum experiences in the Oxford University Museum of Natural History. She used photo-elicitation interviews, triangulated with covert observations, to prompt discussion with thirty-two young children (aged 4 and 5). Although interested in what children might learn, she was concerned with not being constrained by a lens of learning that is characterised by much of the museum studies literature concerning young children as discussed above.

The studies that focussed on young children's experiences began to pick up on themes such as sensory and full body engagement as salient to understanding young children's time in museum spaces (e.g. Weier and Piscitelli, 2003; MacRae, 2007). These findings '*... began to gesture towards the need for a different type of conceptual framing*' (Hackett, Holmes and MacRae, 2020, pg. 3).

2.2.7 Different conceptual framings of young children in museums and new theoretical horizons

As a result of the above there emerged a number of studies (Kelton *et al.*, 2018; Kelton and Ma, 2020) that used '*A lens of body, movement and place ...*' to study young children in museums (Hackett, Holmes and MacRae, 2020, pg. 4). This encouraged researchers to attend to the sensory nature of young children's museum experiences (ibid). A key antecedent of this work is Hackett's (2014a; 2012; 2014b; 2016b) ethnographic research emerging from her doctoral work. This focusses on young children's (two to four years) experiences of repeated family museum visits in two museums in the north of England. Her research was designed to understand the perspectives of children themselves and, drawing on Flewitt and others' (Flewitt, 2005; Kress, 2010; Jewitt and Kress, 2003) work on multimodality, to listen to both children's verbal and non-verbal voices. Hackett (2014a) draws on aspects of the work of three theorists in order to conceptualise museum spaces. Firstly, she draws on Lefebvre's (1991) concept of space as a social product. More specifically, understanding the process by which space is produced using a conceptual triad of perceived space (daily routines and embodied social practices), conceived space (space as conceptualised verbally and mentally by planners for example) and lived space (the coming together of perceived and conceived space) (Hackett, 2014a). Secondly Massey's (2005) concept of 'throwntogetherness' refers to the way in which the trajectories of people meeting as they move through space creates new

versions of spatio-temporal events. This throwntogetherness creates a ‘chance of space’ where things can become entangled in unexpected ways (Massey, 2005). The work of Massey (2005) allowed her to connect the work of Lefebvre (specifically that space is a product of interrelations) to Ingold’s (2008; 2016) notions of entanglement and wayfaring where he conceptualises space as an intertwined meshwork of lines, both human and non-human that weave together to produce ever-changing understandings of place when moved through. She also highlights the utility of Christensen’s (Christensen and O'Brien, 2003) concept of emplaced knowledge, in other words the way in which children attribute meanings and memories to their familiar places, in understanding young children’s experiences within museum spaces. One of the elements of this work that is of key importance to my research is that it highlights the usefulness of ‘creatively’ drawing together theory from diverse disciplines in order to help shed light on how young children experience museums. By ‘creative’ I mean the use of theory to bridge build from one concept to another in order to foster greater understanding.

The ‘creative’ licence provided by Hackett (2014a) generated a number of studies that seek to explore theories of place making and movement in order to seek to further understand young children’s museum experiences. For example, in a special edition of the journal Children’s Geographies, Hackett and colleagues (Hackett *et al.*, 2018) make the point that children in museums are under theorised. While not contesting that museums can facilitate children’s learning, they suggest that broadening the theoretical scope beyond socio-cultural, language and learning perspectives might offer a less instrumental approach to understanding how young children experience museums, and why museums might have meaning for children.

Although these papers focus on a variety of types of visit, for example family visits (Kelton *et al.*, 2018), museum programmes (Carr *et al.*, 2018), developing museum practice (Hackett, Procter and Kummerfeld, 2018), it is worth separating them from the studies in previous sections and focussing on them together here because their theoretical foundations differ from their more traditional constructivist and social constructivist counterparts. For example, in addition to Lefebvre (1991), Massey (2005) and Ingold (2008) they also draw on, for example, Pink's (2009) notion of emplacement where the world is experienced through sensory entanglements that cannot be separated from the bodies that inhabit them.

Out of the concern for finding appropriate theory to understand young children in museums and resonating with the work that recognised the entanglement of the human and non-human world (e.g. Ingold, 2008) there developed a focus on a posthuman perspective. The posthuman gaze attempts to decentre the human subject, allowing greater attention to be paid to how encounters with the material world are deeply connected with the emergence of meaning. Rather than articulating meaning as something that is out there to be found or discovered; it is something that is elastic and emergent in the midst of experience (Manning, 2016; MacRae *et al.*, 2018). As MacRae et al. (2018 pg. 507-508) put it:

> '*The shift from seeing the human subject as the sole locus of agency, recognises that meaning can emerge through mutually active relationships with the non-human; materials, places and objects are understood as having agency… this gives agency to the data itself, so that data can speak back.*'

2.2.8 The focus of my research

The conceptual and methodological evolution of research with young children in museums has revealed a number of key things. First, that it is of value to understand young children's experiences more widely than a focus on learning alone might allow (Kirk, 2014; Kirk and Buckingham, 2018; Hackett, Holmes and MacRae, 2020). Second, that research focussing on young children's experiences of unstructured family visits is still today limited to only a few studies (Dunn, 2012; Kirk and Buckingham, 2018; Hackett, 2014a; Kelton *et al.*, 2018) and therefore warrants further exploration across contexts and cases. Third, that there is a precedent to innovate with the use of new methods and methodologies with which to explore young children's experiences of museums that take into account their competencies and appreciate that their views are worth listening to (Piscitelli and Anderson, 2001; Kirk, 2014). Fourth, that there is value in 'creatively' combining theory from a range of disciplines to further advance an understanding of young children in museums (e.g Hackett, 2014a; Hackett *et al.*, 2018). Now I have established the research context more generally I will now turn to the findings that are of relevance to understanding young children's museum experiences. Because learning is of relevance to a child's visit experience, I will include findings from studies that have learning as a specific focus. In addition, because participants in my research visited three different museums, I will synthesise findings from studies in which participants visited a wide variety of museum type. I will divide this part of the review into three salient themes that emerged from the literature. These are young children's social experiences, movement and engagement.

2.3 Young children's social experiences in museums

Much of what is known about young children's social interactions in museums derives from the large body of work on children's family conversations (section 2.2.1). To begin, it is of value to pay attention to the role of adults in influencing interactions with young children as this will inevitably impact on the young children's own interactions (and experiences) within the family group. For example, it is understood that most parents enter museums with prior content knowledge, a group agenda and a set of beliefs (e.g. their philosophy of what constitutes learning) that, in combination, affect how they will interact with their children in a museum setting (Ash, 2002; Falk, 2000; Borun, Chambers and Cleghorn, 1996). Sanford et al. (2007) found that grandparents are not a substantially different audience to parents, for example, like parents they view museums as a place for enjoying and strengthening their social relationships with their grandchildren. In addition, Sanford *et al.* (2007) found that, within their sample of 61 pairs of grandparents and their grandchildren, grandparents most commonly acted in the following three roles: teachers (educating by explaining and pointing out) playmates (making mutual decisions to enjoy the exhibitions), and coaches (helping the child to complete an activity themselves). This chimes with Fidler, Bunney and Craven's (2011) and Kirk's (2014) observation that parents seemed to view their role as supporting their children's learning.

Wolf and Wood (2012) report that an increase in exhibit dwell time tends to relate to the proportion of family interactions. They outline that collaborative learning, in other words encouraging developmentally appropriate, supportive interaction

between parents and young children, is the most effective way to enhance learning. This finding is also echoed in studies by Haas (1997) and Crowley and Callanan (1998). Haas (1997) states that the most effective learning:

> '*... embodies something novel, cognitively complex and generalisable outside the museum walls', (and that) '... adult supportive interaction in the form of developmentally appropriate, open-ended questions is critical to a child's learning within the museum context*' (Haas, 1997: 67)

Although focussed on learning this is one of the earlier hints that children's past experience is often key to their engagement. There are a number of findings that are of relevance that relate to the acquisition of scientific skills, knowledge and concepts. For example, Crowley and Jacobs (2002) discovered that the more parents at a dinosaur fossil exhibit linked information on labels with children's prior knowledge (mediating talk), the higher the levels of fossil identification by the young children in their sample after the museum visit. Their sample consisted of 28 families including children who were aged between 4 and 12 years old. Ash (2004) stressed the effectiveness of working within the Zone of Proximal Development and found that parents' questioning was often used to check prior knowledge rather than further scientific thinking. She also discovered that children (aged 4-8) often bestowed human characteristics on animals within a diorama. Parents, rather than correcting their children, often reinforced this personification. Although the sample is small (3 families), it is supportive of previous work (Ash, 2002) indicating that this tactic may help support the learning of new material by young children. Ash (2002) also made the point that larger family groups can foster multiple ZPDs when

they split into dyads and triads and later reconvene to discuss their explorations in the museum. Callanan (2002) makes the conjecture that encouraging adults to talk to children about objects such as globes and maps may help children understand their dual nature and therefore mitigate any potential confusion. When examining parent-child conversations in a children's museum they found that parents often made the assumption that children understood that, for example, a 3D globe is a representation of the earth. They make the point that this assumption can create internal confusion for the children therefore hindering learning. The maternal role was highlighted in Melber's (2007) study where it was identified that mothers tended to use more intentionally mediating, conceptual dialogue in a traditional gallery. This is in contrast to a discovery room because they imagined that their children needed more support in the former rather than the latter.

Shine and Acosta's (2000) study focused on young children's pretend play at a grocery store exhibit at the Austin Children's Museum. Their initial finding was that young children were not engaging in pretend play as the exhibit intended. This point resonates with the considerations I had at the beginning of this project about whether my own young children were engaging with the museum as was envisioned by the management. In order to investigate why, they focussed on the parents and how their interactions and perspectives (derived from interviews) can affect young children's social play at the exhibit in question. They found that parents' involvement could inhibit pretend play at an exhibit, mainly due to a concern to teach while within the museum space. A study comparing Latino (n=25) and Euro-American (n=31) parents found that the Euro-Americans became more involved in their children's play because they saw it as being of educational value (DiBianca Fasoli, 2014).

Palmquist and Crowley (2014) investigated how conversations that revolve around children's 'islands of knowledge' (or specific areas of knowledge) could help develop connections with novel domains (Shaffer, 2006). They compared how parents talked to young children (five to seven) who they considered as 'experts' on dinosaurs as opposed to those they considered as 'novices'. They videoed interactions at a single exhibit relating to dinosaurs, interviewed the children with a purpose to assess their level of knowledge about dinosaurs, and gave questionnaires to the parents. They found that parents were less likely to share information and engage in talk with children they considered as 'experts'. This study makes the point that children themselves, or perhaps more accurately parents' perceptions of their children's expertise, can shape the nature of interactions. This study is limited by being only focussed on a single exhibit in a museum rather than the entire visit.

Dooley and Welch (2014) in their study of over 30 adult-child (children aged between one and nine) dyads in a children's museum foreground children's agency within adult-child interactions. The authors' theoretical focus is dialogical space which stresses openness (eg the impact of identity) and the multiplicity of voices which combine to open up the possibilities of new ideas (Wegerif and Major, 2019). They note that approximately half the interactions observed were led by the children. They also found that adults were all concerned with supporting learning through interactions. This study emphasises that children often actively seek and lead interactions with adult caregivers, for example, often refocussing attention by asking a question or otherwise prompting an adult to share knowledge. The children's interactions with caregivers consisted of drawing attention to things they have made

or seen. This might include naming an object or talking about it in a stream of consciousness that described their own actions. They also categorised the children as learning when they asked for specific knowledge or help. This would include asking questions, prompting a caregiver to participate or ask for physical assistance. The specificity of these findings to young children is not possible to discern as the study did not collect specific age-related data.

Povis and Crowley's (2015) study speculated that joint attention may be an important and often overlooked prerequisite for learning talk in a museum space. Joint attention refers to the socio-cognitive phenomenon in which people know they are attending to the same object in a shared environment (e.g.Tomasello, Moore and Dunham, 1995). Participants were fifty-four parent-child (children aged five to eight) dyads visiting the Carnegie Museum of Natural History. Methods included audio recording of participants at the diorama, combined with observations and followed up with post-activity interviews with each dyad. They noted that viewing darkened dioramas with a flashlight increased family joint attention, and therefore learning talk. The torch was in the possession of the child therefore giving the child agency to direct the focus of attention. This tactic was much more effective in their study than, for example, providing structured signage prompts. Knutson *et al.* (2016) focussing on interventions to increase family engagement in the Carnegie Museum of Natural History suggest that real objects such as bones might pique interest more than those that are artificial however their sample is broad (aged four to eighteen across 295 family groups) and this finding cannot specifically be attributed to younger children. They specifically note that young children were engaged by tools such as binoculars and bird calls.

Complementing the above is Dockett, Main and Kelly's (2011) finding that young children found that social interactions with others made activities more enjoyable and provided the children with a sense of security.

Tunnicliffe (2000) points out that there is little evidence for scientific thinking (e.g. hypothesising and evaluation) in conversations recorded during family and school visits. She posits that knowledge of the conversational content that reflects interest of different social groups and genders at exhibits would enable educators to channel these into *'... effective zoological learning rather than casual comments*' (Tunnicliffe, 2000: 739). In her research in schools, museums, and zoos in the UK and USA, Tunnicliffe (1995) discerned that, although broadly similar, there were several notable differences between the conversational content of children aged seven years and below, and those over eight. For example, her work provides evidence for young children's drive to name animals, going so far as to say that naming is a *'... basic human need...*' (e.g. Tunnicliffe and Scheersoi, 2009: pg 3; Tunnicliffe, 2015). Kirk (2014) research in Oxford University's Museum of Natural History also notes the importance of naming to young children, noting that there was some evidence that children continued to learn names in interview. Her observations demonstrated that naming was sometimes used by children to demonstrate knowledge to family members or to draw family members' attention (Dooley and Welch, 2014; Kirk, 2014). In addition, she suggests that young children were often congratulated by adults when they successfully named something which gave them a sense of accomplishment.

Evidence indicates that young children name and categorise animals in view of anatomical features and prior knowledge. (Tunnicliffe and Reiss, 1999; Tunnicliffe and Reiss, 2000; Tomkins and Tunnicliffe, 2015; Reiss and Tunnicliffe, 2011; Tunnicliffe, 1995). Tunnicliffe and Scheersoi (2010) also suggest that there is a typical sequence of engagement at dioramas: identification, interest, interpretation based on their knowledge and understanding and then investigation. However, the sequence does not necessarily occur in this order (Reiss and Tunnicliffe, 2011). This sequence bears some similarity to Borun et al's (1996) stages of family learning at science exhibits. The authors suggest three stages of family learning. The first is identification, the second describing (linking to personal experience based on visible characteristics not concepts). The more abstract third level is 'interpretation' where children might spontaneously link abstract concepts to life experiences. Although these sequences of engagement are not built from research specifically focussed on young children (although they did include some young children) they are certainly a useful starting point to consider verbal engagement. There are no suggestions whether a similar sequence of engagement occurs in contexts other than science and natural history museums.

Tunnicliffe (1995) found that younger children are less concerned with the authenticity of stationary taxidermy animals than their older counterparts, perhaps because of an assumption by younger children that they are not real because of their lack of animacy (Tomkins and Tunnicliffe, 2015). A similar finding emerged in a study by Bunce (2016) in the Oxford University Museum of Natural History. She found that when a taxidermy object is considered real rather than a model, it stimulated more curiosity and engagement. However, these findings were weakest in

the four-to-five year age group and appear increasingly robust as age increased. This chimes with the finding (Tunnicliffe, 2000; Tunnicliffe, 1995) that children under the age seven (including young children) were more interested in whether or not a robotic dinosaur was real presumably because of its apparent animacy indicated by movement. Reiss and Tunnicliffe (2011) suggest that adults' scaffolding at dioramas can help maximise their educational potential for young children. Kirk (2014) also noted that adults' scaffolding is used to help young children name and describe at exhibits that are not specifically dioramas. Bates' (2018) study in the Manchester Museum stresses the importance of parent-child interactions in connecting children to exhibitions. For example, by naming objects, prompting children about prior experiences and physically supporting children in their interactions with an object. She also notes that the parents from this group (recruited from a disadvantaged background) were embarrassed to engage and needed to know that there were no right or wrong answers. Wallis' (2018) study was based in the FitzWilliam museum in Cambridge. The museum houses an extensive collection of art and historical artefacts. She noted that young children asked very few questions and that their most common mode of talk involved expressing agreement with others in their peer group rather than directly commenting on objects themselves.

To, Tenenbaum and Wormald (2016) analysed the conversations of fifty-two children and accompanying family members (two to eleven) at two contrasting exhibits (one human, one reptile) in the Natural History Museum in London. Although different both were concerned with the concept of evolution. Although their sample was broad, they concur with Reiss and Tunnicliffe (2011) in that

children's discussion at exhibits mostly revolved around naming and describing anatomical features of animals on display.

Harris and Winterbottom (2018) studied children's (aged five to eleven) conversations during visits to a natural history gallery in London. They suggest that the games (featuring treasure hunts and competitions) they introduced had several benefits. The games encouraged dialogue beyond naming, emotional responses, served as a parental scaffolding tool, shaped the social context for learning and helped the family overcome the lack of family friendly interpretation in the gallery.

There are also some relevant findings concerning social experiences revealed by the body of work that explores young children's museum experiences. For example, emerging from the QUTMC data set was the recognition of competing agendas between museum educators and young children (Anderson, Piscitelli and Everett, 2008; Piscitelli, 2011). Anderson, Piscitelli and Everett (2008) noted three different ways in which agendas were observed to clash:

i) Content (what to talk about)

ii) Mission (what to see or do)

iii) Time (how long to interact with an exhibit)

It is worth noting at this juncture that Zapri (2007, pg. 6) criticises the assumption that young children are '... *happy and enthusiastic museum visitors*'. However, Kirk (2014, pg. 147), like others before her (e.g. Piscitelli and Anderson, 2000), noted *'*...

that most children experienced most of their museum visit in general in a positive light.' As Kirk (ibid) did not accompany the children she interviewed during their visits this is mostly conjecture and inference based on her observations of other children in the museum.

Fasoli (2001; Fasoli, 2003) drawing on Wenger's (1998) concept of communities of practice to interpret her data, was interested in how the children during a preschool visit entered into and began to share in the social practices of the gallery. She highlighted a number of interesting social experiences. For example, children, by trying to make sense of the new community in which they found themselves, allowed gallery rules to become one of the more salient aspects of their experiences. Perhaps not unsurprising considering rules are regulating the vast majority of their lives (Fasoli, 2001). She also speculated on the ways in which rules from different contexts can lead to tension in an unfamiliar one. Fasoli (2003) uses an example of two children investigating a bench-like ledge in the gallery space, something that would be perfectly natural for the children in an early childhood setting where exploration is likely to be encouraged, but perhaps not so welcome to staff in a gallery context. MacRae (2007) also notes young children's good understanding of rules concerning touching of art within a gallery. In light of this she warns against underestimating young children's competencies.

Kirk's (2014) work also highlights the '*...necessarily social*' nature of the museum experience. She notes that the children in her study were mostly too young to read labels and were therefore reliant on the accompanying adults or siblings to do this for them. Although her work does not involve accompanying the families during the

visit, she does, by piecing together observations and the assumption that conversations in interviews were representative of what happened in the museum, make some points about the social nature of the visit. For example, she highlights the dominant role of older siblings in influencing the children's learning conversations. In particular that an older sibling's popularity and confidence, even if the information they are providing is wrong, can effectively influence a young child.

2.4 Young children's movement in museums

Children's high levels of energy while moving around museums has been noted by a variety of researchers in both school and family groups. Worthington and Paull (1987, pg. 30), from their observations of school groups in a children's museum, described children (aged six to twelve) initially rushing around '*from exhibit to exhibit, locating themselves in space*'. A process they interpret as 'cognitive mapping'. They conclude that children after approximately twenty minutes begin to explore exhibits more selectively and quietly. Marcus, Burke and Dobel-Ober (2009, pg. 14) in their consultation with primary age children (eight to eleven) note a very similar pattern, writing that children rushed around '*...as if they wanted to take possession of the building*', revisiting areas of the museum they found interesting later in the visit. Not dissimilarly in very young children Hackett (2014a, pg. 160) described a process of '*scoping the joint*' by which children, on first entering a room, are likely to move around very quickly, gathering a sense of place before returning to places of interest later in a visit. Degotardi et al. (2017) also note young children returning to things of interest. Similarly moving around a wide area with an initial fast pace and energy is described in Rounds' (2004) description of 'foraging' in adult

museum visitors. Kirk (2014) noting 'navigating and negotiating' as a key element of young children's museum experience, also described children's high levels of energy as appearing like Brownian Motion to the untrained eye. On closer inspection this is part of a powerful impulse to discover what is new in a space (Weier and Piscitelli, 2003). Kirk (2014, 2018) contends that children develop very good cognitive maps of the places they have been and the location of objects in them. Degotardi *et al.* (2017, pg. 24) noted that first time visitors '*...traverse the museum space in as much an exploratory and undulating fashion'* as previous visitors. Indeed, Darras and Kindler (1997) who interviewed 120, four and five year old Francophone Canadian and French children in order to explore their attitudes towards museums found that some described museums as places in which to discover things.

Tolmie et al's (2014) ethnographic study of visitors to two large museums (one in France and one in Greece) observe how young children can affect other group members' visit experiences. They collected extensive observations and video footage of interactions within the two museums. They note that in order to keep group coherence, individuals are often obliged to move away from an exhibit, space or object before they have finished digesting information. They found that this observation was particularly exaggerated in families with young children where there is primarily a strong motivation not to lose children. This observation chimes with Brûlé -Currie's (1996) observation (cited in Zapri, 2007) that when a parent is taking the lead then young children tend to show more egocentric behaviour. In other words, pushing to be centre of attention by wanting to go first and not waiting his or her turn. Parents in order to negate these behaviours were found to try tactics such as

inventing a story or negotiating an itinerary to promote engagement. This flexibility to bend to the will of young children is demonstrative of a parental desire (or perhaps a feeling of obligation) to participate and learn for their children's benefit. A finding supported by Moussouri's (1997) observation that parents who aimed to influence their children's educational experience also tended to provide a higher level of guidance to young children in their charge.

Hackett (2014b; 2014a, pg. 45) argues that much previous work with young children in museums (specifically alluding to conversations) is underpinned by '*... a literal interpretation of Vygotsky's argument that speech alone drives thought.*' Drawing on work in multimodal literacy (e.g. Finnegan, 2002; Kress, 2005) she notes that more recent research has developed this thinking '*… to argue that gestures, mark makings and the creation and appropriation of objects are all significant aspects of meaning making … and that both communication and cognition are not as reliant on spoken and written language as Vygotsky proposed.'* (Hackett, 2014b, pg. 7). Based on the above and drawing on work concerning space (Lefebvre and Nicholson-Smith, 1991) and movement (Ingold, 2015) she proposes '*... young children's walking is a powerful modal choice that can be understood as communicative place making.*' (Hackett, 2014b, pg. 12). Drawing on Ingold's notion of wayfaring as place making, she suggests that the children's lines of movement (represented in simple sketches transcribed from short video clips) were representative of the children producing a new version of the museum each time they move forward, 'obliterating' some parts of a gallery in favour of others. Wayfaring also underpins her understanding of children returning to objects to communicate interest and 'scoping the joint'. She describes scoping as a practice in which young children often moved very fast

around each room developing a sense of place (Hackett, 2016). She also draws attention to young children together repeatedly walking between two role play areas. She suggests that for the young children these two separate parts of the museum were, over the period of the visit, meshed together as connected parts of the same place. She also draws attention to young children, after repeat visits to the same museum, learning the routes to specific places in the museum and developing traditions in them. Hackett (2016) uses the example, '*marching with the drum*' where two children's marching and drumming around one gallery, developed over several visits into the coverage of a much wider area. She argues that the children's developing emplaced knowledge of the spaces fed into the realisation of a shared embodied experience of knowing the museum or tradition.

Building on Hackett's early work, Hackett, Procter and Kummerfield (2018) in collaboration with museum professionals developed a four-element framework underpinned by the prominent spatial theorists discussed in section 2.2.6 via which the experiences of children might be analysed by museum professionals. The four elements of this framework are as follows:

i) Abstract physical space (the material properties of the space)
ii) Abstract social space (how the museum's spaces are perceived as being used by museum staff)
iii) Embodied physical space (what parts of the spaces are most used, and how are the spaces used)
iv) Embodied social space (two-way interaction: space influences how people interact and this influences what the space is like)

Using this framework, data was collected via museum professionals' observations in a wide variety of museum situations involving young children. These included the opening of a new gallery, a colleague running an engaging activity and unstructured gallery visits. Movement featured strongly in their findings, with the physical qualities of spaces seeming to influence how children move, for example lots of open space and natural light offered space for bigger, faster movements. Discovering or exploring the physical elements of the spaces seemed significant including lifts and staircases, with children observing things both up high and down low. Clarkin-Phillips *et al.* (2013) also note children in an art gallery were, according to their teachers, more interested in the physical spaces than the art itself.

Kelton *et al*. (2018) present a micro-ethnographic study focussing on the experiences of one four-year-old child. They like Hackett (2016), draw on theories of walking as place-making (Ingold, 2008). Findings include that through '*inter-articulated lines of walking, talking and interacting with one another and the environment*' the exhibition became meaningful for the child and his family (Kelton *et al*. 2018, pg. 544). They also note that when the boy is with his six-year-old sister they create their own co-emergence of place-making, walking together and dynamics of social care (e.g. sister warning him to be careful). The boy wants to repeatedly visit elements of the exhibition, therefore thickening his lines of movement and impacting on the ongoing re-negotiations of socio-spatial dynamics. Kelton *et al.* (2018, pg. 553) suggest it is not just the boy's lines of movement that thicken but also how the lines of others '... *come together, interact or trail apart.*' The boy also breaks away from the group occasionally when they pause reasserting his agency on the family dynamic. They

conclude that children's places should be considered beyond fixed locations to consider *'... ambulatory routines that are owned by the children.'* (Kelton *et al.*, 2018, pg 554).

Hackett and Somerville (2017) re-examined video footage of young children (two to four) (some banging a drum in a museum) with the view to reconceptualise young children's literacies from the starting point of movement and sound in the more-than-human world. The authors suggest that the children appear co-ordinated with each other because they are equally in tune and entangled with the movement and sounds of the more-than-human world they are in. As such they argue that young children's vocalisations, gestures and movements (early signs of literacy as discussed above), are emergent in this entanglement of the human and non-human.

This connection with sound allows me to conclude this section with reference to a literature review focussed on sound and early years in museums written by Elwick *et al.* (2018). They note that soundscapes in museums can be effective in creating emotional engagement and creating atmospheres but also can spill out into other areas or create a distraction. They also draw attention to literature (e.g. Custodero, Calì and Diaz-Donoso, 2016) that explores young children's experiences with sound in different environments that may have relevance to young children in museums. For example, Custodero and colleagues (2016) suggest children's predisposition to use music as being an expression of children's natural agency. This included the observation that young children's musical vocalisations provided a sense of security when in an unfamiliar place.

2.5 Young children's engagement with museum spaces

Although intimately linked to the previous themes, how young children engage with museum exhibitions has long been a focus of research. This section will reveal the ways in which young children tend to engage with exhibitions that go beyond or complement social interactions and movement.

In Dooley and Welch's (2014, pg. 129) study the children all stated they had come to the museum 'to play'. Based on interviews and observations they made the assumption that the children were not thinking about what they were doing, or with whom they were interacting and were '*...simply playing*'. Danko-McGhee (2006) also suggests that play is an integral aspect of the art viewing experience. Fidler, Bunney and Craven (2011) observed that children behaved playfully at times but also emphasised there was no evidence to suggest that creative/purposeful play, storytelling or make believe occurred. Weier and Piscitelli (2003) observed that young children experienced, 'hot and sweaty', sometimes flow like bodily experiences (Csikszentmihalyi, 1990) when playing at exhibits. Piscitelli et al. (2003: 14) argue that *'... a physical and emotional connection with the subject matter increases the memorability of the learning experience*.' The researchers also restate the generally accepted view that young children's enjoyment and levels of interest are sparked by links to past experience and prior knowledge (Piscitelli, Everett and Weier, 2003). In particular it is noted that when the children visited the natural history, art social and social history museums they were particularly excited by things that they could relate to. This is in contrast to the science centre and art gallery where the children did not seem to be able to create the same connections.

Their conjecture from this is that exhibits that create connections with young children's culture (customs, beliefs and values) will have greater impact and meaning than those that are decontextualised from this (Anderson *et al.*, 2002). Linking to prior knowledge and experiences as a means by which they engage exhibits is something that is well established in the literature across art, natural history and science museum contexts (e.g. Kirk, 2014; Borun, Chambers and Cleghorn, 1996; Tunnicliffe and Scheersoi, 2009; Carr *et al.*, 2012; Clarkin-Phillips *et al.*, 2013; Carr *et al.*, 2018). Connected to this Carr *et al.* (2012) describe how 'boundary objects' can be used to bridge the gap between the kindergarten and an art museum, helping children to make connections between the two settings. Indeed, Dunn and Wyver (2019) state that younger children noticed differences between the museum exhibits and objects they use at home. They reacted to these differences either with humour, for example concerning sanitary arrangements, or with curiosity concerning something that is divergent from their own everyday experiences. Similarly, Dunn (2012) in her photo-elicitation study investigating the perspectives of young children visiting an Australian natural history museum noted that children discussed objects in relation to comparisons with their home lives.

Other studies have noted typical characteristics of objects that are appealing to young children. For example, Fidler, Bunney and Craven (2011) suggest that young children were interested in bright colours and took an interest in the printed word. They also point out that children were reluctant to make things up instead preferring to identify things and get the right answer. Danko-McGhee (2006) examined children's aesthetic preferences in the Toledo Museum of Art in Ohio. She observed fifty children aged between two and six. If a work of art held their attention for more

than one minute then it was judged to have aesthetic appeal and she questioned them about it. She found that when given choice children were drawn to art that was colourful, shiny and three-dimensional (in addition to the two-dimensional). A European study (Savva and Trimis, 2005; Savva, 2003) focussed on a school visit (five and six year old children) to an art gallery in Cyprus discovered that the young children in their sample tended to prefer artworks due to their bright colour, or favourite or familiar subject matter. They also found, resonating with Danko-McGhee's work that 81% of children preferred three-dimensional constructions rather than paintings.

Kirk (2014) notes a number of ways in which elements of the museum become more salient to young children. She calls this 'lighting up'. She makes the point that young children are drawn to a wide variety of objects and that every child experiences the same museum differently. She notes the children's attraction to large objects, familiar birds and mammals, bright and shiny minerals, patterned objects and smaller types of objects (surprisingly often eggs). She also finds that children demonstrated *'... an enjoyment of, or fascination with...*' various fearful aspects of nature such as the large teeth of predators (Kirk, 2013: 42; Kirk, 2014; Kirk and Buckingham, 2018). She coined the term 'biophobophilia' to describe this particular predilection in the children's behaviour. This interpretation is based on the work of evolutionary psychologist Barrett (2005) who predicts that young children should be predisposed to be both fearful and interested in predators as in an evolutionary sense this would have allowed them to stay safe.

Also of note was her point that while social history galleries may be more conducive to pretend role play, natural history museums tend to be *'... places in which young children collect through vision and touch the many objects and animals of the natural world and add these things to their mental maps and catalogues.*' (Kirk, 2014: 218). This assertion that the children will experience the contexts differently indicates that there is scope for a study to look at children's experiences across contexts.

Zapri (2007) suggested five affordances by which young children (aged 4 and 5, n=19) relate to museum settings:

i) The traditional object-focussed and learning based approach (old, rare things to remember and talk about)
ii) The activity-based type (drawing and playing but not allowed to touch)
iii) The people-focussed type (being with mum, seeing other kids)
iv) The space-focussed type (big area, tiring)
v) A modern-aesthetic type (playing with new things, pretty things and colours)

Although the study's findings are drawn from a small sample, she argued that children's preference towards a museum, and perceptions of a particular museum's affordances were a function of gender. For example, suggesting that girls are more likely to recognise aesthetic qualities and spatial arrangements in the museum context. Kirk's (2014) data hinted towards girls' observations being more likely to

be aesthetic whereas boys more likely to be trying to understand the functions of an object.

Dockett, Main and Kelly (2011) note that young children were very keen to explore areas of the museum where 'real' objects such as live animals, skeletons and taxidermy animals could be touched or explored with a microscope or camera, and not just the designated play space. Provision of context was seen as important for engagement with displayed artefacts, as were making connections between the museum and other settings. The children's use of imagination to give objects context (for example associating gems with fairies), and an eagerness to learn specific information were also highlighted.

The importance of touch has also been noted by a number of researchers. For example, MacRae's phenomenological study (2007) drawing on several of Merleau-Ponty's (2002) ideas emphasises the primacy of touch to young children's engagement in an art gallery. Firstly, that it is the body itself that is at the centre of how we know, and that things are something we enter into relationships with, and it is via this dynamic relationship that we come to know them. Secondly that things are unbounded, which allows an unpredictable and ever-changing view of the way we take up those things in our perception. She notes that it is not just words that should be considered within the social fabric but also things and materials as this is what weaves us together in culture. She emphasises the possibilities of materials. For example, some children handling stones were more interested in the coldness of stone than in its smoothness and others made unexpected links with their past experiences (MacRae, 2007). She advises that children should be encouraged to

touch things. Kirk (2014) notes that young children often have a relatively strong desire to touch things, although this is not all the time. This is sometimes curtailed by their parents' enforcement of the museum's rules. Kirk (2014, pg. 149) also points out that touch was:

> '*...only one of a repertoire of physically active small-scale engagement, that also included moving, leaning, pointing, stretching, and squatting as they looked at objects in the museum.*'

Hackett, Procter and Kummerfield (2018) also highlighted the importance of touching to young children, pointing out that different sensory modes can be entangled in the haptic process. For example, they note the children seemingly reaching out to touch objects through glass. Their overarching point is that '*When children encounter unique spaces and objects on their own terms, the chance of space is flung open*' (Hackett, Procter and Kummerfeld, 2018, pg. 12).

Building on the point of the ambiguity of experience, Birch (2018) criticises thinking that considers young children as little learners rather than independent minds, or bodies liable to be in the wrong place. Although from different ontological bases she argues that there are similarities between Barad's (2007) intra-action and Bjerregaard's notion of atmosphere (inbetweenness) or relation between environmental qualities and human states. She says that these theoretical standpoints allow a shift from considering the museum as a learning space to a space that fosters intra-actions or relations between people and things. She uses examples from Dockett, Main and Kelly (2011) to illustrate the unexpected nature of children's encounters

with architecture (e.g. being interested in marble staircases and railings). She also noted that her own participatory research in 2010 with young children at Discover, a story centre in East London demonstrated that young children enjoyed peepholes and squeezing through small spaces. Birch (2018) argues that young children and adults' (separately or together) 'ambiguity of experience' should be foregrounded and that opportunities for personal encounters with museum spaces and objects should be fostered.

To conclude this section, I will focus on young children's affective reactions to museum spaces and what is known about their impact on engagement. Children's affective reactions tend to be referenced relatively generally in the literature. Some examples being:

i) Young children are, for the most part, happy museum visitors (Kirk, 2014)

ii) Fasoli (2003) noting young children's wide eyed expressions such as 'wow!' when they first enter an art gallery

iii) Fidler, Bunney and Craven (2011) saying there were one or two objects that were a source of fear for a few children, but that the fear was not necessarily negative

iv) Piscitelli, Everett and Weier (2003, pg. 13) describing young children reacting to museum exhibits with '… *surprise, pleasure, puzzlement, wonder, and curiosity'*

Although surprisingly unusual, humour has also been noted as a means by which young children engage with exhibitions (Dunn and Wyver, 2019; Dockett, Main and

Kelly, 2011). For example, Dockett, Main and Kelly (2011) revealed that certain exhibits were particularly funny for young children, for example a dinosaur skeleton being adorned with a set of giant pearls.

Recognising the salience of affective reactions to the children's experiences, Kirk (2014) gave a rather more nuanced appraisal of the role of 'fear'. Concurring with Fidler, Bunney and Craven (2011), she noted that overcoming a fear of the dark gave a strong emotional stamp to a girl's experience. Kirk (2014, pg. 175) also added that a few of the children were terrified of a T-Rex head cast, but that a much more common response was one '*... combining mild fear and caution with intense fascination.*' Hackett (2014a) also described young children feeling a sense of fear but combined with an intense fascination that drew them back to certain areas of the museum.

2.6 Summary and introduction to research questions (RQ) 1 and 2.

This second half of the review has drawn together findings from the literature into three broad, but inevitably overlapping themes: social experiences, movement, and engagement. What is revealed is a developing patchwork picture of how young children experience museum spaces that is drawn from findings from diverse museum contexts, theoretical perspectives and types of visits. What is clear from this review is that there is much still to reveal about children's time in museums. While studies such as Kirk's (2014) and Hackett's (2014a) provide vivid glimpses into the world of young children's unstructured family visits, this area, in particular, is still

relatively underexplored. Based on this, I will conclude this chapter by presenting the first two research questions this thesis seeks to address:

RQ1 How do young children (aged 4 and 5) experience museum spaces during unstructured, family visits?

RQ2 To what extent do there appear to be commonalities of young children's (aged 4 and 5) experiences during unstructured, family visits to museum spaces?

These first two research questions were set as a deliberately open-ended starting point in order to allow myself to be open to new trajectories that might emerge in an exploratory study of this nature (Vasudevan, 2011; Hackett, 2014a; Kirk, 2014). In other words, they were open enough to allow my experiences during data collection and the opening phase of the analysis process to impact on and shape the study. Vasudevan (2011) suggests an open and unknowing stance to research and questioning that challenges a perhaps natural desire to seek recourse in the familiar and comfortable. It is with this 'open' and 'unknowing' disposition that I initially engaged with this research. In order to answer these questions while not impacting on the children and their families before their visit or after they leave the museum required a methodology that is flexible enough to accommodate the unexpected and allows me to listen closely to the children's own voices. As will be explained over the course of the next two chapters I developed a novel methodology called First Person Museum Ethnography (FPME) to do this.

3 Developing thinking and a review of the literature concerning photo-elicitation and the use of first person video

3.1 Introduction

The previous chapter reviewed the literature concerning young children in museums. My critique of this literature base allowed me to identify young children's experiences of unstructured family visits as a valuable (Graham, 2011) and still relatively underexplored area (Hackett, Holmes and MacRae, 2020; Kirk, 2014).

Out of this literature base three strands of thought emerged that allowed me to begin to consider the development of an appropriate methodology to allow me to answer RQ 1 and RQ2. The first is the position that children are competent research participants with views that are of value (e.g. Dockett, Main and Kelly, 2011; Kirk, 2014; Qvortrup *et al.*, 1994). Building on this and as outlined in Articles 12 and 13 of the United Nations Convention on the Rights of the Child (UN, 1991), young children should be given opportunities to express their views freely. This is a particularly challenging endeavour considering young children's developing verbal language ability, competencies and issues with the reliability of memory accounts (Cordón, Silberkleit and Goodman, 2016). The second and intimately connected to this is Kirk's (2014; Kirk and Buckingham, 2018) study that is illustrative of the value of developing innovative methodologies to explore and help provide opportunities for young children to articulate their perspectives. The third was

Hackett's (2014a) doctoral research and associated papers (e.g. Hackett, 2014a; Hackett, 2016; Hackett, Procter and Kummerfeld, 2018). Hackett's (2014a) research foregrounded young children's movement as integral to the way in which they experience place and drew creatively on theory from a range of disciplines such as anthropology (Pink, 2007; Ingold, 2008), geography (Massey, 2005) and sociology (Lefebvre and Nicholson-Smith, 1991) to try and further her understanding of young children's museum experiences. As Kirk (2014) successfully trialled photo-elicitation as a means to give voice to young children and explore young children's lived museum experiences, photo-elicitation seemed like an appropriate starting point for consideration for use in this project. I also successfully trialled the use of photo-elicitation in the early stages of this project (Burbank, McGregor and Wild, 2018). For this reason, this chapter will begin by reflecting on the literature concerning the use of photo-elicitation with young children. I will then discuss Kirk's (2014; 2015; 2018) methodology in more detail because the methodological ideas presented in this thesis were developed based on a critique of this. Primarily as a result of this critique, I began to consider the use of FPV as a means to alleviate some of the limitations of her approach. For this reason, I will then discuss the use of video in research with young children, before focusing on the utility of FPV in research with adults, followed by a consideration of the use of FPV in museum research and with young children. Emerging from the literature discussed, I will outline my novel methodology: First Person Museum Ethnography (FPME). Finally, I will present my third and final research question.

3.2 An introduction to photo-elicitation

In response to new conceptualisations of children and childhood, researchers have developed a range of new methodologies to allow young children to express their beliefs and views in ways that are not restricted to verbal language (Dockett, Einarsdottir and Perry, 2017). Examples include a wide range of methods including artwork, journals, photography, songs, videos and picture stories as strategies to promote children's participation (Einarsdottir, 2005; Tisdall, Davis and Gallagher, 2008). Waller and Bitou (2011) suggest that despite the popularity of participatory methods they should not be considered uncritically. In particular the concern that the interpretation of children's voices is generally from an adult's perspective and therefore the distinction between using children's voices as a tool and acting on their concerns is of importance.

Photography has been used in a variety of ways in research. Holm (2008) grouped these into three major categories. These are subject-produced images (participants are invited to photograph aspects of their life), researcher-produced images (researchers document events or situations) and pre-existing images (for example historic images are used). Research with young children in museums has seen photographs used in a variety of ways. These include adults taking photographs of the children (Fasoli, 2001; Fasoli, 2003) and adults asking children to comment on photographs taken by the researcher (Anderson, Piscitelli and Weier, 2002) and more commonly photo-elicitation where children are asked to comment on their own photographs (Kirk, 2014; Kirk, 2015; Dunn and Wyver, 2019; Dunn, 2012). This section will focus on photo-elicitation.

Part of the rationale for using photo-elicitation is that it potentially increases children's willingness to be involved in research and enables conversations with children about things that may be taken for granted or otherwise be rendered invisible (Dockett, Einarsdottir and Perry, 2017). Other factors that make photo-elicitation a potentially desirable approach is that photographs may:

> '*... evoke information, feelings and memories that might not have emerged otherwise, or may be hard to describe using words alone; and to position participants as 'experts' within the research process.*' (Dockett, Einarsdottir and Perry, 2017, pg. 227).

An additional factor is that by using children's photographs in interview, the focus is on the children's perspectives. This is because the children are not asked direct questions from an adult's perspective as is the case in traditional interviews. In theory the children decide what to photograph and therefore what to talk about. Consequently, the questions have to be adapted to the photographs (Einarsdottir, 2005; Clark and Moss, 2001; Cook and Hess, 2007). Dockett, Main and Kelly (2011) and later Kirk (2014) also contend that the novelty of using a camera adds to the method's appeal for children.

Some researchers in museums have used photo-elicitation in tandem with other methods to provide broader context. Dunn and Wyver (2019) used the children's photographs to help them create journals after their visit. Dockett, Main and Kelly (2011) video the children's tours of the museum and Kirk uses covert observations

(not of the research participants) to triangulate with her findings from the elicitation interviews.

Kirk (2014) in her photo-elicitation study in a natural history museum cautions that this method may not be directly transferable to other museum contexts. However, she points out that Dunn's (2012) study in a social history museum suggests that it may have potential for use in other museum settings. She makes a number of key points concerning her use of photo-elicitation. First, she focusses on the affinity that young children have for the method. For example, viewing their own photographs did seem to create favourable interview circumstances. This could be because the photographs drew their attention away from the interviewer and towards the products of their own activity. Indeed, the children could exert an element of control over the interview (for example by choosing to discontinue) which forged trust between the children and the researcher and empowered the children. She cautions that although she found the camera as usable for children, their use of the camera was as idiosyncratic as their visits. This may be because the children that took a lot of photographs were already confident camera users. Second concerning the affordances of the method. For instance, Kirk (2014) suggests that although family members were influential both during the visit and sometimes in interview, this social influence was representative of their social experience more broadly (Fasoli, 2003). Children's photography could capture elements of a child's experience that was not known by family members. In addition she notes that some children found it hard to articulate what they felt. In particular this relates to aspects of their experience that were not verbal. For example, physical sensation or emotion. The method went beyond the children's own perspectives by providing some information about the behaviour of others. For

example, by unintentionally or otherwise including other people in their photographs such as strangers and family members (Kirk, 2014).

While the children struggled to remember some aspects of their visits, photographs seemed to be an effective prompt for their memories including about smaller less charismatic objects. In other words, the photographs were a route into discussion about how they had '*...touched, discussed and emotionally responded to objects*' (Kirk, 2014, pg. 213). Kirk (ibid) contends that photography in the museum resonated with the children: it made sense to them as an activity in a museum space considering it was in common usage by those around them. Reflection on this methodological point suggests that methods that makes sense to children in museum contexts may not transfer to other contexts such as school.

Kirk (ibid) also comments that a disadvantage of using photo-elicitation as a method is that because they are carrying a camera the children will see the museum differently, however the degree to which this is the case is difficult to discern and will likely depend on the individual's familiarity with photography. As a result of this discussion, I began to consider how the use of video and in particular FPV might build on and alleviate some of the limitations that Kirk (ibid) identifies. For example, not being able to fully articulate things they could feel such as emotion or physical sensation. I return to this in section 7.6. First, however, I will now consider Kirk's methodology in more detail.

3.3 Understanding Kirk's innovative method

Kirk's (2014) method, taking an ethnographic perspective, is underpinned by the Reggio Emilia philosophy of 'listening' and is an adaptation of the Mosaic approach (Clark, 2005) to a natural history museum context. 'Listening' from a Reggio perspective is a process that is open to the many creative ways (for example '*graphic, plastic, musical and gestural*' (Rinaldi, 2006, pg. 67) in which young children construct and articulate their views and experiences. Memorably Loris Malaguzzi, Reggio Emilia's founding pedagogical director reminds us in his poem *No way. The hundred is there* (Cagliari *et al.*, 2016) of young children's communicative potential in the phrase the 'hundred languages' of children (Clark and Moss, 2011; Cagliari *et al.*, 2016). Building on this philosophy, Clark and Moss (2011) developed the Mosaic approach with its central aim being to listen to young children's perspectives of their daily lives. This is a participatory, and multi-method framework that recognizes children and adults as co-constructors of meaning (Clark and Moss, 2011). Kirk (2014) adapts this framework to collect rich data from participants involved in 'everyday' visits to the Oxford University Museum of Natural History.

Kirk (2014) used the concept of the hundred languages to give weight to children's photographs as a visual language by which the children can potentially communicate insights into their experience of the museum.

In order to avoid participants' visits being overly disrupted, and to (as far as is possible) retain the 'everyday' nature of the trip, engagement with the research process was, out of necessity fleeting and there was no further participation planned after their

visits concluded (Kirk, 2014). Therefore it is important to emphasise that her photo-elicitation method is more representative of young children having a '*... creative or active...*' (Kirk, 2014, pg 44) role in the research process. This is in contrast to being participatory and reflexive in the sense advocated by the Reggio concern for listening which is then echoed in the Mosaic approach. As a consequence (and although children's views were listened to and taken seriously during the research process) Kirk acknowledges that she inevitably had both a greater stake in the outcomes of the research, and more power in the relationship between young children as participants and herself as researcher than would be the case in a less time constrained methodological framework such as the Mosaic approach (Kirk, 2014). These points apply to the current study too and will be explored further in Chapter 4.

3.4 Critique of Kirk's (2014) method

This approach developed by Kirk, although illuminating, has several interesting limitations. First, it depends on the children's choice of what to capture with their own photographs (snapshots) in combination with their verbal accounts prompted by these visual records of their visit. Although the photographs may provide an aide memoire for young children, it is well established that children's retrospective accounts are not always reliable and that younger pre-school aged children are more likely to provide erroneous or incomplete memory reports in contrast to older children (Cordón, Silberkleit and Goodman, 2016). Second, it also relies on the premise that the children themselves were responsible for taking the photographs that are used in the elicitation interviews and that these visual records are a reflection of their interests during the

visit (Cook and Hess, 2007). It is not without reason that Fasoli (2003) comments that you need a full and reflexive account of context issues when interpreting photographs.

It may be, as Kirk (2014) suggests, that the finer details of the children's museum experiences may have become more apparent if she had accompanied the children during the visit. She had to make the assumption that the covert, inevitably subjective and in the moment observation data that she triangulated with the photographs and the interviews authentically represented the experience of visiting participants.

However, the idea of physically accompanying the children has its own limitations; it is well documented that an awareness of being observed can affect behaviour in a number of ways, including, for example, encouraging a more formal atmosphere (Merriam and Tisdell, 2015).

Based on a consideration of these limitations I piloted the use of FPV in combination with photo-elicitation in a museum focussed on children's literature. This pilot provided some early illustrations of the richness of data provided by the FPV and indicated that it might illuminate data provided by photo-elicitation. This study is submitted as an adjunct to this thesis so will not be considered further here (Burbank, McGregor and Wild, 2018). The reason for this is that the novel methodology presented in this thesis, although building on insights from this pilot phase, is significantly different from it. I will, however, refer to this paper and insights that developed from it as the thesis progresses. What became clear since the writing of this paper and further engagement with and consideration of the FPV footage and

photo-elicitation, was that a more effective methodology needed to be developed to fully take advantage of the affordances of the FPV.

In order to set the scene for my use of FPV I will now reflect on the use of video in museum research with young children.

3.5 Use of video in research with a focus on young children in museums.

As a result of the above deliberations, I considered the literature concerning the use of video in museum research with young children. As is evident from the review of the literature in Chapter 2, video has been used on a number of occasions in research with young children in museums. Before revisiting these studies, it is useful to consider Hadfield and Haw's (2012) work and position my own within their framework. In response to the variety of ways in which video is used in research, Hadfield and Haw (2012) note that the use of video requires an understanding of the modalities in which different methodological possibilities and issues exist. Modalities are in part:

'...epistemological in nature in that they raise questions about what kind of knowledge we wish to have of a phenomena, what forms of knowledge we see as worthwhile, and how we wish to present this knowledge to others.' (Hadfield and Haw, 2012: 313).

The modalities they outline are as follows:

i) Extraction, where video allows an interaction to be extracted from one context and studied in detail in another, potentially by multiple viewers

ii) A resource to support reflection on a phenomenon, often by the subject of the video e.g. video stimulated recall

iii) Projection and provocation, where video is used as a medium to provoke critical engagement, challenge existing norms, and power structures

iv) Participation, where video is used as a resource to engage researchers and participants in the co-construction of meaning

v) Articulation, where video is used as a resource to allow participants to voice their opinions and communicate

Much of the research in museums using video is firmly rooted in the first modality. However, it needs to be appreciated that there is often crossover between the modalities (Hackett *et al.*, 2015). For example, and as will become clear over the course of this chapter and as set out in Chapter 4 my study illustrates a novel use of FPV with young children that is located primarily in the 5th modality 'articulation'. It also has some crossover with the 'participatory' 4th modality. In other words, I consider the FPV as a means for the children to communicate with me about their visit experiences, and at the same time recognise that FPV allows an empathetic understanding of the children's experience to develop, albeit after the event. I use the word 'participatory' in the sense that the children have a creative and active role in

the production of these data (Kirk, 2014). This is not in the sense described by Jewitt (2012) where participants are fully involved in every aspect of filming and editing. Or indeed by Lansdown (2005) who assumes participatory involvement as having a stake in both the process and outcome of the research.

I will now consider studies using video with young children in museums in light of the respective modalities that they are operating in. Working in the first modality might allow researchers to record conversations or actions which can then be studied in detail in another context (Vom Lehn, Heath and Hindmarsh, 2002). This is often in the form of static or researcher held cameras at single exhibits, often with the aim of recording children's and adults' talk and accompanying body language (Acosta *et al.*, 2021; Palmquist and Crowley, 2014), or researchers accompanying the children and filming using a handheld camera to create supplementary records of the field (Tolmie *et al.*, 2014). This type of approach to using video data often uses fine-grained analysis, coupled with naturalistic video data that is assumed to closely imitate reality. The use of video in this way is valuable and allows children's (and accompanying adults') gestures and voices to be present in the research.

Sitting in a more reflective modality (modality 2), Dockett *et al.* (2011) use researcher held video to film children's tours of a museum. They acknowledge that this is mostly in order to capture the context of the children's photographs, however these video data were also provided to the children to take home. It is therefore fair to presume that the video provided the inspiration for the journals the children created that documented their visits. These journals were then analysed by the research team.

I will now turn to Hackett's (2014a; Hackett *et al.*, 2015) work with handheld video that aimed to understand the role of the body in children's communications. Hackett's ethnographic work allowed the close observation and reflection on a phenomenon (modalities 1 and 2) but also drew on some of Pink's (2007) early work that positions video as a product of social encounters in the field that arguably sits more comfortably in the participatory 4th modality (Hackett *et al.*, 2015). In these examples the researchers are holding the camera and choosing what to film. Therefore, the records produced are inevitably subjective as the researchers, and parents in the case of Hackett's (ibid) research, decided what was significant and consequently when to film. As a result, the researchers have not ceded any power to the children in the production of the video. The footage is very much from the perspective of the researchers or parents and not the children.

Fidler, Bunney and Craven's (2011) approach was slightly different in that they gave video cameras and handheld cameras to participant families to use during their visit. This makes the video data collection more participatory in the sense that what to film was not in the hands of the researchers. Although the children took their own photographs, it is not indicated that they used the video cameras, the assumption being that the parents performed this task. Unusually, straddling modalities two and four, Zapri (2007) allowed young children to film things they liked best during museum visits. She then used this footage to elicit their views in an interview after their visits. Although this approach has been used in museum visitor research before with older participants (Vom Lehn, Heath and Hindmarsh, 2002) it is one of the only occasions that it has been used with young children in museums. None of these

examples were truly participatory in the sense that the children had a stake in both the process and the outcome of the research (Lansdown, 2005). Instead, the children are taking an active and creative role in the production of the research data (Kirk, 2014).

In the museum studies literature concerning young children, other than Hackett (2014a), and Dockett (2011) (notwithstanding the use of FPV discussed in the next section) video has not featured heavily in the pursuit of exploring children's visit experiences. Researchers instead have relied on photo-elicitation, children's drawings, tours or the creation of journals after the visit to co-produce knowledge. In the wider literature the potential of participatory video to encourage children's expressions has not gone overlooked (Lomax *et al.*, 2011). These child-centred approaches, out of necessity, assume an epistemological stance that portrays children as knowable to themselves. This risks privileging children's voices as the most authentic source of knowledge (Lomax *et al.*, 2011) whereas there can be a myriad of reasons, especially concerning young children why their voices might be stymied. For example, adult influence, or children not being able to fully articulate their feelings. Therefore, any attempt to use this type of approach requires careful reflexivity in terms of recognising the researcher's position in the project and influence over the data collection process (Pink, 2007). This sense of reflexivity and criticality is firmly embedded at the heart of thesis. Chapter 7 in particular will reflect on these issues.

Key debates on the use of video in educational research focus on the partiality of video, whether video can be considered naturalistic, and the impact of video on the

research participants. Jewitt (2012) provides a useful overview. These debates will permeate the discussion below and in terms of my own methodology will be clearly delineated in Chapter 4. With specific reference to children, and as touched upon above, debates centre around levels of participation and agency within video research and the corresponding ethical issues that are raised (Robson, 2011). The ethical issues concerning the use of First Person Museum Ethnography will be addressed in Chapter 4.

The risk of *'...naïve empiricism...*' is raised as important to consider (Elwick, 2015, pg. 325). It is all too easy to assume that video data is objective, comprehensive as possible and contains singular meaning (Elwick, 2015). However, some say it is equally 'naïve' to say that it distorts events beyond usefulness (Jewitt, 2012). What these two extreme viewpoints do point to, is the need to be explicit and reflexive about exactly how the video data used in research is conceptualised. As Caton and Hackett (2020) point out video data takes on a life of its own, for example (and as will be seen in the literature covered below) it can evoke emotions of the field (Sumartojo and Pink, 2017) or a fragment can grab the researcher with intensity and affect (Millei and Rautio, 2017).

3.6 Considering first person video (FPV)

It is now of value to consider the different ways in which FPV has been used in research with adults and subsequently young children. This discussion, highlighting the utility of different approaches, will serve to provide context to my own novel methodology presented in Chapter 4.

FPV is characterised by the notion of 'passive capture'. Passive capture is when the camera automatically records as the user goes about his/her business, rather than a user intentionally recording specific moments. This frees her/himself from the need to perform the capture (Lee *et al.*, 2008). This recording is done through the attachment of a small digital video (or stills camera) to the participant that records from his or her perspective, or at least from the position the camera is located (Pink, 2015b). This section will focus on studies recording video images rather than stills. I will also use the term FPV by default. However, where there is a specific type of FPV camera used (e.g. GoPro™) then I will use this term instead.

3.7 Different theoretical perspectives concerning the use of first person video

Pink's (2015b) theoretical discussion concerning the use of FPV is of central importance to understanding the different ways in which FPV has been used in research. Pink (2015b, pg. 242) presents a theoretical discussion concerning the potential of first person perspective digital ethnography. She sets out an analytical framework based on the concepts of place, movement and perception. She frames the ethnographic '*...process through a theory of place, and as such conceptualise the context, practice and outputs of ethnography as part of 'ethnographic place'*. She contends that this offers an alternative way to understand the possibilities of first person perspective digital ethnography currently offered in the literature. For example, Cordelois (2010) suggests that using FPV is in essence holistic, and allows us the opportunity to capture as much context as possible. Contrastingly understanding first person perspective video, through the lens of ethnographic place, leads to an

understanding that we do not so much as capture a view of a context, rather a trace through it. This understanding also stresses that the researcher (even if not present) and the camera itself are part of the ecology of the place in which the trace is made. They are in other words implicated in a series of entanglements that participate in the ecology of place.

Ethnographic place combines the ideas of emplacement (Howes, 2005), the 'gathering power' of place (Casey, 1996), place as 'open' (Massey, 2005), and place constituted along lines of movement and entanglement (Ingold, 2008). These ideas are brought together by Pink (2015b, p. 243) to provide a conceptualisation of place that is '*... open' and 'unbounded' intensities of things, persons and processes, always in progress ...'* It is important not to confuse this notion of place as being fixed in a locality as they are:

'*... constituted in part by the practices of the ethnographer, who plays an active role in bringing together the constituents of place (such as the ethnographer, him or herself, research participants, texts and recordings as well as localities), as well as the movement of other people and things.'*

Pink (2015b) continues to make the point that first person perspective cameras, because they are attached to the participant, engage with their physical movement in a very obvious way. Pink (2015b, p. 245) drawing on Ingold (2008) considers place as constituted *'... through movement, the movement of persons, things, the intangible flows of energy, the weather, the sunlight and of emotions'.* She argues that first person video allows us to record lines of movement as they occur and therefore follow a trace

of a person, their sensations and their feelings as they move through the world. In other words, they record a trace of a person's embodied and emplaced experience that can be conceptualised as being part of the environment in which it is produced. This point links back to Hackett's (2014a; 2014b; 2016) work that views movement as key to understanding children's embodied experiences in museums and central to their communication. Pink's (2015b) view is different to, for example, considering its possibilities as an observational tool capturing a passive visual record from the perspective of the wearer and an approach to observing users in context without intrusion (Byrne *et al.*, 2008; Lee *et al.*, 2008). Pink (2015b, p. 246) suggests the key point is that we are not looking through participants' eyes or feeling through their bodies, instead we are moving with the recordings when we view the video trace. This trace is not simply what is in front of the camera but also created as the holder of the camera makes their way *'...through and in the world*.' Understanding first person video like this provides visual ethnographers with the opportunity to engage and imagine other people's worlds. She adds that there are several complications when trying to imagine other people's worlds. For example, can we see and know things in a sufficiently similar way to others in order to understand their situatedness. She draws on Grasseni's (2011) concept of skilled vision. Grasseni (ibid) considers vision as a culturally situated practice that is dependent on both physical training and social positioning. Pink (2015b) adds that first person perspective video can tell us something of the direction and range of participant vision but cannot tell us anything of the learnt embodied experience and knowledge that is part of vision. She offers several solutions to this. The first is seeking to see and know like a participant in the form of an apprenticeship, and the second is to use a form of art therapy to verbally explore with participants what they see in drawings they made themselves (Hogan and Pink, 2012).

Pink (2015b, p. 246) adds that although the researcher is not necessarily physically present during first person filming it is not that intrusion is limited, it is that '*...the site, nature and quality of the researcher-camera-participant intersubjectivity shifts…'.* This, she states, is something that needs to be reflexively explored. She concludes to say that, combined with other methods, this perspective can provide interesting new routes to understanding how others look, see and make meaning.

As I will outline in more detail in Chapter 4, I adapt Pink's (2015b) approach to inform my own methodology. However, there are useful insights from the wider literature concerning the use of FPV that are worth considering first.

3.8 First person video as an alternative to participant observation.

The use of FPV is more established with adults and this brief review is a precursor to my discussion of work done with children. Although FPV cameras were initially developed to capture extreme sports' footage, their promise for use in social research has not gone unnoticed (Chalfen, 2014). Myrvang Brown et al.'s (2008) research on adult mountain bikers and walkers' multi-sensory ways of knowing and experiencing landscape has explored the potential of using head-mounted video cameras to move beyond the verbal and the textual and to provide insights into a more realistic multi-sensory social world. In other words bringing, *'... a new dimension to exploring how bodies, senses, technologies, thoughts and feelings become entangled in the experiences of places, spaces, landscapes and environments*' (Myrvang Brown, Dilley and Marshall, 2008 pg. 8). As well as interviewing the participants while watching the

footage they also considered the video as an extension of existing in situ research techniques such as participant observation.

Kinsley *et al.* (2016) use chest mounted GoPros™ in their wayfinding study in a library. They used the video as predominantly an observational tool. The participants were accompanied by a researcher with a clipboard. They comment that GoPro cameras may not show exactly what the viewer is actually seeing, and although they had hoped that the GoPro camera would reduce the feeling of being watched because the camera was not pointing directly at them, they acknowledge that the accompanying researcher may have negated this. They also note that a GoPro camera can provide context that observational notes cannot, for example mood, thoughts spoken aloud, behaviours and points of view. These points all provided indications to me that this approach might usefully be transferred to young children. Nilsen (2017) uses GoPro cameras worn by adult participants whilst reading to their children. They suggest that the use of chest-mounted cameras was more successful than head-mounted cameras due to problems with audio-recording. They discuss several stages of analysis. This included that, after the video was downloaded, a video log of each experience was created. A thematic analysis was then used to examine the data. The visual footage allowed the researcher to scan and analyse for themes and behaviours with multiple viewings of the same footage. They report that GoPro cameras are easy to operate and provide a minimally invasive data collection method that provides data that can be a valuable tool for reflection on interactions between adults and children.

Lahlou, Le Bellu and Boesen-Mariani (2015, p. 2) discuss Subjective Evidence Based Ethnography (SEBE) as a method by which to use first person perspective digital

recordings (using eye-level miniature cameras) as a basis for analytical replay interviews with adult participants. The premise is that the video triggers the memory of participants allowing them to discuss their actions. In theory they argue this gives context to a situation and its impact on behaviour. They argue that SEBE is a form of digital ethnography in the sense that, *'... in order to understand participants' life in their personal and cultural perspective, it gets data in the field and from discussions with 'native' participants themselves.'*

From Lahlou's (2011) perspective the difficulty lies in the practicalities of moving from an etic (outsider) to an emic (insider) perspective. He contends that the problem is first understanding how life is experienced from the perspective of the subject. He calls this "catching the fish". Secondly it is translating this experience into something transferable and publishable without projecting any inadequate preconceptions of the observer onto the phenomenon. He calls this "canning the fish". This perennial problem is taken forward in my discussions in Chapters 4 and 7.

Cordelois (2010) uses a subcam (miniature video camera) mounted on a pair of spectacles to record 42 participants coming home. Each participant had an observer accompanying them filming with a classic camera. They say that the subcam captures powerful ethnographic data including head and body movements thereby recording what the subject is attending to. There were three levels of analysis, the first straight after the event, when the pairs describe the goals pursued in each video, these findings are then presented to the other groups. The third involved individual content analysis of the video. They note that the subcam data is not shaped or refined by the observer and that as there is not choice in what is captured, less of the context is lost. In addition,

they note that the data is distorted by the presence of the observer. The author adds that an exhaustive description and detailed coding of every minute of a large video corpus is a waste of time. They advocate for retro sampling, where they decide what to look for before watching the videos.

All these previous studies considered the FPV data as a viable alternative to participant observation.

Pink *et al.* (2017) view the FPV in a slightly different way. Drawing on Pink's (2015b) earlier work they consider that FPV (GoPro™):

> *'…can be considered a technology for empathetic imagination, in that video is 'in there' with the other constituents of everyday processes, and therefore provides us as researchers with a starting point for engagement with the human experiences that form part of this.*' (Pink *et al.*, 2017, pg. 379)

They used helmet-mounted GoPro cameras to record cyclist participants' daily commute. They then edited the footage into fifteen to twenty minute clips of aspects they wanted to cover based on previous research on self-tracking e.g. preparation and arrival routes, and navigation of traffic. Subsequently they videoed participants in their own homes being interviewed while watching the edited GoPro™ video. The participants also showed the researchers their bikes, devices and the layout of their everyday environments. This process had distinct qualities according to the researchers:

i) Wearing the cameras encouraged the participants to attend to their everyday activities more closely. For example, exaggerating movements to pick up things on the camera that caught their attention

ii) The recorded video was immersive, as the sounds and perspective induced anxiety or some shock about the rider's well-being. In other words, the video enabled the viewers to have embodied correspondences with their own histories of cycling.

iii) The participants commented that the videos did not necessarily accurately reflect their own perceptions of risk and traffic. For example, the gap between cars and roadside curbs appeared bigger to the participants during their bike ride than they appeared on film.

3.9 The use of first person video cameras with children

The literature reveals that the use of FPV cameras in research with children is limited to date.

Kindt (2011) used head-mounted FPV cameras to capture what he considers to be a close approximation of secondary school pupils' perspectives of a lesson. He records that it also provides an excellent record of teacher behaviour and student interactions including clear audio especially that of the wearer, those in close proximity, and the teacher. Waters *et al.* (2014) discusses the use of FPV cameras to study children's play behaviours. He uses the chest-mounted cameras (in addition to supplementary third-

person viewpoints) to try and provide access to children's subjective viewpoints. He found that head or helmet-mounted cameras were not feasible due to the unwatchable nature of the footage and clumsy intrusion. He makes the point, similarly to Burbank, McGregor and Wild (2018) that GoPro footage can provide a subjective viewpoint that is different from an observer. He uses an example of a child playing with a cone on her head which from a third-person caregiver perspective might be interpreted as dangerous, but from a first-person perspective the child's enjoyment and safety is tangible. He discusses his experimentations with different types of analysis. He begins with content analysis to code objective behaviour that can be extracted from the frame of the image, however, acknowledges that this will struggle with capturing more subjective experiences that might include the sensorial, mood and drama. He considers discourse analysis that invites the viewer to see a visual text as a global whole that takes into account how and where the image is displayed as well as its social construction (Rose, 2016; Figueroa, 2008). He then experiments with content analysis supplemented by the grounded-theory method of free coding in order to capture the more subjective aspects of an experience such as mood. He discusses his analytical difficulties, raising the question, how does one account for the subjective proxy experiences that are encountered at the point of viewing?

Waters *et al.* (2014, p. 26) suggests a process of re-storying to go some way to account for this where:

> '*... I am able to take a passage of texts and reframe that text by rewriting it from a new point of reference before then applying the same analytical process to the writing until it reaches saturation.*'

Drawing on Rose (2016) the author suggests this process happens at three 'sites' during the research process. The site of production (setting up of the cameras), the site of the image (the analysis of the media) and the site of audiencing (the showing of the image itself). He suggests that this process of 'restorying' will give a fuller sense of how children play than could be provided by behavioural coding alone.

Elwick's (2015) study discusses the use of a small head-mounted camera (supplemented with a tripod mounted camera surveying the scene) worn by an 11-month-old child. Of course, the infant could not be asked about the images, instead the author reflects on audience reactions to the first-person footage. These reactions were that viewers see the reaching out of an infant's arm towards their caregiver in an 'amplified' fashion. It was also notable that this action was not commented on when the same viewers watched the tripod generated footage of the same scene. This point raised discussions about the child's intent and whether or not developmental principles can accurately appraise the action. Conclusions were reached that the action may well go beyond what is explainable by the 'objectified' body with which early year's professionals tend to be familiar. In the same way viewers did not comment on the 'reaching hand', they also did not comment on the infant casting a look at another child when watching the tripod footage, but all did when watching the headcam footage. This action was amplified by the FPV footage making it tricky to not notice. This raised the point that with the tripod footage alone it would be easy to miss the possibility that the infant's behaviour might be influenced by others. The headcam video also extended viewers' visible horizons, for example the interior of a basket.

The author suggests that this variation on the visible makes possible patterns and insights that can take us into uncharted territories.

Beyond these 'amplifications' and novel viewpoints, the FPV footage allowed viewers to engage (to an extent) with perceptual reciprocity or sensuous relations provided by the images. This included the multiplicity of potential interpretations they may stimulate. This she argues may potentially skill viewers' bodies to recognise the limits of their own practices of looking, ways of knowing and theorising infants. The positioning of the headcam also allows the child to 'participate' within research processes by generating their own data.

Green's (2016, pg. 5) study used GoPro cameras as a means to gain access to young children's perspectives. She developed a sensory-tour approach, which entailed young children (aged three to six) wearing head-mounted GoPro cameras during a forest walking tour and afterwards discussing aspects of the video with the children in groups to elicit insights into their perspectives. With a similar aim to this study, her work was informed by phenomenological traditions in that she wanted to understand ordinary conscious experience of everyday life. Her sensory tours were designed to *'... capture children's authentic play and exploration in the forest with limited adult interference.*'

Green (2016) makes the assertion that GoPro technology is an underdeveloped research tool which has the capacity to capture young children's unique perspectives of the world, allowing an insider's view on what they hear, say, touch and their interactions with others. She concludes that young children perceive and act upon the world differently from adults. As a result, she contends that research concerned with

uncovering the phenomenological meaning of children's experiences should include participatory methods that engage children in directing and interpreting their own experiences. The phenomenological nature of my research will be addressed in Chapter 4.

Potter and Cowan (2020) used chest mounted GoPro cameras along with a variety of other methods that were both child generated (child to child interviews, playground tours, drawings and maps of playground games) and adult generated (drone footage, aerial and playground video recordings, interviews with children). Their aim in their focused ethnography was to represent something of the messy world of children's (aged seven to eleven) playground play. They stress that the children were co-producers of the research rather than co-designers. They note that the GoPro cameras foreground movement, gesture and the use of space. They used innovative forms of multimodal analysis alongside a more traditional thematic analysis to analyse these data.

Caton and Hackett (2019, pg 5), drawing on Caton's doctoral research with primary aged children during a digital skills club, stress the need for further theorising of video ontologies. In particular making an effort to *'...challenge dominant realisms that often regulate educational research and to theorise video that is co-curated through child and camera entanglements.'* Caton films (with GoPro Hero HD ™ cameras) using four distinct camera perspectives. These are head harness, chest harness, roaming camera and static. The authors draw on a variety of theory including Deleuze and Guattari's philosophy where the concept of a human being as being a bounded, independent entity is contested (Colebrook, 2002), and the posthuman notion of a flat

ontology where discourse does not hover above matter; rather the two are mutually implicated (Barad, 2007). They also harness the complementary ideas of Deleuze and Guattari's 'lines of flight' (Colebrook, 2002) and Ingold's meshwork (Ingold, 2016) to highlight the non-linear and intimate perspectives of the chest mounted camera and its agency within the research process. For example, they argue that the perspective of the camera foregrounds the way in which the child's hands interact with the flows and materials of the space that they are in thus disrupting the traditional perspective of the child in participatory video as a discrete and bounded object. On a practical note, they highlight that the children tended to become bored of using the cameras after about ten minutes, saying they were uncomfortable to wear.

As part of a larger study Marsh (2017) also took a posthuman perspective to analyse a preschool girl's interactions with an app. The girl (aged 2 years 11 months) created a video using a GoPro ™ chestcam when she was playing with a PAW patrol app and related toys. At the same time her mother videoed her using the toys. The videos were multimodally analysed using Norris's (2011) multimodal (inter) action analysis framework and transcribed using a framework developed by Taylor (2014) that noted vocalisation, gaze, facial expression, haptics (touch) and proximity to things. In addition, another category was added 'inorganically organised objects'. Marsh (2017, pg. 28) noted that the '*GoPro chestcam was effective in enabling the child to collect data on her own play, and it did offer insight into the embodied nature of her play*'. However, she also pointed out that the lens was not always pointing at the object of analysis making a full understanding of the play episode tricky.

What is clear from the above body of work is that, as pointed out by Green (2016), the use of FPV cameras with children is still relatively underexplored. There are a number of issues that need to be considered when transferring the method to young children, for example being aware of potential 'amplifications' and being sensitive to young children not wanting to wear the camera. However, these studies also demonstrate that its use has the potential to contribute new perspectives that challenge researchers to account for the subjective proxy experiences that are encountered at the point of viewing (Waters, Waite and Frampton, 2014).

3.10 Using first person video cameras in museums

Excluding a publication on the early methodological findings of this current study (Burbank, McGregor and Wild, 2018) there are limited examples of FPV being used in museums. Rehm and Jensen (2015) used GoPro camera footage to assess the level of engagement that children (aged six to twelve years) had with exhibits during a treasure hunt. Mulcahy's (2017) research examining liminal spaces of learning in a Melbourne museum incorporated chest-mounted GoPro footage to capture what children (aged eight to sixteen) said and saw during the course of a visit. There is very little discussion in these papers as to the utility of GoPro besides that it captures learning 'on the fly' (Mulcahy, 2017) and that it allowed the researcher to assess engagement when data logging was not possible (Rehm and Jensen, 2015).

Degotardi *et al.* (2017), in their collaborative report, used chest-mounted GoPro cameras to capture family interactions from the perspective of the child, the parent and (from a distance to provide more detail) the researcher. Participants were six families

with a pre-school aged child from each of three Australian museums – eighteen families in total. These families were in three conditions:

i) A family who have museum membership

ii) A guest family who are new to the museum and will visit with the member family

iii) A novice family who are recruited from an early childhood centre, have never visited the museum before and will visit alone

Within these two museums the families did not have free reign, instead they were asked by museum staff to visit two specific enclosed exhibits. The GoPro footage was used to create hotspot (indicating areas of engagement) maps around the museum and identify patterns of movement of the different family types. The GoPro footage was also used to capture family interactions. They found that guest and novice adults tended to more closely supervise their children than member adults. They found that member parents appreciated hands-on exhibits, and that engagement was prolonged at exhibits the children were interested in, especially those exhibits that they are re-visiting and had been refurbished. Guest families exhibited a sense of wonder and awe at seeing things for the first time, visited exhibits for a shorter period of time, and spent more time as a unit discussing 'new to them both' exhibits. Novice families' interactions were relatively brief focussing on the descriptive, and their movement tended to be exploratory, returning to exhibits of interest more frequently than guest families. It was also found that both parents and children initiated shared attention on an object. Questioning was used by adults to determine what children already know,

provide opportunities for children and adults to explain things and also to draw children's attention to things. They found that parents (but occasionally the child) most often introduced diverse and technical vocabulary, and that children's learning was deepened when it linked with their existing knowledge. They also identified four features of exhibits that encouraged sustained, shared thinking (Siraj-Blatchford, 2009):

iv) Intricate detail in exhibits including diagrammatic material as well as physical content

v) The ability to view things from different perspectives

vi) Interactive and hands-on exhibits, including touch screens

vii) Multi-modality, for example children being able to access exhibits through multiple senses

Kelton *et al.* (2018; 2020) in their micro-ethnographic case study of a four-year-old and his multi-generational family's visit to a standalone immersive mathematics exhibition also used FPV technology. The child wore a chest-mounted GoPro™, and third person video footage was also taken of the child moving around the exhibit itself. They combine transcription of non-verbal and verbal behaviours with movement maps. The authors report that their micro-analysis revealed the dance between verbal, material and spatial interactions that included adult and elder-child supervision. This highlights the agency with which the child deftly negotiates these interactions,

sometimes choosing to respond and at other times to go his own way. They also suggest that over time, the child and his sister establish meaningful ownership over the exhibitions through place and meaning-making that thickens after multiple passes. This is structured by an ongoing verbal and non-verbal collaboration between family members that mutually shapes the child's competence in the exhibition, while at the same time providing the child the opportunity to engage in personal and unanticipated ways.

3.11 New ways forward?

There are a variety of ways in which FPV cameras have been used in research to date. In the limited number of studies taking place in museums using FPV, FPV footage is treated as data that allows the observation of participants' behaviour with limited intrusion. For example, to capture family interactions (e.g. Degotardi *et al. 2017)*, or what children say and saw (Mulcahy, 2017). Although not in museums, other studies have used the footage to elicit participants' subjective perspectives (Lahlou, 2011; Green, 2016). There are other alternative ways of conceptualising first person video footage. For example, Caton and Hackett's (2019) methodological study, drawing on a posthuman stance, argues that FPV footage requires a more nuanced approach that includes decentring of the human subject in an interrogation of the intersection between participant, camera and environment. As will be outlined in Chapter 4, I was specifically intending to provide the children with the opportunity to communicate their experiences. Therefore Pink's (2015b) theoretical discussion is of particular relevance to my thinking. She frames an understanding of FPV footage as being part of the ecology of the place in which it was created and the footage as a 'trace' of a

person's experience that allows empathetic engagement with them away from the research site (Pink *et al.*, 2017; Pink, 2015b). There are also a wide variety of ways in which FPV has been analysed, ranging from fine-grained multi-modal analysis (Kelton *et al.*, 2018) to re-storying (Waters, Waite and Frampton, 2014). Of note is that Waters, Waite and Frampton (2014) make the point that it is tricky to arrive at an analytical approach that adequately provides for the subjective experiences that are found at the point of viewing. This point means there is value in experimenting with alternative approaches.

Green's (2016) point that FPV is an under-developed research tool for use with young children is echoed in a number of the papers discussed above and illustrated by the small number of studies using it as an approach. What is clear from the literature is that the use of FPV to explore young children's museum experiences (especially to complement other child-friendly methods) is an underexplored topic, with much potential that warrants further investigation and discussion. As Einarsdottir (2005) points out, new perspectives on children and childhood has called for new and innovative research methods to listen and give voice to young children. Photo-elicitation as a method has been successfully combined with other methods to provide additional context (e.g. Dockett, Main and Kelly, 2011; Dunn and Wyver, 2019). This combined with the successful use of photo-elicitation in a museum setting by Kirk (2014, 2018) suggests that combining photo-elicitation with first person video would be a fruitful methodological endeavour to explore (Burbank, McGregor and Wild, 2018).

3.12 Proposing a novel methodology called First Person Museum Ethnography and introducing research question 3

Building on the above body of work this thesis will now document the trialling of a novel methodological approach called First Person Museum Ethnography (FPME) that is both focused on the time of the visit and intensive in terms of data collection. In order to promote the authenticity of the visit, this approach is designed to minimally impact on the unstructured family visits of the children, for example, no contact before or after the museum visits. This is so that the children and parents do not pre plan or consider what the researcher wants to hear and see. It was also important that it incorporated methods that valued the children as research participants by providing them with the opportunity, as outlined in Articles 12 and 13 of the United Nations Convention on the Rights of the Child (UN, 1991), to express their views freely while facilitating their freedom of expression. This is a particularly challenging endeavour considering young children's developing verbal language ability and issues with the reliability of memory accounts (Cordón, Silberkleit and Goodman, 2016). As will be outlined in more detail in Chapter 4 the combination of FPV cameras and photo-elicitation is designed to go some way to alleviate these issues (Burbank, McGregor and Wild, 2018).

Some clarification of the term FPME is also necessary here before I outline the methodology in Chapter 4. Specifically, my reference to 'first person' in FPME does not allude to the child themselves being the ethnographer. Instead, it relates to the harnessing of FPV (in combination with photo-elicitation) to enable the child to express themselves. The data collection is therefore child controlled (see section 3.5),

however the child is not party to the development of method, or involved in the analysis and dissemination of the data itself as might be expected in a study that is truly participatory (Lansdown, 2005). As discussed in more detail in section 4.8 with reference to ethnographic place (Pink, 2015b) it is the role of the ethnographer (myself in this case) to initiate, then gather together the different elements of the research and subsequently disseminate the research findings.

When referencing the term museum in FPME, I am making the point that it is a methodology that has been developed specifically in museums with young children and for use in museums with young children. This is not to say that it might not be able to be adapted to other contexts, however this would require further work.

In summary the FPME approach aims to provide the theoretical and practical steps to effectively explore young children's museum experiences during an unstructured family visit. These will be outlined in detail in Chapter 4.

On this basis I propose a third research question which this thesis will seek to address:

RQ3 Is the use of the novel methodological approach 'First Person Museum Ethnography' effective in providing insights into young children's (aged 4 and 5) experiences of unstructured family museum visits?

3.13 Summary

This chapter began by identifying the use of photo-elicitation as likely to be a productive way to elicit children's perspectives in museums, during everyday family visits. After a critique of Kirk's (2014) method and in order to alleviate some of the limitations noted I considered the literature concerning the use of FPV with adults, children and finally with young children in museums. I identified the use of FPV with young children as an underexplored area with a number of different ways in which the video is both conceptualised and analysed. It is also a method which, in combination with photo-elicitation, has huge potential for working with, and allowing young children to express themselves freely (Burbank, McGregor and Wild, 2018). As a result of these points, I propose a novel methodology called First Person Museum Ethnography (FPME) that is both focussed on the time of the visit and intensive in terms of data collection. Chapter 4 will now set out the novel methodology FPME in detail.

4 A novel methodological approach: First Person Museum Ethnography

4.1 Introduction

This chapter will begin by summarising the novel methodology First Person Museum Ethnography. It will continue to outline the novel configuration of theoretical positions underpinning First Person Museum Ethnography (FPME), first addressing the position that children are competent actors with views worth paying attention to (Qvortrup *et al.*, 1994). Second, I discuss how this study draws on the concept of a focused or short-term ethnography (Knoblauch, 2005; Pink and Morgan, 2013) and how it fits into the ethnographic continuum. Third, I will outline Pink's (2015a) theorisation of ethnographic place and explain how this provides a bridge, when considered in light of Malaguzzi's concept of a hundred languages (Cagliari *et al.*, 2016), to allow me to conceptualise the children's FPV and photographs as an expression of a child's experience. Fourth, I will outline how IPA resonates with the aims of this research in terms of providing an apt approach to the analysis of these data. I also note how the open nature of ethnographic place allows me to incorporate this approach into the design of FPME. I will then consider whether an IPA approach is appropriate for use with young children and discuss how its theoretical foundations; phenomenology, hermeneutics and idiography sit comfortably in relation to the aims of this thesis.

The final part of the chapter will discuss the practical implementation of this methodology including a description of the three research sites, and methods employed (e.g. GoPro FPV cameras, handheld cameras, and photo-elicitation interviews). I will finish with a detailed outline of the process of analysis.

4.2 First Person Museum Ethnography

FPME draws on elements of a focused ethnographic approach (Knoblauch, 2005; Pink and Morgan, 2013). In particular that it has a short-term engagement in the field and data collection is intensive. Data collection tools used were chest-mounted FPV cameras (GoPro™) worn by the children during their visits, handheld cameras carried by the children during their visits and photo-elicitation interviews that took place immediately after their visits. Taking inspiration from Hackett (2014a) who brought together theory from a variety of disciplines and building on Pink's (2015b; 2015a) theorisation of ethnographic place, and Malaguzzi's concept of a hundred languages (Cagliari *et al.* 2016), I conceptualise first-person video (and the children's photographs and interviews) as the children's expressions of their time in the museum.

On this basis, I propose the novel use of IPA (e.g. Noon, 2018) as an approach to analyse these data. This is because I require a flexible analytical approach that allows me to listen closely to the children. An additional feature of FPME is that, except during the photo-elicitation interviews and in the early stages of recruitment, I will not be present during the museum visit. The idea is to minimise the degree to which the data collected was distorted by my presence (e.g. Cordelois, 2010). This

meant that the main site of inter-subjectivity between the participants and myself occurred away from the museum itself and through a digital medium. As the video and photographic methods employed are both digital in nature this is also a type of digital ethnography (Pink, 2015b).

4.3 Children as competent social actors

The research position drew on the field of childhood studies, in particular taking the stance that children are considered as 'being' a social person with competencies and views worth paying attention to, and not simply in the process of 'becoming' a mature adult (Qvortrup, 1987; Qvortrup *et al.*, 1994). In other words, as Christensen and Prout ((2005; Wertsch, 1984) contend, children should be treated with a sense of current value rather than as adults in waiting. This position has its origins in the recognition that children, unlike other marginalised groups (e.g. women, disabled) are rarely in a position within most western societies to enter into a dialogue (with adults) about their particular concerns or experiences. With this in mind children need 'allies' in order to allow their expressions to be heard (Matthews and Limb, 2000). This study's research design remains true to this concern, providing a vehicle through which children's perspectives can be foregrounded without privileging adult views. Malaguzzi's concept of a hundred languages (Rinaldi, 2006) is also key to this concern. I will not discuss this further here as this concept has already been addressed in section 3.3.

4.4 Positioning this study on the ethnographic continuum

My 'open' research questions outlined in chapter 2 and corresponding open approach sits well with ethnography, which is, by definition open ended: not defining problems in advance of fieldwork but exploring what they are in particular circumstances (Mercer, 2002).

Originally developed by anthropologists to study culture (O'Byrne, 2007), ethnography is one of the key research methods to understand the social worlds of children (Greene and Hogan, 2005). It provides a framework through which children can be recognised as individuals who can be studied in their own right within the social sciences (James, 2007), allowing children *'... a more direct voice and participation in the production of sociological data than is usually possible through experimental or survey styles of research.*' (Prout and James, 1997: pg 9). Importantly, therefore this methodology also facilitates an engagement with the views of young children, recognising them as competent informants concerning their own lives and the lives of others, and potentially rendering these views accessible to adults (James, 2007).

Green and Bloome (2004) differentiate between:

i) 'Doing ethnography' e.g. conducting a long-term study of a social or cultural group

ii) ‘Adopting an ethnographic perspective’ e.g. taking a more focussed approach to
study a particular aspect of everyday life of a social group

iii) ‘Using ethnographic tools’ e.g. the methods and techniques associated with fieldwork

These distinctions make the point that researchers may engage in ethnography to varying degrees depending on the research context. By this measure my research adopts an ethnographic perspective as discussed above. To an extent it also adopts adaptations of ethnographic tools such as photo-elicitation interviews. By ethnographic perspective I mean studying the specific experiences of a child’s everyday life (Green and Bloome, 2004), in this case a child’s lived experience of an unstructured family visit to a museum.

Ethnography does not possess a standard definition, instead being reinterpreted and recontextualised in various different ways (Hammersley and Atkinson, 2007). However traditional ethnographic studies tend to possess several central tenets such as dwelling in the research site for a long period of time, employing multiple methods designed to understand people’s perspectives and studying what people say and do first-hand (Hammersley, 2006). In order to fulfil the aims of this research this study contrasts with a traditional ethnography in several key ways.

4.5 How does this study differ from conventional ethnography?

Greene and Hogan (2005) note that a child interviewed about their experiences of living in a children's home made the point to a researcher that an interview will only ever provide a brief recollection of his experiences, and in order to 'really' understand you would have to live in one. Although the children involved in my study are likely too young to articulate this sort of insight, the point remains relevant: to really understand what is going on the researcher would actually need to live the museum visit through the eyes of the child. Within this project the use of FPV addresses this issue as it provides a trace of the children's lived experiences during their visit as will become clear over the course of this chapter. This point also highlights one of the key ways in which this project differs from a traditional ethnography in that I will not dwell in the research site or with the children for a long period.

Traditional ethnography aims to study what people say and do first-hand. This is usually in the form of participant observation. Participant observation is a term commonly used by ethnographers to describe living with and being part of other people's lives with a view to developing an understanding of them and their practices (Shah, 2017). Some studies have been criticised for an over-reliance on interview data neglecting the participant observation that tends to be the cornerstone of more traditional ethnographies (Hammersley, 2006). Participant observation implies a long-term intimate engagement with a group of people that were once strangers to us in order to know and experience the world through their perspectives and actions in as holistic a way as possible (Shah, 2017). As this study is focussing

on the relatively short period of a single museum visit this approach is clearly not appropriate here. As Pink (2015a: 6) points out:

> *'... innovative methods have been developed by ethnographers to provide routes into understanding other people's lives, experiences, values, social worlds and more that go beyond the classic observational approach.'*

This is often because these methods are not viable in contemporary contexts such as during a museum visit, or in Pink's (2015) own practical experience a person's home. However, my original rationale for using first-person video was to think of it as a viable alternative to participant observation (e.g. Degotardi *et al.*, 2017; Cordelois, 2010) with the particular quality that I did not need to be present during the visit itself and thus unnecessarily impinge on the visit itself. Similarly, Byrne et al. (2008: 2) (see section 3.8 for more detail) suggests that FPV provides '… *a novel approach to observing users in context without intrusion.*'

Over time my thinking about this changed, and in order to design this methodology I adjusted this view to thinking of FPV as part of Pink's (2015a) conceptualisation of ethnographic place. I will address ethnographic place in detail in section 4.7. Therefore, another key way in which this study differs from a traditional ethnography is that it is not reliant on participant observation as defined above.

4.6 Making the familiar strange?

Knoblauch (2005) suggests that the problems of conducting an ethnography within one's own society are fundamentally different from that experienced by someone studying a completely unfamiliar culture. It is clear that an adult can never return to being a child, and therefore fully understand the world from a child's perspective, however the world of children in museums is not an entirely alien culture to an experienced teacher, parent and museum visitor (accompanied by young children) such as myself. My familiarity with visiting museums and specifically the ones in this study with my own children meant that I had to address this reflexive issue. This is in order to try to see afresh how the museum environment might appear differently for the children in this study.

One approach that is advocated for studying an aspect of society with which one is familiar is to attempt to make the familiar strange (e.g. De Jong, Kamsteeg and Ybema, 2013). This is in order to create some analytical distance so that researchers are not swimming around '*... like fish trying to discover the water that surrounds them*' (De Jong, Kamsteeg and Ybema, 2013, pg. 169). Achieving some analytical distance is to an extent aided by the FPV allowing me to engage with the children's experiences after the event and for a prolonged period meaning that I could have some '*... wondering distance...*' (De Jong, Kamsteeg and Ybema, 2013, pg. 182). This gave me the opportunity to step back from the familiarity of a museum visit to begin to question my first impressions and avoid the seduction of being made to feel like an insider. Knoblauch (2005, pg. 4) calls this perspective '*alterity*' where it is

appreciated that there is a backdrop of communality from which there is then an '... *attempt to identify differences*...'

4.7 Focused ethnography

The methodology FPME has more in common with a focused or short-term ethnography than a conventional approach (Knoblauch, 2005; Pink and Morgan, 2013). Knoblauch (2005) argues that these types of ethnography are complementary to more traditional ethnographies as they allow short and intense investigations of settings that are 'part time' rather than permanent. As Pink and Morgan (2013, pg. 2) put it they allow '…*intensive excursions*...' into people's lives. In the case of this research the excursion involves the exploration of children's lived experiences of their unstructured family visits to museums. Focused ethnographies tend to be criticised for being superficial. However, like my study they compensate for the lack of time in the field by the intensity of focus. In other words, they tend to be data intensive. By this I mean providing a depth and breadth of data that allows re-immersion in the field and close analysis in the data analytical stages of the research. In my study this is achieved by collecting FPV footage, photographs and photo-elicitation interview data, with the detail of the FPV providing the depth of focus and the elicitation interviews and photographs to an extent the breadth.

The approach that I take also differs from a focused ethnography in terms of data collection in that I do not employ what Knoblauch (2005) calls a 'field observer role'. By this he means being detached from the participants while filming or

recording to the extent that you are not able to take a close and involved participant observer role that is typical of a classic ethnography. Instead, I take a different approach that does not conceptualise the FPV as capturing a context (see section 3.8), instead as will be explained in the section 4.8 it is considered as part of it.

I have now established the ways in which this study aligns with a focused ethnographic approach as outlined by Knoblauch (2005) and how it differs from a more traditional ethnographic approach (See Table 4.1). For example, only a short period is spent at the research site, and data collection is high intensity. I will now outline Pink's (2015) conceptualisation of ethnographic place, as this provides the next theoretical building block for FPME.

Table 4.1: A table to illustrate the key differences and similarities between FPME and traditional and focused ethnography.

Traditional Ethnography (Hammersley, 2006)	Focused Ethnography (Knoblauch, 2005)	First Person Museum Ethnography
Dwell for long periods in the field	Short periods	Short periods
Multiple methods, data generated with the participants	Field-observer role. Often multiple methods, data generated by the researcher	FPV, photographs and subsequent photo-elicitation interviews. Data generated by and with the participants
Data collection extensity, participant observation	Data collection intensity (use of recording devices such as video), field-observer role	Data collection intensity (use of FPV and photo-elicitation)
Data collection in person	Data collection in person	Researcher not present alongside children during museum visit

4.8 The theoretical foundations of ethnographic place

The concept of ethnographic place (Pink, 2015a) is primarily built upon the work of three academics: Casey (1996), Massey (2005) and Ingold (2008). I will address each of their contributions in turn.

In order to explain the concept of ethnographic place I will first address Casey's (1996) work. Specifically, the implication, following Merleau-Ponty (2002), that perception is primary and is the root from which we understand place. In other words, space and time arise from the experience of place rather than the other way around. Therefore, as an ethnographer the primary context for research is a place that is not static but constantly redefining itself. He also argues that places have 'gathering power' in that they gather things (both inanimate and animate), experiences, histories and perhaps languages. Next Massey (2005) offers a reconceptualisation of space that is first the product of interrelations of the material and the social, second as the sphere where multiplicity and plurality can exist, and third '*always under construction*' (2005: 9). By this logic places are events in space that are fluid, unique, collections of 'stories so far' that she describes as 'throwntogetherness'. With Casey (ibid) and Massey's ideas (ibid) in mind, Pink's concept of an ethnographic place refers to:

> '… '*open', and 'unbounded' intensities of things, persons and processes, always in progress … they are constituted in part by the practices of the ethnographer, who plays an active role in bringing together the constituents of place (such as the ethnographer, him or herself, research participants,*

texts and recordings as well as localities) , as well as by the movements of other people and things.' (Pink, 2015b: 243)

Finally Ingold (2008) draws on the ideas of the philosopher Merleau-Ponty, and the ecological psychologist James Gibson to develop an alternative interpretation of how human beings exist in the world. Merleau-Ponty makes the point that a body is a synergic system rather than individual organs which operate together in the general act of being in the world (Merleau-Ponty and Smith, 2002). Ingold (2000: 268) extends this to suggest that sight and hearing are *'... not separate keyboards for the registration of sensation but as organs of the body as a whole, in whose movement, within an environment, the activity of perception consists.*' Ingold (2000, pg. 3) is also attentive to Gibson's argument that perception '*... is not an achievement of a mind in a body, but of the organism as a whole in its environment, and is tantamount to the organism's own exploratory movement through the world.*' In light of these points Ingold (2000, pg. 3) develops a view of the human being as not being made up of two complementary parts, the '*biophysical*' and the '*socio-cultural*' that are held together by '*... a film of psychological cement ...*' that has been popular since the time of Descartes, but instead as being one and the same; part of the environment not separate from it.

Ingold's (2008) notion of entanglement is key to his interpretation of the above. In order to understand this a first point of reference might be Heidegger's understanding that the world we inhabit being resplendent with things that move and grow, for example the weather, seasons, flowering plants as opposed to being covered with a furniture of objects. To take this further to live in the open *'...is not,*

then, to be stranded on a closed surface but to be immersed in the fluxes of the medium, in the incessant movements of wind and weather.' (ibid : 9). Ingold (ibid) continues to suggest that we live along lines, not trails that are between an organism and parts of its environment but as an unbounded line along which life is lived. These lines, he argues, are without beginning and end, and are in fact 'lines of becoming' which are not defined by connectable or articulated points, but instead by lines of flight that pull away from both. For example, there can always be variation (Colebrook, 2002) or in the case of a child in a museum there can always be an experience that diverges from those coming before.

Ingold sees an organism as an ever-unravelling bundle of lines of growth that Deleuze and Guattari (Deleuze and Guattari, 1983, cited in Ingold, 2008) describe as rhizomatic. Ingold however, prefers the metaphor of a fungal mycelium to describe this meshwork of entangled lines:

> '*Instead of saying that living beings exist in places, I would thus prefer to say that places occur along the life paths of beings. Life itself, far from being an interior property of animate objects, is an unfolding of the entire meshwork of paths in which beings are entangled*.' (Mazzullo and Ingold, 2008; Ingold, 2008: 13)

Pink (2015a) suggests that Ingold's ideas can be used to moderate between space and place. Moreover Pink (2015a, p. 48) uses these ideas:

> '*… to formulate place as a coming together of persons, things, trajectories, sensations, discourses and more. As events or occurrences, places are*

constantly changing and open, moreover they do not end. Ethnographic places are thus not the same actual real experienced places ethnographers participate in when they do fieldwork. Rather they are the places that we as ethnographers make when communicating about our research to others. Whatever medium is involved ethnographic representation involves the combining, connecting, and inter-weaving of theory, experience, reflection, discourse, memory and imagination. It can never be understood without accounting for how its meanings are constituted in relation to readers and audiences through their participation.'

As such ethnographic place provides an abstract concept of place as a way of understanding the intentional pulling together of all the above into a unique and open configuration of trajectories that are then taken forwards as the researcher comes to know in new ways. It is at this point the researcher then invites audiences to imagine themselves in the places of others (in this case the young children) whilst simultaneously drawing attention to practical and theoretical points of learning and being reflexive of their own role in this process (Pink, 2015a). Importantly this open and ongoing conceptualisation of place allows for the drawing together of theory in the research process.

To conclude it is important to recognise the centrality of the senses to Pink's (2015a) understanding of ethnographic place. She makes the point that neurobiologists (e.g. Newell and Shams, 2007) alongside Ingold's (2000) interpretation of the senses as inseparable and interconnected invites us to understand, '*... that our perception of*

social, material and intangible elements of our environments are not dominated by one sensory modality.' (Pink, 2015a, pg. 32)

Importantly for this research this means that in different contexts similar meanings are able to be expressed through different media and sensory modalities (Pink, 2015a). For example, when considering the use of video and the interrelated nature of the senses, it creates potential to imagine and empathetically engage with the children's sensory experiences (auditory, visual, haptic, proprioceptive, olfactory) via my own predominantly visual and auditory engagement with the FPV (Pink *et al.*, 2017). A reflection on this point and the role of empathy will be addressed in Chapter 7.

4.9 How ethnographic place allows me to re-conceptualise the video and photographs as children's expressions of their experiences

This theoretical understanding of place is useful as it enables me to reflexively begin to understand the FPV data that the children collected using GoPro and handheld cameras and subsequently the unfolding ethnographic representation that I, the children and consequently any potential audiences of my work are reproducing. This gives new resonance to the 'trace' that the GoPro camera produces as the child moves through space, differentiating it from a notion of capturing a context that might be imagined if one is involved in participant observations. As Pink (2015b, p. 243) puts it, FPV recordings '… *are both part of the ecology of place in which they are made and record* ***a trace through it****, rather than a view* ***of*** *it.'*

This allows me the opportunity to consider the GoPro camera (and consequently the FPV it produces) as implicated in the entanglement of place and how an understanding of this reveals a different conceptualisation of the status of the film (and photographs) that the children created (Pink, 2015b). By this notion ethnographic places are not fieldwork locations but rather the entanglement through which ethnographic knowing occurs (Pink and Morgan, 2013). Pink (2015b, p. 245), drawing on Ingold (2008) conceptualises place as '… *the movement of persons, things, the intangible flows of energy, the weather, sunlight, and of emotions.'* When considered in this light, I propose the FPV recorded on a chest mounted GoPro can be considered as capturing a trace of a child's emplaced experience as he/she progresses through the museum. I suggest, drawing on Pink (2015b), this can be explained in these terms: as the child is wearing the GoPro and carrying the handheld camera they too can be considered as part of, or entangled in (Ingold, 2008), the ecology of the places that the child is moving through. The trace produced by the FPV is, therefore, not providing a view of the context, rather they are considered as part of the child's emplacement as they move '… ***through*** *and* ***in*** *the world*' (Pink, 2015b: 246). This point enables me to consider the FPV trace, like the children's photographs, as an expression of the individual child's in the moment lived experience, in other words, one of their 'hundred languages' (Cagliari *et al.*, 2016) (See section 3.3). I suggest this expression is nuanced, rich and multi-levelled. Furthermore, it can be considered as an expression because the child is instrumental in creating the video as it is his/her body that is causing the camera to move with them and concurrently record a trace of their experience.

To conclude, when considering myself as also entangled in 'ethnographic place', then I can begin to reflexively consider how my own sensory engagement with this trace contributes to the representations presented in this thesis. Considering the trace as an expression of the child and an appreciation of ethnographic place as open and ongoing allows me to now address the contribution of an IPA approach to FPME.

4.10 Interpretative Phenomenological Analysis

Considering this thesis, and the work that came before it, as part of an 'open' ethnographic place, allows me to draw on IPA as an approach to exploring the children's expressions of their lived experiences. The reason for incorporating IPA into the methodology is that I require, during the data analysis phase of this project, an approach that would enable me to get as close as possible to the experiences of the children. The three main commitments of IPA are 'giving voice', 'making sense' and seeking an insider's perspective (Noon, 2018). These commitments sit comfortably with the aims of this research and the requirements of FPME which are to reveal as much as possible of the experiences of the young children during their museum visits from their perspectives. IPA provides an approach to the engagement with these data that is not commonly associated with educational research or indeed young children. However, my belief is that IPA can be harnessed to allow a close and sensitive analysis of the children's expressions via the FPV trace, photographs and photo-elicitation interviews. My reflections on the implementation of this approach will be discussed in Chapter 7. I will now address in more detail how I propose IPA can be used to explore young children's museum experiences.

4.11 Can IPA be used to explore the lived experiences of young children?

IPA is most commonly used to explore experiences that have great significance in a person's life such as an experience of a major health issue (Smith, Flowers and Larkin, 2012). IPA could then be applied to an analysis of the patients' reflections on this experience. Less commonly, it can also be used to explore the flow of everyday experience or the lifeworld of an individual (Smith, Larkin and Flowers, 2009). More recently Noon (2018) argued that it is appropriate to use IPA in educational research. In particular he recognised that it allows an appreciation of subjective experience as data and is particularly useful for exploring the novelty of an individual's experiences and how they are meaningful to them. According to Noon (2018, p. 80) this form of analysis is capable of revealing the *'... subtle, intimate, and nuanced accounts of teaching and learning experiences from the standpoint of those experiencing it.*' These comments align with the three RQs which seek to reveal the rich and intimate experiences of six young children during their family museum visits.

Noon (2018) further contends that it may be a particularly useful methodology to research individuals whose voices may otherwise go unheard. He specifically excludes young children from this list on the basis that their language ability is too much of a barrier to producing rich data. Based on my conceptualisation of FPV as a child's expression of their experience (see section 4.9) and the richness of data that it provides (Burbank, McGregor and Wild, 2018), I suggest that in combination with photo-elicitation, IPA can be used as an approach to examine the experiences of young children during their museum visits. I will now outline the central tenets of

IPA (phenomenology, hermeneutics and idiography) with reference to the overall aims of FPME and this thesis.

4.12 Phenomenology

Ethnographic place which is central to FPME is underpinned by understandings of how people experience the world. For example, Ingold's (2008) ideas of entanglement and lives lived along lines draws on the phenomenological ideas of Heidegger and Merleau-Ponty to provide an explanation for how people experience life as part of the environment rather than separate from it. This resonates with IPA's commitment that sees an understanding of experience '*... as a lived process*, *an unfurling of perspectives and meanings, which are unique to the person's embodied and situated relationship to the world*' (Smith, Larkin and Flowers, 2009 pg. 21). As such IPA is dedicated to giving respondents the opportunity to tell their own stories in their own words. As Noon (2018) puts it, participants are considered as experiential experts. IPA also makes a commitment to the person's situated relationship to the world, and as such, is not merely descriptive but necessarily interpretative. Researchers are therefore required to: '*present an interpretative account of what it means for respondents to have such experiences, within their particular context.*' (Noon, 2018, pg. 75)

This sits well with FPME's aim to get as close as possible to the young children's experiences of their museum visits.

4.13 Hermeneutics

Hermeneutics and phenomenology meet when Heidegger describes phenomenology as a hermeneutic endeavour (Smith, Larkin and Flowers, 2009). Hermeneutics '… *means the theory, or rather the practice or art of interpretation*' (Dallmayr, 2009, pg. 9). To attempt to explore an insider (or emic) perspective hermeneutics requires a double hermeneutic. This means that the participant is trying to make sense of their own experiences and at the same time the researcher has to make sense of the participant's articulations of their personal and social world (Noon, 2018). As this process is inevitably filtered by the researcher's own preconceptions, IPA recognises that it is impossible to gain a true account of the perspectives of the personal world of another. IPA's objective is therefore to provide an account that is as close as possible to the respondent's view as possible (Noon, 2018) which fits comfortably with the aims of this research and the requirements of FPME. The hermeneutic circle is also of importance here. It is concerned with the dynamic relationship between the part and the whole (Smith, Larkin and Flowers, 2009). In terms of IPA's hermeneutic process this means that we may move back and forth through a range of ways of thinking about the data before reaching any final conclusions. In other words, IPAs process of analysis is iterative. The richness of the FPV and photo-elicitation data demands this iterative approach and the fact that I can revisit the children's FPV traces over a long period of time will, I suggest, allow for this approach to mature.

4.14 Idiography

Idiography is concerned with the particular. This is in contrast to an overarching concern of making nomothetic claims or general laws about group level behaviour. This focus on the particular operates on two levels. The first is a concern for detail and therefore depth of analysis. The second is a commitment to understanding how experiential phenomena have been understood from the perspective of particular people in a particular context. It '*... emphasises detailed and in depth examinations of how individual persons in their unique contexts make sense'* of their lifeworlds (Noon, 2018, pg. 76).

As such IPA utilises small, purposively sampled and carefully situated samples. This is reflected in the present study by the small sample of six four and five-year-old children who are all visiting a museum for an unstructured family visit. IPA does not reject generalisations though, it locates them in the particular and consequently develops them cautiously (Smith, Larkin and Flowers, 2009).

In combination I propose that the foundations of IPA provide me with an appropriate analytical philosophy that allows me to both foreground each individual child's voice, and rooted in this endeavour, look for commonalities across the cases. IPA provides a flexible set of guidelines to analysis that can be adapted by researchers in accordance with their research objective (Smith, Flowers and Larkin, 2012). Drawing on Noon's (2018) IPA study I will outline in detail the analytical steps I

took in sections 4.21 to 4.33. I will now turn to the practical elements of the research beginning with a description of each research site.

4.15 The research locations

The research took place in three museums located in a University city in southern England. One was a museum of art and archaeology (Museum A), one was a museum of natural history (Museum B) and one was a museum of children's literature (Museum C).

A) Museum of art and archaeology

Museum A houses a University's art and archaeology collections. Its extensive and eclectic collections include antiquities, Eastern art, Western art, coins and casts. It is a large museum built in a classical style, consisting of large open corridors, small rooms, large rooms, free standing glass display cases, casts, busts, figurines and paintings distributed over 4 floors. It is extensive and labyrinthine, in comparison to the concentric design of Museum B. It is free to enter the museum's main exhibitions. It has a large café area and shop. The museum exhibition spaces are predominantly designed for adult visitors, however it does have an art area on the ground floor and a number of trail sheets available at reception for the use of children.

B) Museum of natural history

The museum houses extensive collections that include objects that relate to palaeontology, zoology, mineralogy and petrology and a small collection of paintings and sculpture that relate to natural history. Entry to the museum is free. The museum's building is a striking example of Victorian neo-Gothic architecture, with a glass and iron roof, and a square main court. The main court contains rows of free-standing cases containing zoological and paleontological specimens, a parade of animal skeletons on the north side, life-size dinosaur casts to the south and a number of free-standing touch exhibits. The main court, behind the columns, is circled by a corridor lined with display cases. The upper floor is reached by climbing either of two large stone staircases and consists of a balcony area that is lined with display cases, the museum's only diorama and a small room containing a working beehive that can be viewed inside a wood and glass case. It is a child facing museum in many ways with numerous touch exhibits, several touch screens and trails available that are designed for children.

C) Museum of children's literature

Museum C is a small museum that is dedicated to children's literature. It is housed in an old converted telephone exchange and is distributed over three floors. The exhibition spaces are entered from a small courtyard, through a door, leading to a small hallway at the bottom of a large flight of stairs. Each floor consists of corridors connecting a number of small rooms which sometimes themselves connect to other rooms. Each of these rooms is dedicated to a theme that relates to children's literature. For example, one room has a huge bed as its centrepiece, another houses

smaller exhibits that relate to animals represented in children's literature. The museum has an intimate yet warren like feel for the first-time visitor and there are only a few clear lines of sight. Although marketed to all ages the museum's spaces are primarily designed for children. The museum's shop and café are separate from the exhibition spaces.

4.16 Participant recruitment

The six children were recruited purposively because they were in the correct age bracket (four and five years of age) and were members of a family group rather than part of an organised visit such as a school trip. I originally collected data for twenty-eight children but I chose to focus on six individuals as this provided me with sufficient breadth to allow an in depth investigation of young children's museum experiences. This also allowed sufficient focus to ensure that I remained able to commit to a thorough analysis of each individual's experiences therefore remaining loyal to IPA's idiographic commitment (Noon, 2018).

I considered the sample to be typical, but not necessarily representative (Bryman, 2015) of the circumstances and conditions of children's unstructured family museum visits in the three museums. They were also English speaking. This was to ensure that the sample was relatively homogenous which is necessary for a study employing IPA as an approach to analysis (Smith, Larkin and Flowers, 2009). Because the sampling was necessarily opportunistic there were also elements of the sample that were contrasting. For example, each child visited with a different family composition (numbers and sex of siblings, grandparents, father, mother) and visit length. In

addition, the children visited 3 different museum contexts. I deliberately selected two from each museum. When narrowing the sample, I considered these contrasts a strength of the sample rather than a weakness as identifying commonalities between them might have potential to lead to better understanding of a larger variety of cases (Smith, Larkin and Flowers, 2009). There were other things I considered when selecting my sample of six. I also considered the quality of FPV footage, for example there were a few occasions when the parent turned off the camera for short periods, so I excluded these visits. I also excluded visits where the children were visiting with friends as based on my experiences during the pilot phase this affected their behaviour (Burbank, McGregor and Wild, 2018).

Table 4.2. A table summarising key details about the six participants including family composition.

Participant	Gender	Children's Ethnicity	Museum context	Age	Visit length	Photographs	Interview length (mins)	Family composition	Visit history	Visit day
Edward	Male	White British	Museum A	4 years 1 month	42 mins	87	6	Mum and sister (11 years)	First time	School holidays
Sophia	Female	British Asian (Muslim)	Museum A	4 years 0 months	2 hrs 5 mins (50 mins in exhibitions)	46	7	Dad	Visited before	School holidays
Bill	Male	White British	Museum B	5 years 6 months	1hr 8 mins	37	9	Dad and two twin sisters (3 years)	First time	School holidays
Noel	Male	White British	Museum B	5 years 1 month	51 mins	166	16	Grandparents	First time	School holidays
Una	Female	White British	Museum C	5 years 3 months	1hr 9 mins	10	10	Dad, mum, baby sister, aunt, uncle, male cousin (14 years), female cousin, (12 years) and male cousin (9)	Visited before	School holidays
Wilbur	Male	White British	Museum C	4 years 6 months	37 mins	31	8	Mum and baby sister	First time	School holidays

Recruitment was conducted on the day, as visitors arrived at the museum during a school holiday period. As this study is concerned with the 'everyday' nature of museum visits there was no prior contact with participants before their arrival at the museum. This minimised any researcher or project influence as to the 'right way' to

conduct themselves during their visit and contributed to making the visit as naturalistic as possible, in terms of preparation at least.

In order to avoid exerting any pressure on visitors to take part, a flier detailing the nature of the research was given out to adults (accompanying children in the appropriate age group) at reception by a member of the museum staff, not the researcher. If interested in taking part visitors could then approach the researcher in a clearly signposted room. It was vital that the children were comfortable with taking part and careful consideration was taken in terms of explaining what the research entailed and that they were free to opt out at any time. Age-appropriate language was used in order to explain to the children the nature of the research. Due to the age of the children any signs of non-verbal dissent were also carefully considered (Yamada-Rice, 2014; Robson, 2011), and acted upon if necessary. For example, there were a few times after initial recruitment took place, when parents were keen for their children to participate, however the children themselves appeared reluctant (e.g. looking slightly forlorn or uneasy). In this situation the researcher discouraged the family group from taking part. However, these times were rare as the children seemed very keen to use the handheld cameras and wear the chest mounted GoPro cameras. Enthusiasm for the use of digital equipment by young children in research has also been noted by Dockett et al. (2011) who suggests this may reflect the novelty of the experience (Punch, 2002) and the pleasure of using the equipment (Hill, 2006). I will now detail the research tools used by the children. It was made clear to the children and their families that they would be free to explore the entire museum and they were treated just like any other visitors by the museum staff.

4.17 Handheld cameras

The Fisher-Price kid-tough™ handheld camera (Figure 4.1) that I used had to meet certain criteria. It was advertised as child-friendly and straightforward to use in terms of operation and sufficiently robust to withstand the rigours of young children's use. It also had to have the capacity to operate in low-light and enable the child to take as many photographs as they like within the time frame of the visit and be easily downloadable onto my laptop computer after the visit. Once accompanying adults had agreed to take part and the children had been screened for signs of assent/dissent, I demonstrated to the children how they might use the cameras.

Figure 4.1 Images of the Fisher-Price kid-tough™ handheld camera

4.18 Chest-mounted GoPro Hero Session 4™ FPV cameras

These cameras were small (3.5 cm^3) and light (74 grams). They were attached to the children using the GoPro chest harness dubbed 'chesty'. A diagram of this attachment and its adjustable straps can be found on page 85 of the manual (link provided below). The attachment proved comfortable for the children over the time of the visit and enabled the camera to be securely mounted at a consistent height on the torso of each child. The children and adults were told that they could turn the cameras off and then back on again (and shown how to) at any time during their visit. A chest-mounted camera provides a front-facing view that is below eye and ear level and does not account for head or eye movement. Therefore, it cannot be assumed that the camera shows what the child sees or hears, although at times it can be assumed that it is a rough approximation (Burbank, McGregor and Wild, 2018). There has been a recent study by Greenslit, Price and Malone (2021) who suggest that adults' mobile eye-tracking data in an art museum roughly maps onto what they self-reported as engaging with the most. Although this is not directly equatable to chest-mounted GoPros it supports the supposition that the view gives an impression of what the children themselves are engaging with. For example, Land (2004; 2006) has demonstrated that for gaze rotations (the movement of an individual's line of sight on the horizontal plane) greater than 140° the trunk (with camera attached to the chest) has to become involved. In the case of freely moving participants (as opposed to those, for example, sitting in a car seat), especially during locomotion, trunk turns can occur with gaze rotations of any amplitude. On the horizontal plane, however, the eyes are capable of rotating ±50° and the neck can turn the head through about ±90°. It should also be appreciated that eyes rotate faster than the

head, and the head faster than the body (Land, 2006) meaning that the child's gaze is likely to have reached its target before the camera fixed to the front of the trunk catches up. The GoPro camera provides a surprisingly wide view of the scene in front of a child and is effective in low light. The audio is clear and crisp, although there are times when voices fade in and out as people move away or towards the camera. However, when a child moves close to an object the view can be obscured. For example when a child climbs onto something or sits down at a table the view can be less than ideal (Burbank, McGregor and Wild, 2018)

The full specification/manual can be found using this link:

https://gopro.com/content/dam/help/hero4-session/manuals/UM-A_H4Session_ENG_REVD_WEB.pdf

4.19 Photo-elicitation interviews

Once visits were completed participants were asked to return the equipment and spend a short time discussing their visits with the researcher in the research base. For each of the museums this was a private room that was separate from the main museum exhibitions. This had two advantages, first that it avoided the problem that Kirk (2014) reported: children talking about things they could see or were close by to her interview station in the museum's exhibitions. Second, that it was quiet and free from the distractions of the museums' public spaces.

These interviews were semi-structured in the sense that before each interview began, I asked the accompanying parents a series of brief questions. These were:

Have you visited the museum before?

Do you regularly visit museums with your child/children?

What is your ethnicity?

In addition, during each interview I asked each child the following questions.

What did you enjoy most about your visit?

Did you take all the photographs yourself?

Would you like to return to the museum?

Other than the above, the interviews were deliberately driven by the children and their photographs: the children decide what to photograph and therefore in theory what to talk about. As a result the questions that I asked the child were intentionally adapted to the photographs rather than the other way around (Einarsdottir, 2005). This was to encourage the children to talk about their experiences of the museum rather than be overly driven by my own interests. I was mindful of avoiding asking questions such as '*why did you take this?*', instead opting for more open questions such as '*what do you think about this?*'. The reason being because this approach is less reliant on children's memories (Kirk, 2014). In the reality of the interview situation, I was surprised to hear myself occasionally slipping back into a more directive style of questioning or occasionally interrupting the children even though I was mindful not to. As a researcher in training this brought home to me the level of

expertise and sensitivity needed to interview young children. When appropriate during the interview (and immediately afterwards) I also noted down any body language or other points that I thought might be important. For example whether the children seemed tired or uncomfortable.

This approach also aligns with IPA which suggests open, non directive questions and an adaptive approach that allows the conversation to be led by the participants rather than the researcher (Noon, 2018).

4.20 Ethical considerations

Morrow and Richards (1996, pg. 90) outline research ethics '*... as a set of moral principles and rules of conduct'* rather than a set of obstacles to be overcome before a research project begins (Robson, 2011). It is from this viewpoint, and with the ethical concern that children should be provided with methods that allow them to freely express their viewpoints (UN, 1991), that I approached achieving University ethical clearance for this research project (See Appendix 7). It is also with a recognition that the main differences between adults and children are with respect to both ability and power. As will be made clear it was important to provide explanations for children that are adapted to their linguistic abilities. This included checks and repetitions for the young children in this study (Hill, 2005). In terms of power '*...adults are ascribed authority over children who often find it difficult to dissent or say things they fear may be unacceptable.'* As such it is especially important to ensure that children are not pressurised into taking part in studies without an understanding of the implications (Hill, 2005, pg. 63).

With these points in mind there have been a number of ethical considerations concerning participant recruitment already covered in section 4.16. I took gaining adults' consent and children's assent very seriously and I provided the participants with opportunities at every juncture (before, during and after) to stop their participation at any time without having to justify their withdrawal. If interested in taking part in the research the adults and children were given information sheets. To achieve University ethical clearance I had to provide written information sheets for the children. After the pilot phase it became clear that due to the linguistic ability of this age group these sheets needed to be primarily pictoral so as not to confuse the children with too much information (Robson, 2011). In addition I verbalised the main points on both these sheets with each of the participants to mitigate any problems with comprehension. If, after perusing the information sheets all the parties indicated that they still wanted to take part then I asked the adults to read the consent form. At this point I did not ask them to sign the form. I did ask both the children and the adults for their verbal assent/consent. Please see section 4.16 for more detail. After their visit and after the children took part in photo-elicitation interviews I then asked the adults to sign the consent forms, making it clear that they are under no obligation to do so. I also let the parties know that they could withdraw their consent by contacting me at any time over the next two weeks without having to give any reason why they wanted to do so.

There were also important issues of anonymity that I needed to address. Any research in a public space using video or photography raises issues concerning whether the wider public should be aware about whether or not they are being

observed. As both video and photography was being used then there was potentially information caught on camera that could be used to identify individual's. As a result I put up a sign at the entrance of each of the museums indicating that a research project was taking place and that it is possible that they may be caught on camera. It was therefore the individual's choice whether or not to enter the museum. I made it clear that if any member of the public wanted to find out more about the research then they could speak with me directly. I also made it clear that any identifiable features recorded, for example faces, would be anonymised if used in any publications. This assurance of anonymity extended to the participants themselves and in the consent form it was made clear that there would be no identifiable information used in any publication. For example faces would be blurred and pseudonyms used to protect the identity of any participants. It was also made clear that the data collected would only be viewed or listened to in its raw form by the myself and my two supervisors. The participants were also able to request to see the video data if they contacted the researcher up to forty-eight hours after their visit. Interestingly no participants decided to do this.

The researcher was in possession of a current enhanced DBS check, although this was not strictly needed as there was no time when he was alone with any of the children as they were accompanied by their parents at all times.

4.21 Process of analysis

In the existing literature IPA has not prescribed a singular method for working with data, instead there is a healthy flexibility in the iterative, creative and inductive process of trying to understand a participant's experience (Smith, Larkin and Flowers, 2009). As Noon (2018, pg. 77) points out '*Analysis is fluid, iterative and multi-directional.*' However, for the sake of clarity and following Noon (2018) and Smith, Larkin and Flowers (Smith, Larkin and Flowers, 2009) I will divide my approach into distinct stages which I will address below. See Appendix 8 for a flow chart illustrating this process. My first step (logging stage) was to familiarise myself with these data with the view to getting to know it intimately. The FPV data was unedited as I wanted to work with the children's expressions of their entire visit. This meant that I was working with a large volume of data which included FPV footage (6 hours and 32 minutes), photographs (377) and interview recordings (56 minutes) so this first step was an essential way in. As Jewitt (2012, pg 18) suggests '*This is particularly important as video can be time consuming to watch and review…*'. I will return to the video logging process in section 4.24.

4.22 Interview transcription

Transcription proved to be a valuable process as it provided me with the opportunity to immerse myself in these data and by this process re-engage with my time in the field and with the participants. This is in recognition that research texts such as audio-recordings are evocative of the emplaced encounter that I myself experienced

during the interview (Pink, 2015a). This allowed me to reconnect with the affective and sensory dimensions of my own experience thus renewing my connection with the research context (Pink, 2015a). This was especially useful when considering the interview data in light of the children's FPV footage as it allowed me to reflect on the impact of my presence on their behaviour.

4.23 Photograph logging

The next stage of preparing these data was to log the photographs. This meant going through each photograph and noting its contents and when it was taken. The actual time points that each photograph was taken is noted in each of the FPV (Elan) transcripts that will be discussed in section 4.25.

4.24 Video logging

I then created a video log in order to familiarise myself with the large corpus of FPV footage (Flewitt, 2006; Jewitt, 2012).

I began by watching and re-watching the FPV footage with and without sound as this enabled me to focus more effectively on the non-verbal aspects of the children's communication (Flewitt, 2006). I was acutely aware that a risk of reducing the video in this way was to prioritise particular episodes as important over others. So, instead of this first log being considered a finished article, it developed into a working document that I used to navigate my way around the video, and at the beginning of

the analysis process, annotate with my developing thoughts. Because of the open nature of the research questions, I approached this with an inductive mindset which involved viewing the video footage repeatedly and noting what at the time were salient moments. By inductive I mean as far as is possible (it is inevitable that I will be to some extent influenced by my reading) view the video data without any preconceived analytical focus, and in repeated depth, thus identifying key moments of importance (Jewitt, 2012). This approach is considered most apt when working '*... with 'raw' data sets that have been collected with broad questions in mind...*' (Jewitt, 2012, pg. 19). There were some occasions where I was able to share these with my supervisors for a second opinion, however for the most part this was done alone.

In short it provided a concise overview of the (FPV) video footage (Flewitt, 2006). See Appendix 1 for an extract of this video log.

4.25 Transcription using Elan™ software

I consider transcription to be an essentially descriptive activity (Hackett, 2014a), however one that involves choices that will inevitably shape the affordances of the data including how the participants actions are interpreted (Bezemer and Mavers, 2011; Cowan, 2014; Cowan, 2018). This understanding of transcription draws on the epistemological position that social research reconstructs reality and therefore interpretation is unavoidable (Law, 2004). For these reasons, I will be explicit about the choices that I made concerning transcription.

Elan is free software developed by the Max Planck Institute and is an annotation tool for audio and video recordings. An annotated example of this can be found in F4.2 below. What was particularly valuable for me is that it allowed me to produce multiple layers (tiers) of transcription that could be viewed on a horizontal timeline that synchronised with the video footage. This allowed me to account for the different affordances of the video and variety of means by which the children communicate (Cagliari *et al.*, 2016). It also had provision to speed up or slow down the video footage so that fragments could be watched and considered repeatedly allowing my empathetic engagement with the children's expressions to develop over time. Elan however is limited in terms of its outputs. For example, not providing clear representations of the transcript and video running in tandem. For this reason researchers have often either remade their transcripts in other ways or, as I have done, provided Elan screenshots as transcripts (Cowan, 2018; Mondada, 2007).

My next decision was to decide what to transcribe. My choice of tiers was underpinned firstly by the attributes of the trace itself, that I gleaned from my previous work with it (Burbank, McGregor and Wild, 2018) and secondly by my aim to bring to the fore discernible aspects of the 'hundred' languages (Cagliari *et al.*, 2016) that children use to communicate their experiences. For example, I could not transcribe facial expressions as these were not visible other than during infrequent fragments when a participant's reflection could be seen in a mirror or a reflective surface such as display case glass. As a starting point I considered a framework developed by Taylor (2014), and its adaptation by Marsh (2017) to transcribe chest-mounted GoPro camera footage of children's tablet use. The categories that she uses are vocalisations, action, posture/proxemics and haptics and material objects. I decided that this required further adaptation and flexibility considering the

requirements of the methodology and that the video footage was embedded in Elan. The tiers that I decided to transcribe were:

i) Vocalisations. Including instances of self-talk. This also included the vocalisations of accompanying adults, siblings or other visitors if appropriate

ii) I also included movement as a general category. Within this category I include both locomotion in all its forms and also haptic interaction and proximity to things. The reason for including a category of movement is the primacy given to movement as a mode of communication in the work of Hackett (2016) and in the conceptualisation of ethnographic place (Pink, 2015b) as discussed in chapters 2 and 3. Although the material environment was often noted in this tier I felt that I would not include a separate category of material objects, as this would be apparent from the video footage itself that plays in tandem to the transcribed tiers

iii) Affective reactions. I included affective reactions as a result of my initial experiences with the FPV data, combined with the recognition that this is an underexplored (yet important part) of young children's museum experiences (see Chapter 2). This is combined with an understanding that empathetic engagement with FPV can evoke both sensory and affective memories even if you were not actually present (Sumartojo and Pink, 2018)

iv) I also included a separate tier in which I noted the specific point in time that a child took a photograph

An example of an Elan transcription is shown in Figure 4.2 below.

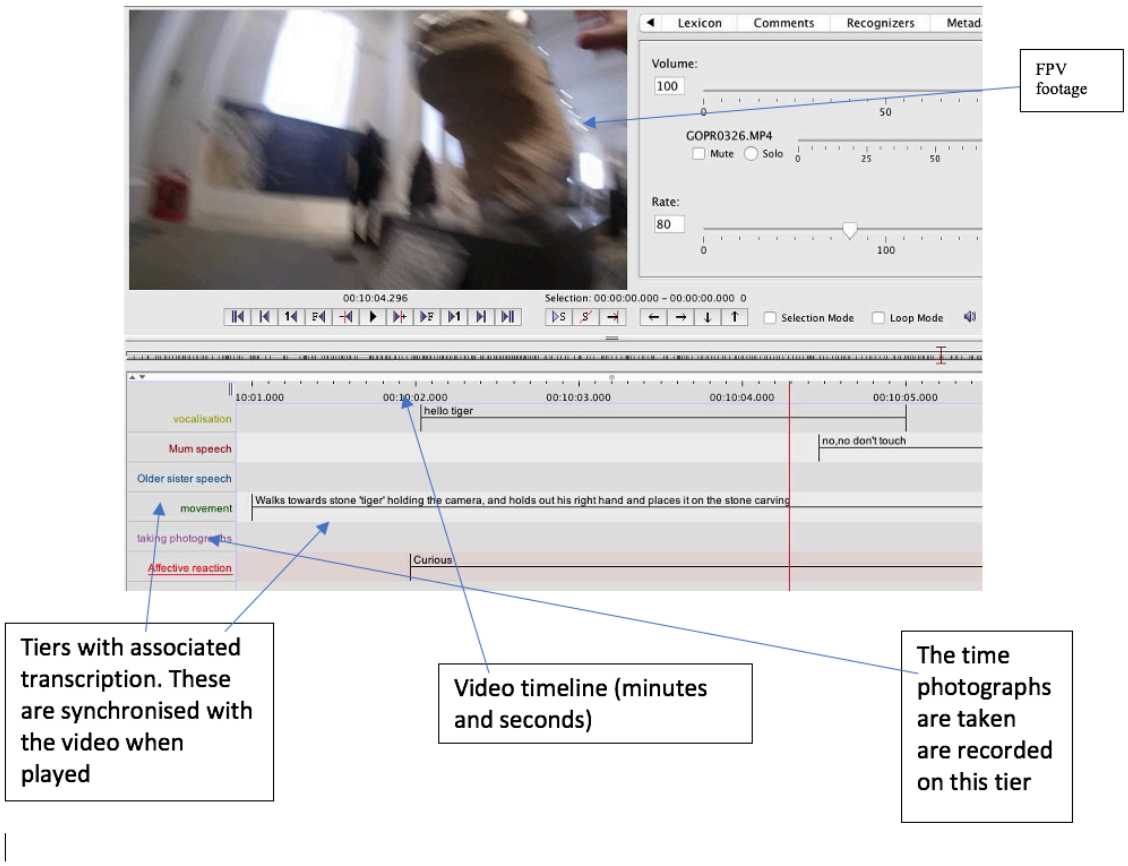


Figure 4.2: A screenshot of the Elan transcription software

Dividing the trace up into categories was a pragmatic attempt to get closer to these data with the view of revealing patterns that might otherwise remain unseen (Jewitt, Bezemer and O'Halloran, 2016). For example, viewing the video with the sound off and considering a child's potential gaze direction allowed me to consider the

important role that this sense plays, alongside movement in a child's exploration of space. Each transcript was viewed with the FPV in Elan as a means to contextualise the tiers and allow the potential of FPV for emplaced intersubjectivity to remain at the forefront of the project.

4.26 Movement maps

Drawing on Hackett's (2014b; 2016) work I developed maps which provided a visual representation of the children's paths of movement. This was with the view that movement is an important aspect of the children's communication with others and place-making as they move through space (Hackett, 2016; Cagliari *et al.*, 2016; Pink, 2015a). Therefore, producing a visual artefact might act as a heuristic to help me understand the children's communications (Hackett, 2014a). As Cowan (2018, pg. 130) points out, although Elan supports close attention to the episodes of video, they are '*... limited in their scope for examining and representing children's placement in space.*' Due to time constraints, it was impractical to produce movement maps for the entirety of a child's visit, so I decided to transcribe fragments of the children's visits that my note taking and subsequent coding had established as salient to the children and that I thought might help illuminate aspects of the children's communication. I will address the point of saliency further in section 4.29. The maps were created by re-watching the FPV, slowing it down in order to help me map the children's movement more efficiently. A black line representing the children's movement through space was then added to a base map. In order to aid clarity, I added red chevrons to mark direction of travel and orange dashes to denote times when the children paused. These maps were annotated with

significant landmarks in the spaces they moved through to give an impression of the architecture and the content of spaces themselves. As also noted by Cowan (2018) and Hackett (2014a) the children often retraced their steps, meaning that the lines were sometimes layered over the top of themselves. My view was that this thickening of the lines, although obscuring their exact paths, illustrated the children's sometimes repetitive movement and in turn communicating something of their experiences. For this reason, I did not see this as problematic. See movement maps in Chapter 5 and the example below (F4.3) for further details.

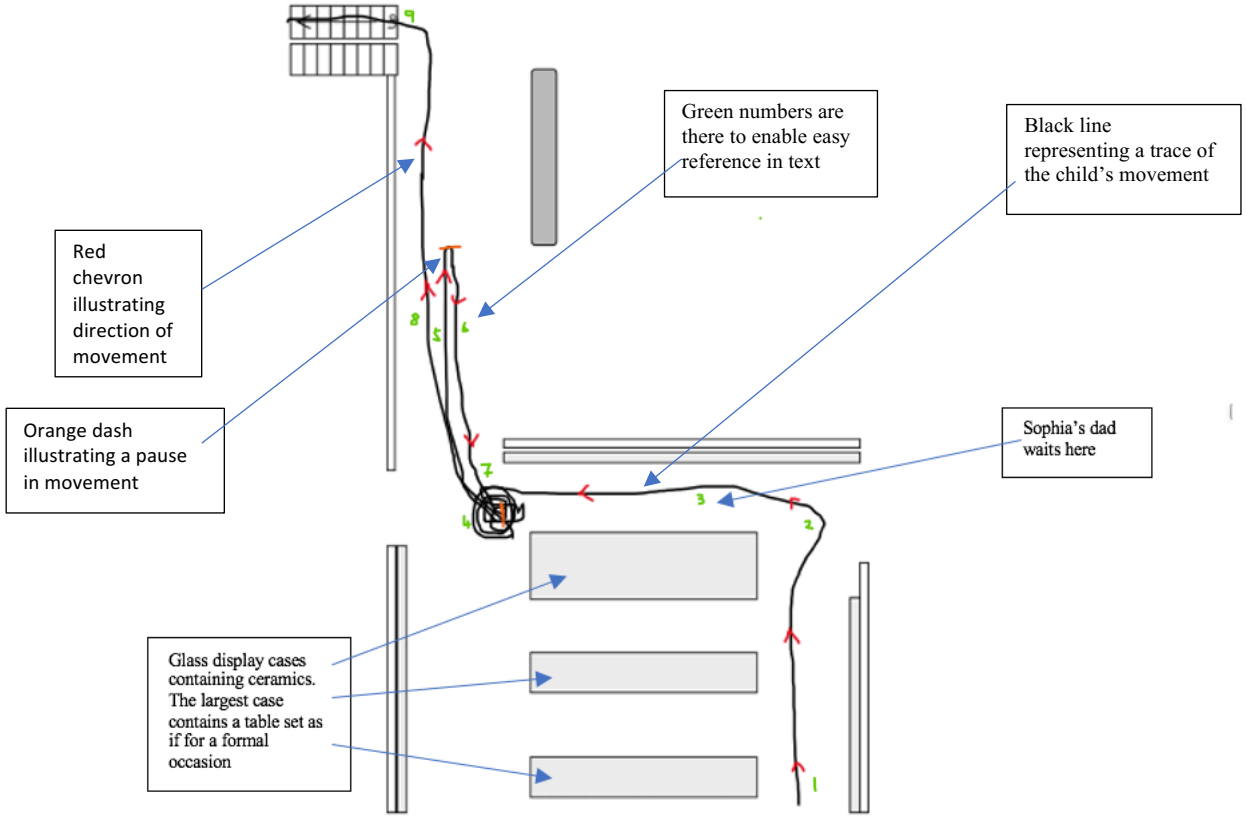


Figure 4.3: Sophia's movement map with added annotations to aid interpretation.

As I was not transcribing the entire visits, I had to choose episodes of video to transcribe in the form of maps. Doing this was difficult because almost all elements of the video were potentially of interest. As a result, it became clear that I needed to have some process to this decision. First, I discounted transcribing parts of the video from which it was difficult to accurately discern the children's movement. Second, drawing on the phase of my analysis when I began to establish commonalities of movement between participants, I purposively selected episodes that were illustrative of these themes, one from each of the individuals. Piantanida and Garman (2009) make the point that as familiarity with stable records increase then some episodes will begin to emerge as more significant or interesting than others. It was on this basis that the six episodes selected for mapping were determined.

4.27 Defining affective reactions

As highlighted in the literature review (Chapter 2) the emotions that are attributed to young children are rarely defined in studies focussed on young children's museum experiences. Yet they are also an integral part of a young child's visit experiences. This is consistent with Scheff's (2015, pg. 111) point that *'... the meaning of the words that refer to emotion are so confused that we hardly know what we are talking about.*' Scheff (ibid) goes on to say that both lay and experts disagree on almost everything regarding emotions and emotional terms in English are '*... wildly ambiguous.*' The reason for this is because emotions are such subjective entities that they are difficult to define. Scheff (ibid) makes the point that because of the chaos of emotional language in both vernacular and academic fields then it is worth first looking to one's own emotions to begin a process of understanding. This point

chimes with my analytical starting point: my own empathetic engagement with the children's experiences.

It is with this sense of empathetic introspection that I began transcribing my interpretations of the children's emotions. This also, in part, involved an empathetic connection between myself and the children's expressions on the FPV. This could be based on any or a combination of tone (or timbre) of a child's voice, their movement, or rate of breathing. In order to provide some transparency, I will provide a table of definitions (see Table) from which I base my engagement with the most salient affective reactions that emerged from the analysis. However, recognising that emotions differ in valence (for example), in the text of Chapters 5 and 6 in particular, I attempt to be explicit in my descriptions in order to connect the reader more closely to the affective reactions of the children.

Table 4.3: Definitions of children's key affective reactions

Affective reaction	Definition
Wonder	a state of astonishment induced by a ' *...surprise* or *puzzlement about an object'* (Schmitt and Lahroodi, 2008, pg. 131)
Curiosity	'*A desire for information in the absence of intrinsic reward*' (Pekrun and Linnenbrink-Garcia, 2014, pg. 835)
Playfulness	'*The predisposition to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humour, and/or entertainment*' (Barnett, 2007, pg. 955)
Humour	'*Humour is a broad, multifaceted term that represents anything that people say or do that others perceive as funny and tends to make them laugh, as well as the mental processes that go into both creating and perceiving such an amusing stimulus, and also the emotional response of mirth involved in the enjoyment of it*' (Martin and Ford, 2018, pg. 3)
Impatience	*'... the extent to which a child nags or makes demands upon adults and cannot wait ...*' (Shure and Spivack, 2009, pg. 91)
Frustration	'*Irritable distress in response to limitation, exclusion, and failure (a state of dissatisfied insecurity)*' (Jeronimus and Laceulle, 2017, pg. 1)
Boredom	*'... the psychological state of dissatisfaction, frustration, or disinterest in response to low arousal.'* (Vogel-Walcutt *et al.* 2011, pg. 102)

4.28 Reading and note-taking

The next step in the analytical process was to get as close to the data as possible, so I again listened to the audio recordings while reading the transcriptions and watched the transcribed FPV in Elan. During this period, I began to make notes on my '... *thoughts, observations, and/or reflections*...' relating to the children's experiences (Noon, 2018, pg. 77). At this point there were no rules concerning what could or could not be commented on. It was important to go beyond description and not be satisfied with a 'light reading' where I see what I expect to see in the data (Smith, Larkin and Flowers, 2009). So, I considered not only what was said or how the children moved but also reflected on why they did so and what this tells me about the experience.

4.29 How specific episodes developed into points of analytical interest

It is important in a qualitative account of this nature to be explicit about how I alighted on specific episodes in the data that I used to illustrate my themes. As I said in the previous section there were no rules of engagement when I first encountered the data. It is of relevance here to first revisit the concept of ethnographic place and examine how this allows me to consider my entanglement with these data. As noted in section 4.8 ethnographic places are not the actual places experienced by the children during their visits. Instead, they are the places that are made by researchers such as myself as we communicate about our research (Pink, 2015a). As such they can be considered as both open and ongoing. Therefore, my analysis is much part of

the production of the ethnographic place represented in this thesis as the traces of the children's own experiences of place communicated by the FPV, photographs and interviews. Thinking of myself as entangled (Ingold, 2008) with these data allows me to consider the ways in which the research materials evoke a sensory and emotional sense (Pink *et al.*, 2017) of the children's embodied experiences. This emerges from my own empathetic and necessarily imaginative engagement with these data. Empathy, as Pink *et al.* (2017) point out is '*...a commonly used*, *but little interrogated term…it is sometimes used to describe what it means to put oneself in the shoes of another*'. There are issues with a simplistic assumption that empathy can be easily achieved. This can give rise to complacency and subsequently a closing down of the possibility of acknowledging differences between people. In recognition of this, and Ingold's (2000, pg. 106) words '*... that total empathy is as impossible to achieve as a perfect translation*', I adopted a different definition to describe the process by which I engaged with these data. The notion of empathy that I adopt does not suggest that I produce an objective piece of knowledge about others, rather it is an emergent outcome of my entanglement with the research materials that are in part created by the children. In order to get as close as possible to the children's own experiences my own emplacement therefore became entangled and negotiated with those of the research participants when I engaged with the research texts. By this I mean that my own imaginative engagement with the FPV trace (for example) leads me to draw on my own emplacement or memories of my emplacement in the museum to help me understand the children's. This leads me to consider why certain episodes became more salient to me than others. Janesick (2001) refers to creativity in qualitative research as like a dance between two people. While there are certain procedures involved in learning a dance routine (as I myself am outlining in terms of

my analysis), the performance itself between the two dancers (like my analysis) is essentially an act of creativity. Janesick (2001, pg. 533) suggests that '*the qualitative researcher may benefit from exercising creativity by being awake to the intuitive inclinations ever present in fieldwork*'. Maclure (2013, pp., pg. 228) makes a comparable point. She says there is often a fragment of data that seems to reach out from the corpus of the data which grabs our attention: *'... they exert a kind of fascination, and have a capacity to animate further thought.*' She calls this intensity of data '*a glow*'. Maclure (2013) continues to argue that we must recognise the invitation, and then it is the researcher's task to see where it leads. In a similar way my empathetic engagement with the children's expressions of their experiences provided me with certain moments when my intuition or indeed the 'glow' of the data drew me to certain episodes. Although inevitably influenced by my engagement with the literature, it is from this open starting point (Vasudevan, 2011) that themes began to emerge and develop. However, I made an effort to maintain a recognition of my own involvement as part of the process by which these moments are identified and eventually abstracted to produce academic knowledge.

I will now continue to outline the process of analysis used in this project.

4.30 Notes to emerging themes

I began to draw emergent themes from my notes as described earlier, rather than the transcripts themselves. This is supported by my increasing familiarity with the FPV, photographs and interview data. It is during this stage that I began to transform my initial annotations into more concise phrases. An example of my note taking that

emerged in relation to a developing pattern of movement that I describe as ‘a reluctance to move through doorways unaccompanied’ (see Chapter 7) is illustrated in Appendix 3 beneath a corresponding extract of Elan transcript. These initial themes represented a more advanced level of abstraction than the initial notes but remained rooted in the experiences of the individual (Noon, 2018). At this point in the analysis, I created movement maps as described above. See Figure 5.3.3 for the movement map that relates to this particular episode. In doing this I sometimes looked for polarization or oppositional relationships as this can sometimes help build understanding of the developing themes (Smith, Larkin and Flowers, 2009). For example, in relation to the ‘reluctance to move through doorways’ theme outlined in the table in Appendix 3 I noted that on some occasions Sophia walked confidently through doorways. However, this invariably occurred when she was closely shadowed by, or following her dad. This point made me consider Sophia’s experience in a slightly different light. It was not simply the architecture of the doorway that caused Sophia to pause, it was, by my interpretation, also because she lacked the confidence provided by the close proximity of her dad. Retrospectively and thinking reflexively, a reason why I might have been drawn to this particular conclusion may lie in my own experiences with children both in the capacity of a teacher and as a parent. One general observation I had made before conducting this research is that children are often to a certain degree, aware of the proximity of an adult when out in public. As an inexperienced parent or teacher, it is easy, because of your concern for their safety, to spend a lot of time making sure children are closely following you, when in fact it is often effective to back off a little and let the children do the chasing rather than the other way around.

4.31 Connecting themes

Following on from this I needed to connect themes within the analysis. This level of abstraction meant putting like with like and developing a name for a cluster (Smith, Larkin and Flowers, 2009). For example, as well as the theme 'a reluctance to move through doorways' emerging, I also developed a theme called 'invisible ties' which referred to Sophia keeping a close eye on the whereabouts of her dad more generally in the exhibitions. This theme in fact was a super-ordinate theme in relation to the first in the sense that the first was a specific instance (e.g. by my interpretation prompted by the architecture of the doorway) in which the super-ordinate theme tended to occur. A number of patterns of movement occurred that I interpreted as salient to the children's experience and eventually they were subsumed under the super-ordinate heading 'patterns of movement'. As an example, see Appendix 4 for the completed table of themes developed for Sophia.

4.32 Moving onto the next case

The next step was to move on to the next of the six cases and repeat the process above. It was important to treat each subsequent case on its own terms and this meant bracketing any ideas emerging from the analysis of the previous case (Smith, Larkin and Flowers, 2009). It is inevitable that my thinking here was influenced by the themes that developed from the previous case/cases. That said I made a conscious effort to bracket my previous thinking as I moved on to each subsequent case (Noon, 2018).

4.33 Looking for commonalities across cases

Once each case had been analysed, I reviewed the table of themes that I developed for each individual and looked for commonalities across these categories. This involved thinking about how a theme in one case illuminated another. I was looking to see what connections there were between cases and which themes were most potent. Smith and Osborne (2008) suggest that themes should not be selected purely on their prevalence in the data but also on the way in which a theme illuminates another case. I illustrate this approach with reference to the example of the commonality 'synchronisation of movement and vocalisations' shown in Appendix 5. Although the children were not always doing this, this theme particularly stood out to me in relation to first Sophia channelling her impatience into movement and chanting and Bill circling a display case while rhythmically humming in time to his movement. Both these cases made me look more closely at the instances of similar movement that I had identified in the other cases. In other words, they illuminated and drew attention to examples of this theme occurring in the other cases. Clearly each of these instances (as illustrated in Chapter 5) are idiosyncratic, but they also have a shared higher order quality. This dual quality of unique individual experience and shared higher order correspondences is, as Smith, Flowers and Larkin (2009) point out, the hallmark of a good IPA.

4.34 Summary

This chapter has set out the novel methodology FPME, clearly delineating the theoretical building blocks which create the whole. It combines the use of elements of a focused ethnography such as data collection intensity and short term engagement in the field with Pink's (2015a) theorisation of ethnographic place. This combined with Malaguzzi's (Cagliari *et al.*, 2016) concept of a hundred languages allows me to conceptualise the FPV and photographs as expressions of the children. This in turn allows me to trial the novel use of IPA as an approach guiding the analysis of these data. IPA's idiographic foundations promote a focus on the individual's experiences. The chapter continued to outline the practical aspects of the research such as details of the research sites, methods and finally the process of analysis. The next chapter will outline each of the individual children's visit experiences.

5 Findings part one: the six children's individual visit experiences

This chapter will address RQ1:

How do young children (aged 4 and 5) experience museum spaces during unstructured, family visits?

5.1 Introduction

This chapter will summarise the six children's museum visits. See table 4.2 for participant details.

Each visit will be structured around four broad themes that emerged from the analysis. These themes were communicated as salient to their visit experiences by the children as discussed in Chapter 4. This process of analysis is outlined in detail in Chapter 4 and illustrated by the flow chart in Appendix 8. Within each of these overarching themes, the sub-themes that emerged from an analysis of each individual's expressions represented in the FPV and interviews will be presented. Although they were developed independently through the analysis these themes do

broadly relate to the affordances of the FPV trace as outlined by Pink (2015b, pg. 245) who suggests it documents:

> '*... dimensions of the lines of movement (of humans and the things, ways of knowing and feelings they carry with them) and encounters of those lines of movement with those of others (human and non-human) as they happen.'*

The first theme is 'movement' which corresponds with the children's lines of movement recorded by FPV trace. The second theme 'family interactions' relates to the encounters of their lines of movement with those of others. The third theme 'affective reactions' corresponds to the feelings the children carry with them. The fourth theme relates to the encounters of the children with the non-human, for example the objects and spaces around them.

Children's photographs will be incorporated into the analysis when the context suggests that it is representative of the children's own focus of attention. There will inevitably be overlap between the themes and sub-themes during the flow of each child's experience (see Chapter 8 for further elaboration on this point). As such they can be considered as somewhat artificial, however the themes do serve to provide a structure that is rooted in the children's own expressions of their experiences.

The main themes are as follows:

i) **Movement:** I define movement as any 'physical activity' (Makanjuola, 2021). This definition provides the basis for a discussion of the wide

variety of ways in which children move in museum spaces, including patterns of movement and the ways in which children choose to move through space both experiencing with their whole body and using aspects of it.

ii) **Family interactions**: This theme focusses on the nature of social interactions between family members. It is suggested that self-talk develops out of and is continuous with social talk, with children beginning by socially interacting with those around them, and then beginning to talk to themselves using speech acts to shape their own behaviour (Geurts, 2018; Vygotsky, 1986; Vygotsky, 1981). Therefore, self-talk will be included under this theme where appropriate.

iii) **Impact of affective reactions**: This theme includes reference to the affective reactions the children experience during their visits and the impact that these reactions have on their wider visit experience, be that in terms of engagement or relationships. It warrants its own theme because of the empathetic engagement that the FPV footage allows into this element of the children's experience.

iv) **Patterns of attention**: This theme includes a focus on what the children pay attention to as they move through the spaces. It will also include reference to the ways in which the children engage with the space.

I endeavoured to give equal attention to each child's visit. Although there is some variation in section length it is minimal. To a degree the variation also reflects both

the time each child spent in the museum and the degree of interaction that each child had with the museum's exhibitions and their families.

5.2 Edward's visit to Museum A

"*I would like to look around, just look around*' (Edward in interview)

Figure 5.2: A FPV screenshot of Edward just having a look around

5.2.1 Introduction

The family were first time visitors. They were recruited at the door approximately 5 minutes before filming started. His mum mentioned he was excited to visit the museum café afterwards. Edward himself late in the visit commented '*I want to take pictures of the cake*' indicating that this aspect of the visit was important to him. Edward had a slight cold (when moving through the exhibitions he wiped his nose with his sleeve, coughed and said to himself '*I have cold*'). This did not seem to

affect him too much, although it might contribute to his tiredness towards the end of his visit.

The museum is crowded around the welcome desk area where they begin their visit. Although he took this in his stride, this meant that Edward had to deftly weave his way through a throng of adults to follow his sister and mum. As the family moved away from this area the museum's galleries and corridors were less crowded, but there was a steady trickle of mostly adult visitors that ebbed and flowed over time. Edward proved himself able to easily navigate himself amongst these often much larger visitors when needed (F5.2.1).

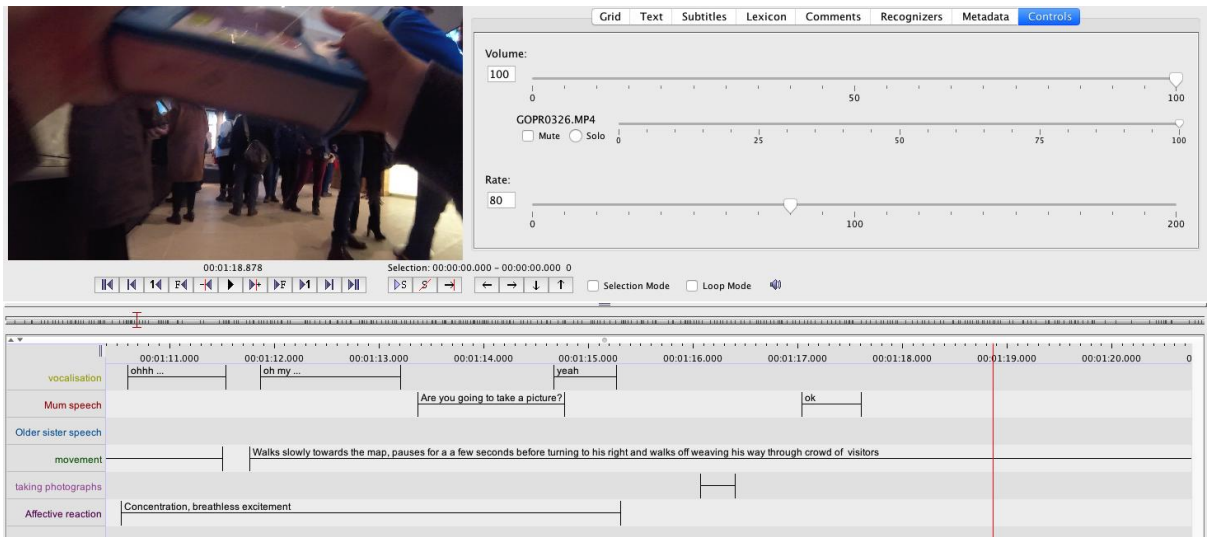


Figure 5.2.1: Edward weaving his way through the crowds

Edward was reticent during his interview. This was, it appears, a reflection or continuation of his tiredness discussed in section 5.2.4. This is likely combined with the nature of his visit experience being one of exploration and brief engagement, rather than being able engage in any depth with the museum's collections as outlined in 5.2.5. It is likely that his reticence was a reflection of both of these points.

5.2.2 Movement

He is left to his own devices for much of the visit (particularly towards the beginning) as his mum is busy helping his eager and energetic sister complete two museum trails. Edward was content to explore alone during this time. Like many other young children of his age in museums his movement is exploratory (e.g. Kirk, 2014; Weier and Piscitelli, 2003) flitting from case to case, statue to statue, painting to painting, or into corners and alcoves. This stop start movement has been observed before in museums (Piscitelli, Everett and Weier, 2003) and was a way in which Edward naturally moved through and engaged with the galleries. F5.2.2 illustrates his stop-start, enthusiastic and exploratory pattern of movement through a gallery containing Italian Renaissance art. The black line is illustrative of his movement, the orange lines indicate when he paused and the red chevrons the direction of his travel. What F5.2.2 does not incorporate are Edward's frequent torso rotations which presumably correspond with a change in gaze direction indicating that he is scanning the area for things of interest as he moves through it. These movements and associated gaze adjustments are also illustrated in F5.2.5 (parts one and two) where he moves in a stop-start fashion down a wide corridor lined with marble statues and busts. In F5.2.15 (parts one, two and three) Edward's exploratory torso rotations are also apparent. This episode will also be discussed in association with patterns of attention in section 5.2.5. These Elan transcripts correspond with a minute of Edward's time on and near the bench near point 5 on the movement map. In interview he said '*We went up the stairs … and I saw paintings,…'.* This comment,

chimes with Hackett's work on 'wayfaring' that considers locomotion and perception as an essential part of lived experience (Hackett, 2016; Ingold, 2016). This suggests that he perceived the museum visit as a dynamic experience in which the travelling from from place to place is as memorable and as part of the places he was inhabiting as the things he paused to look at. Edward also returned to things that seemed to interest him (Hackett, 2014b). This movement is illustrated on the movement map (F5.2.2) when he returned to look at a painting of two brightly coloured winged angels descending on a man.

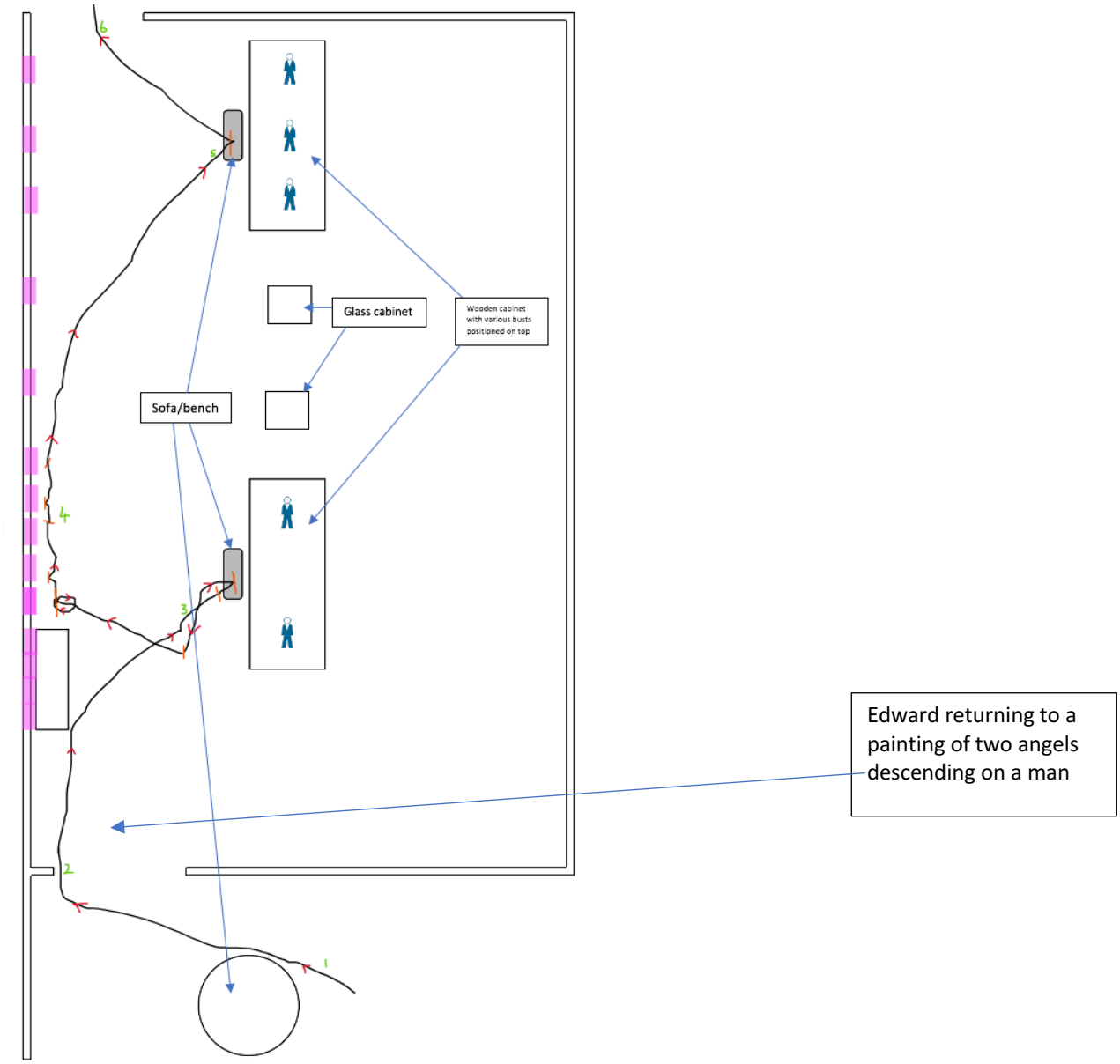


Figure 5.2.2: A movement map to show Edward's stop-start, exploratory progress through the Italian Renaissance Art Gallery. *The red chevrons mark direction of travel and the orange lines where he pauses. The black line is a trace of his movement through the space, the red arrows show his direction of travel. The green numbers represent the movement from start to finish. The purple represents pieces of artwork displayed on the wall. Edward's mum and sister enter the room ahead of him and his sister leaves the room ahead of him.*

There is variety to his movement (Hackett, 2016) in that he danced, jiggled, walked, ran, stomped and climbed and rotated through the spaces. Each different movement expressed a mood or purpose unique to the context for example dancing, happiness or hurrying as in the following example, excitement. On occasions he was motivated to join in with his sister's hunt for objects on her trail sheet, but he appeared aware he could not quite keep pace with her: he was always a few steps behind. For example, in F5.2.3 his sister exclaimed '*there!*', after which he hurried over to the cabinet his sister was looking at and called out '*dog!*' as he arrived (he knew that the trail sheet involved finding dog related artefacts). His sister quickly moved on and he spent a few seconds taking a photograph of the ceramic dog (which unfortunately came out blurred) after which he followed his mum and sister.

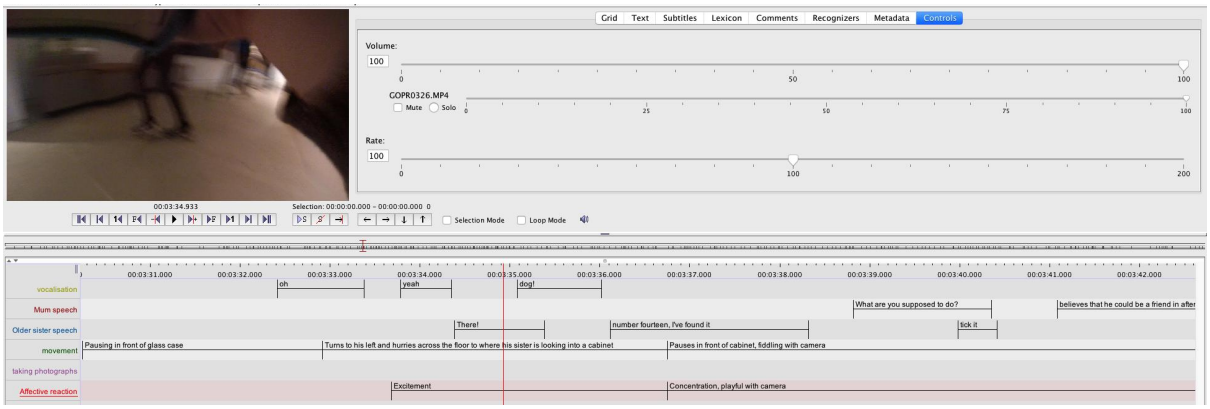


Figure 5.2.3 (part one): Edward joining in with his sister's activity

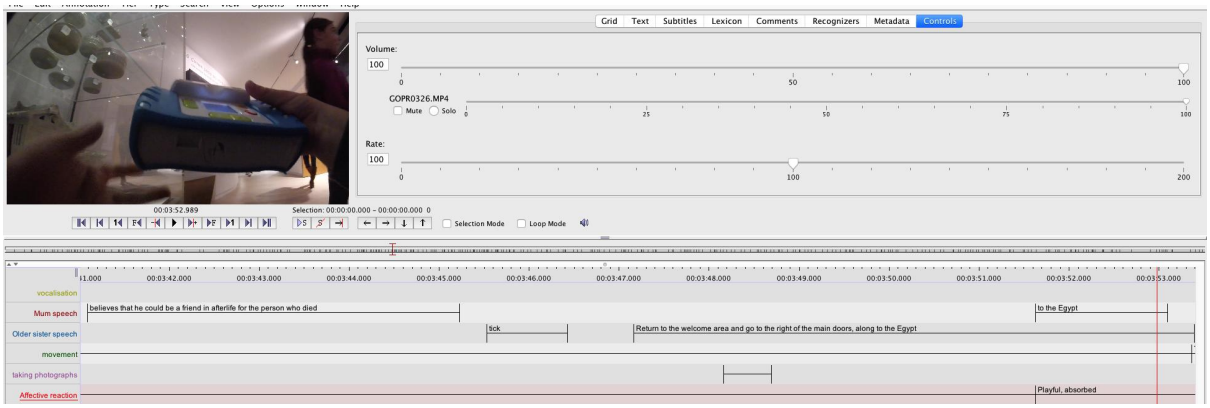


Figure 5.2.3 (part two): Edward joining in with his sister's activity

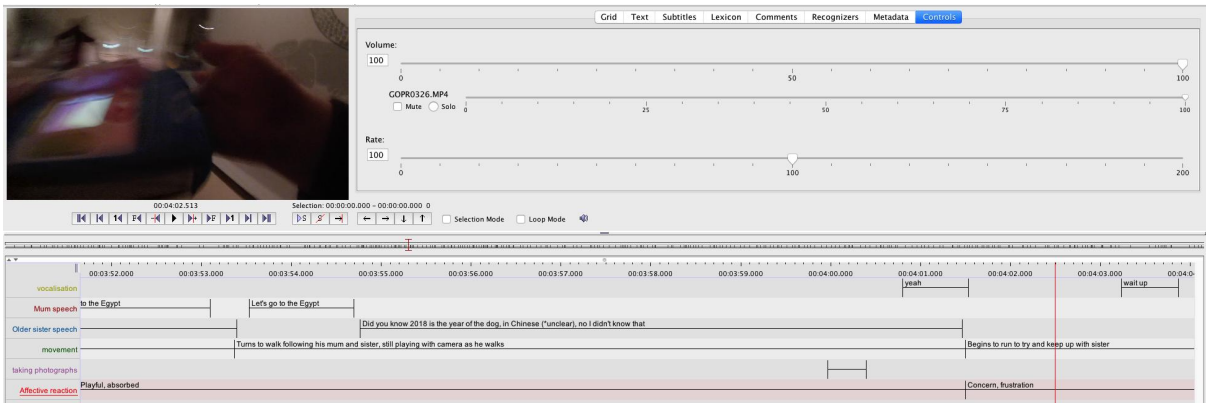


Figure 5.2.3 (part three): Edward joining in with his sister's activity

His sister's energetic search for objects designated by the trail sheets injected a degree of urgency into the family's movements and by default Edward's. For example, in F5.2.3 (part three) Edward had to break into a run (indicating slight concern) to catch up with his sister. Broadly speaking his sister's trail sheets mediated his route around the museum spaces even though he was not directly involved in completing them. Similarly to observations made by Hackett (2014a) the family, and therefore Edward (although he was unaware) were steered by a museum educator envisioned and sanctioned route around the museum. This legitimacy likely gave his mum and sister a sense that they are achieving something meaningful and of

educational value during their visit. His mum's first words on beginning the visit were '*Right let's go get one of your trails*', to which his sister replied, '*can I get two?*' This exchange indicates that the trails are an integral part of how mum and his sister perceived museum spaces should be used, a view that did not necessarily correspond with Edward's own exploratory motivations. Due to his sister's quick pace and in contrast to the other children Edward tended to find himself behind his mum and sister. It is noticeable that on the few occasions he moved ahead, he was alert to keep them in close proximity. For example, in F5.2.4 below, he walked slowly forwards through a gallery, absorbed, looking around him and playfully manipulating his camera. When he reached a doorway, he paused and turned slightly to his left (likely to visually check where his mum and sister are). His sister then says '*left*', which is quite loud in comparison to her speech a few seconds before, indicating that she was just behind him. Edward then moved forwards, reassured by her presence.

Figure 5.2.4: Edward checking his sister's whereabouts

Edward was, on a number of occasions, encouraged to move on from something that interested him when it was time to move to the next gallery. He did not appear to mind following in the wake of his sister and mum, giving the impression of just

happily going with the flow, focussed on his own interests until jollied along in a particular direction. He only showed reluctance to this chivvying from his mum and sisters on a few isolated occasions towards the end of the visit when he showed signs of tiredness.

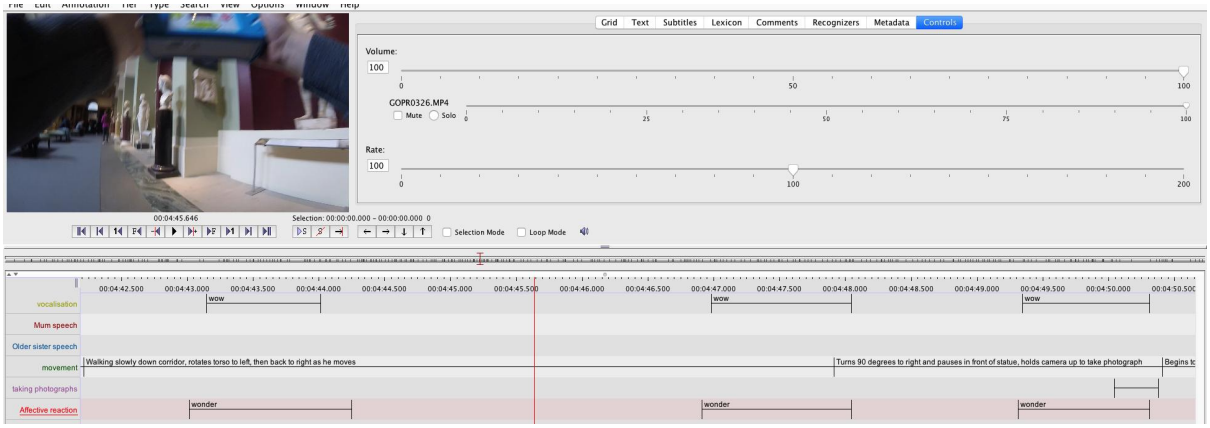


Figure 5.2.5 (part one). Edward moving in a stop start pattern down a corridor lined on both sides with marble statues and busts

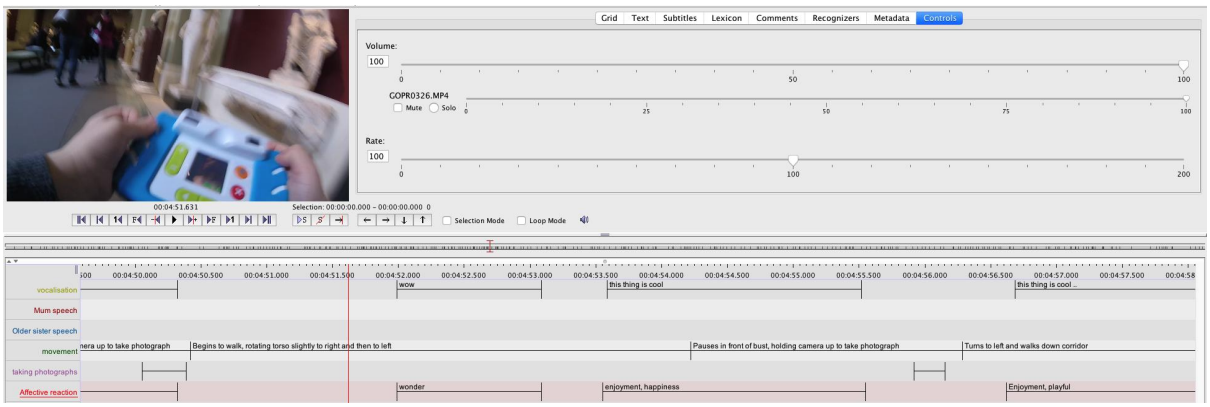


Figure 5.2.5 (part two) Edward moving in a stop-start pattern

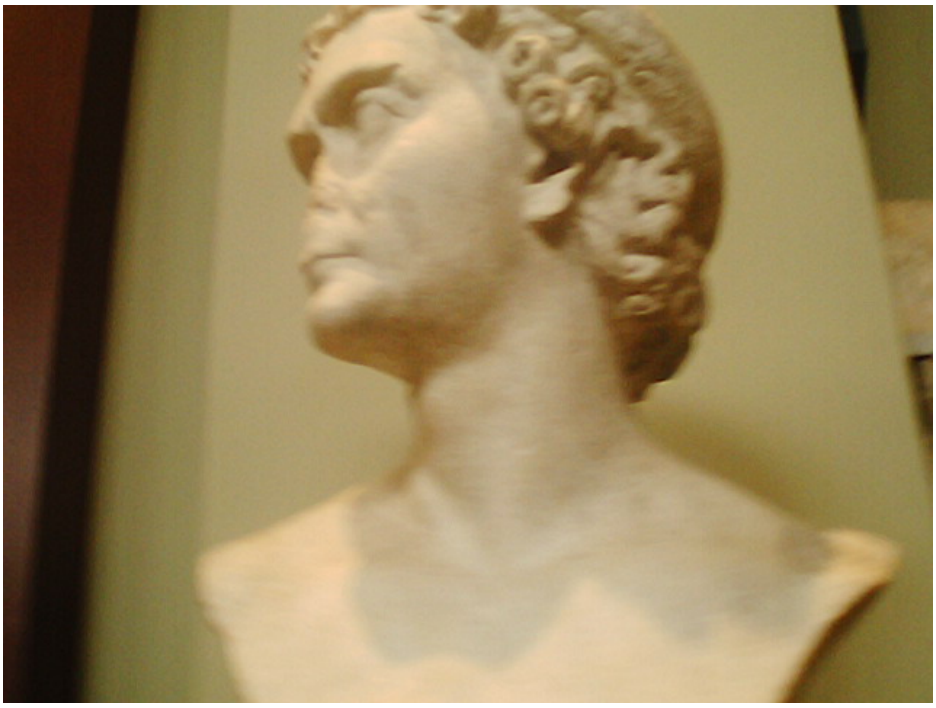


Figure 5.2.6: Edward's photograph of a marble bust (see Figure 5.2.5, part one)

An example of his relaxed attitude occurred as he stopped when they passed a lift and he cheerfully said, '*let's go lift*' and his Mum calls '*No, no let's go this side*' prompting him to happily follow without any further debate. Although mostly a free agent, if he is perceived to stray outside a certain proximity of his mum, and less often his sister, they pull him up on this. For example, his mum exclaimed, '*Come on Edward!*' when he investigated the space between two pillars (F5.2.7). They also advised him concerning safety. For example, his mum telling him to walk carefully in F5.2.8. This resonates with Tolmie et al's (2014) observation that in large museums, parents are concerned about the possibility of losing children. Again, he assumed, without argument, his role as the junior member of the group and followed their instructions. Even though he accepted this direction his natural exploratory and sometimes exuberant tendencies were tempered.

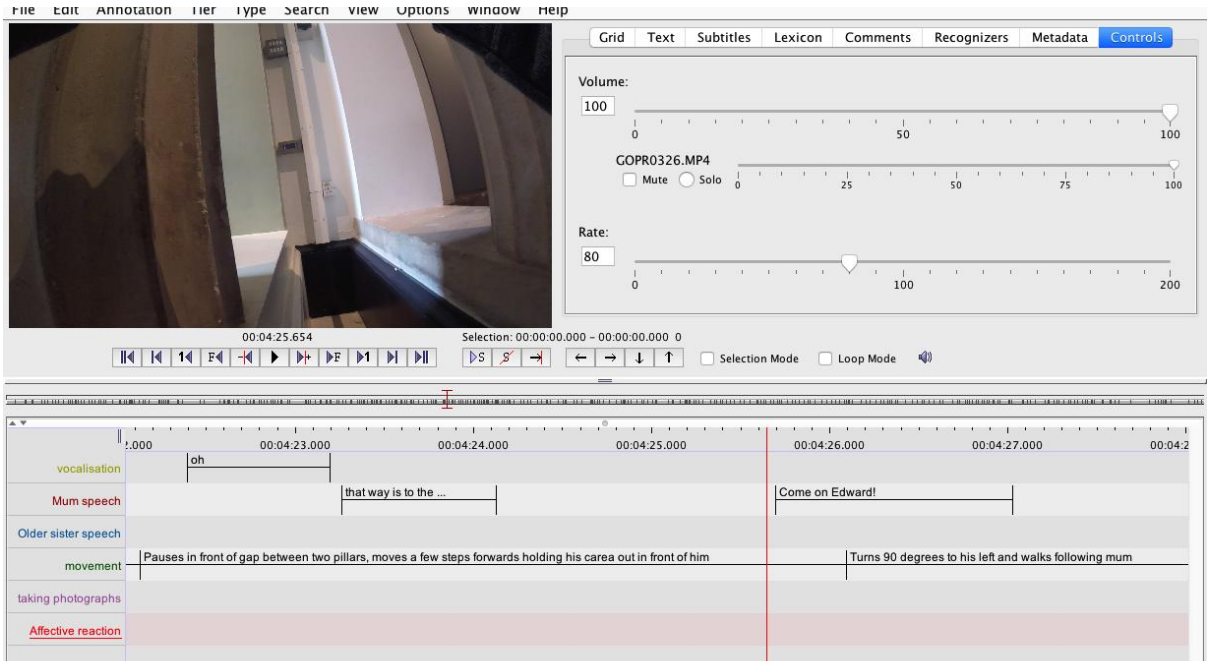


Figure 5.2.7: Edward investigating the space between two pillars

Edward's singing, humming or chanting were a feature of his visit. These were often synchronised with his physical movements. An example of this synchronisation is illustrated in F5.2.8 where he moved his body in time with his vocalisations. He began by swinging his arms and moving his body in time to '*Take the lift*' delivered in a sing-song voice. A few seconds later he combined rhythmic counting, with stepping and hopping up a large stone staircase. He was clearly engaged and (in the moment) satisfied when singing, especially it seems when combined with bodily movement.

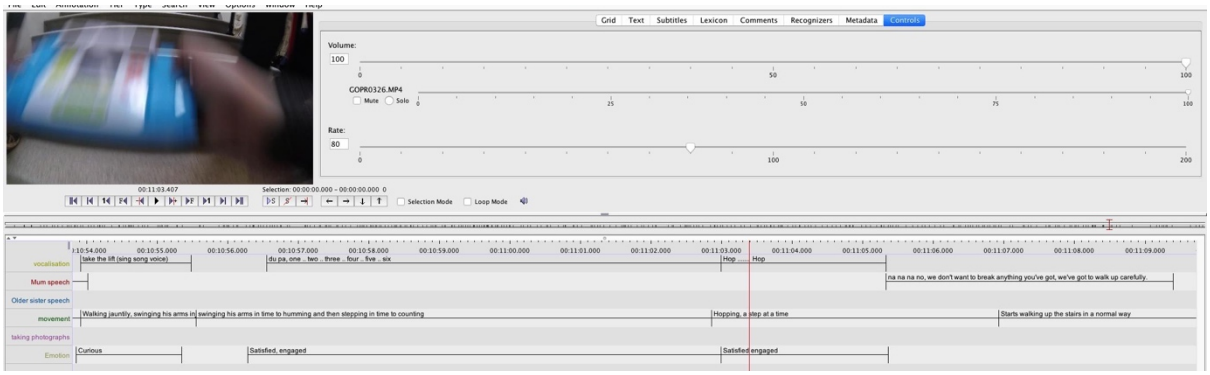


Figure 5.2.8: Edward synchronising vocalisations and movement

5.2.3 Family Interactions

The trails were central to the majority of the family's conversations during the visit, leaving Edward the choice to either join in, which he occasionally wanted to do (see F5.2.3) or to explore by himself. His attempts to join in often involved imitation of his sister's activities. For example, looking for the 'dog' (F5.2.3) or imitating his sister who pretended to cast a spell on the door of the lift to make it arrive/open sooner as illustrated by him repeating his sister's words '*Open sesame*', as shown in F5.2.9 (part two). These occasions indicated that he admired, enjoyed interacting with, and looked up to his older sister. As a result, he sometimes followed her lead in terms of how to interact with or in the spaces. Although referring more generally to the spaces, this resonates with Kelton *et al's* (2018) comment that verbal and non-verbal collaboration between family members mutually shapes engagement at exhibits.

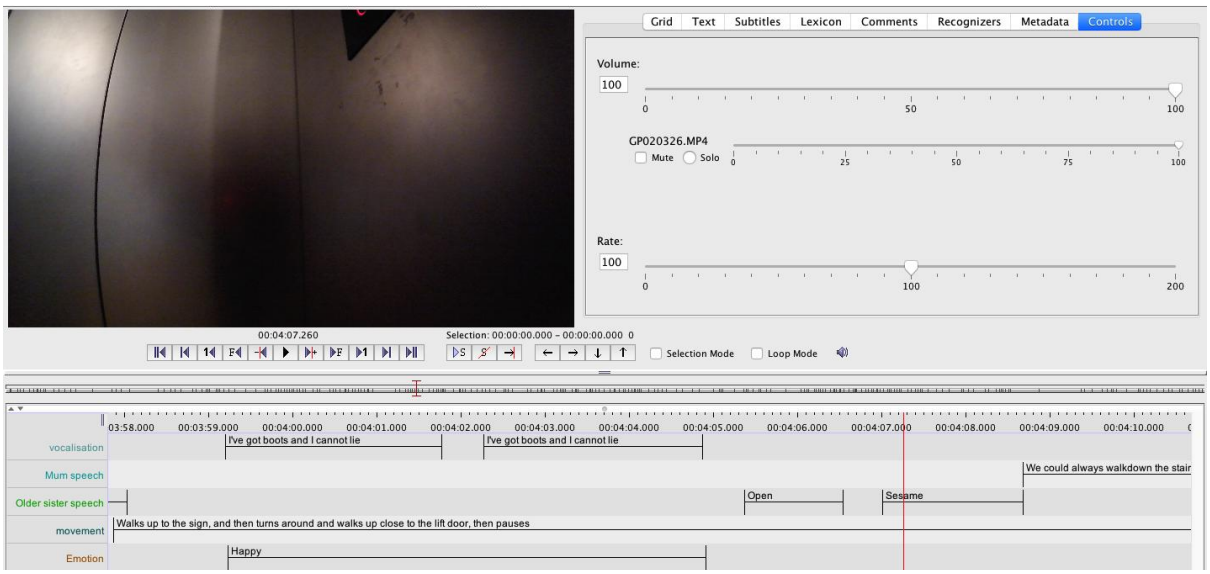


Figure 5.2.9 (Part one): Edward waiting for the lift

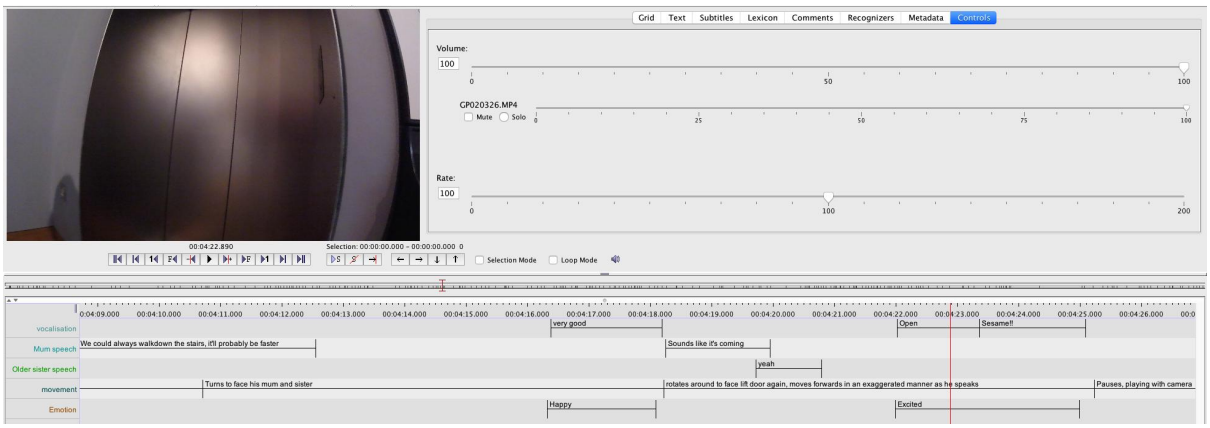


Figure 5.2.9 (part two): Edward waiting for the lift

Edward gave the impression of being proud to carry and use the handheld camera (Dockett, Main and Kelly, 2011; Kirk, 2015; Kirk and Buckingham, 2018). He initially received some help to operate the camera and was encouraged to take photographs particularly in the early stages of his visit. For example, his mum said, '*are you going to take a picture?*' (See F5.2.1) when he pointed the camera at a

museum floor plan located on the wall in the reception area. This interaction triggered him to move beyond his initial excited state and take a picture. Beyond this initial help he managed alone.

For the most part he seemed to forget that he was wearing the GoPro, not making any reference to it during the visit that is not prompted by his mum or sister. Contrastingly his mum and sister do make it clear they are paying attention to the GoPro's presence, although they appear nonchalant about being recorded themselves. For example, when having a conversation on a staircase they both speculated how the footage will come out and whether or not the view will be '*just like the floor'* (See F5.2.10). Although Edward remarks '*yeah*', he appeared far more focussed on the effort of walking up the stairs. These remarks chime with Mizen's (2005) point that adults are more likely to be at ease when confronted with a child and a camera or in this case a child and a camera and a GoPro™.

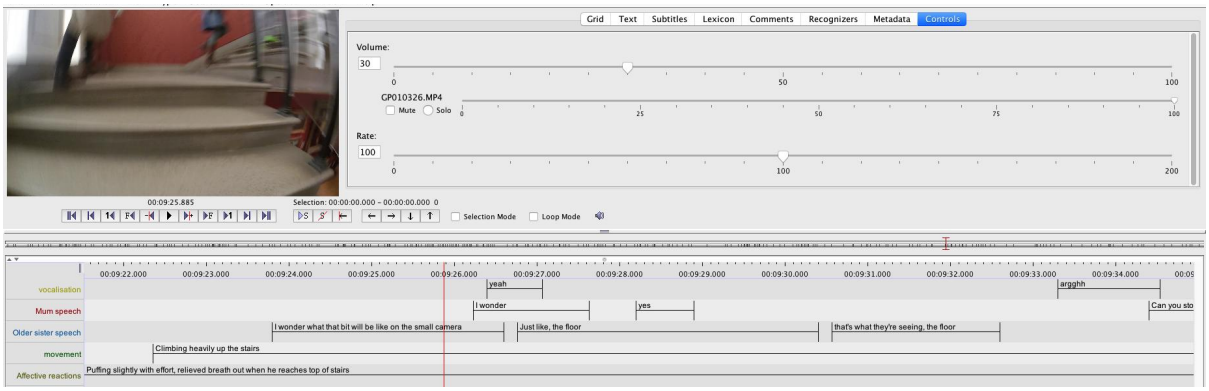


Figure 5.2.10: Edward climbing the stairs

In contrast to the other children Edward did not receive any encouragement or scaffolding to help him engage with the exhibitions during the visit except on a few isolated occasions towards the end when his mum noticed he was struggling with

staying engaged. This is with the exception of information he gleaned from overhearing his mum and sister's conversations concerning the trail sheet. As he cannot read, he is prevented from being able to engage with information from the museum that is conveyed via labels, so is reliant on his own knowledge and imagination. As others have noted, young children are often reliant on others' help to access further information and co-construct meaning in the museum (Crowley and Jacobs, 2002; Kirk, 2014; Tunnicliffe and Reiss, 2000; Tunnicliffe, 1996). This may have been because of lack of confidence in terms of maternal subject knowledge (Wallis, 2018; Bates, 2018), or that his mum is focussed on helping his sister. Melber (2007) suggests that different contexts can impact the degree of maternal scaffolding. In this case it seemed that the social context outlined above (combined with the specialist nature of the exhibitions) is particularly salient in terms of influencing her interactions with Edward. For the most part he accepted this status quo, although he did ask, '*what is this?*' on a variety of occasions to which he received no answer (F5.2.11). As he did not pursue answers to these questions, these may have been instances of self-talk (indicating flashes of curiosity) for which he did not expect an answer. Or just in keeping with his relaxed attitude, an acceptance that he was not going to get one. Instead, he moved quickly on to the next thing that caught his attention.

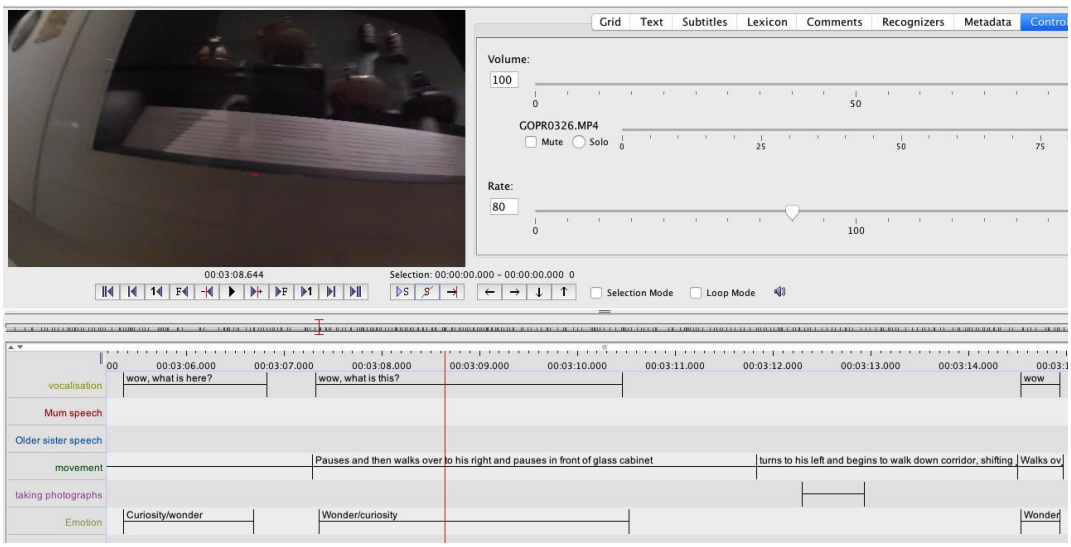


Figure 5.2.11: Edward exploring a corridor

Even though he sometimes laboured going up the large staircases (see F5.2.10) he did not have any physical assistance except during the last ten minutes of the visit when he was tired and in need of comfort. He communicated this by whining (see F5.2.12) '*I'm tired*'. His mum took the camera, reached out her arms, lifted him up and carried him. He did not resist, leaning against her and appearing grateful for the help.

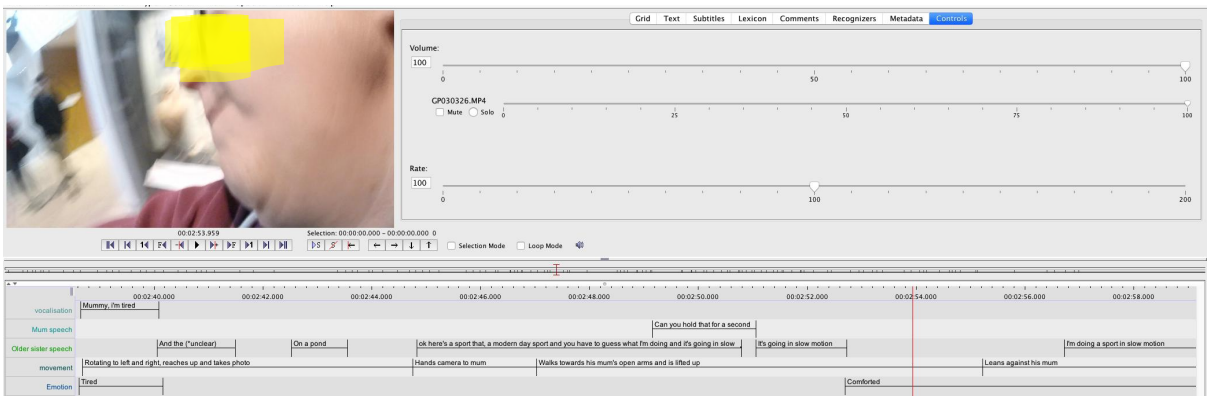


Figure 5.2.12: Edward being lifted then carried by his mum

Edward's behaviour is monitored by his mum and sister during the visit. For example, he was told not to sit on the floor, and to have a drink of water even though he did not request one. In typically relaxed fashion, he accepted this didactic but benevolent control and quietly did what he was told. For example, in F5.2.13, he reached out to touch a stone sphinx which prompted his mum to say '*no, no, no don't touch*'. He immediately took his hand down and moved on. Although it is not clear exactly what he thinks during these moments, it suggests that he felt secure operating within his family's hierarchy. This in contrast to Kirk's (2014) point, (and as will be seen, the other children's experiences) that negotiating the social rules of being in a museum, can often lead to mini conflicts between children and their families. Another example of his mum enforcing a rule can be seen in F5.2.8 when his mum told him to stop hopping up the stairs because it might damage some of the research tools he was carrying.

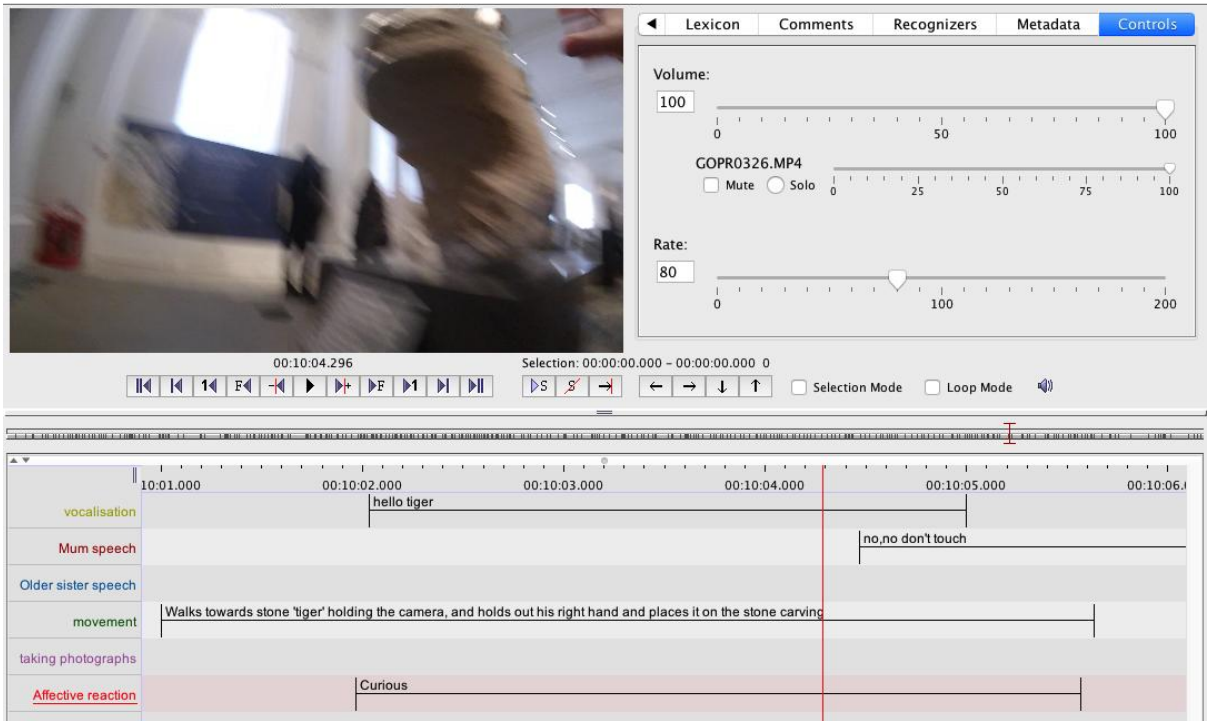


Figure 5.2.13: Edward being asked not to touch

5.2.4 Affective reactions

Edward's emotional reactions during the visit are varied, but broadly speaking the visit began with a sense of curiosity, excitement, wonder and playfulness (Piscitelli, 1997). For example, he often exclaimed 'wow!' or 'wooah!' in wonderment when he encountered new objects and spaces. This quartet of emotions are illustrated unfolding in F5.2.14, where his sister even commented '*He's literally just loving it'*.

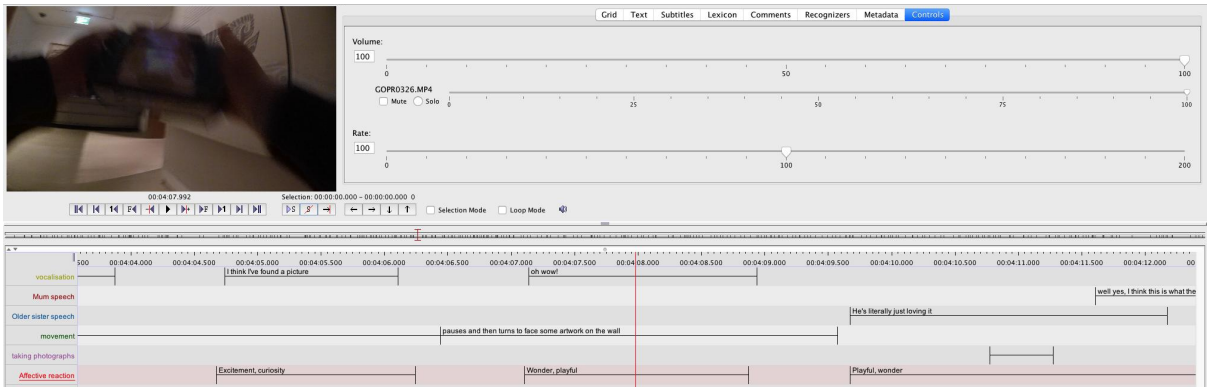


Figure 5.2.14: Edward's excitement and wonder, and subsequently taking a photograph

He also engaged with the exhibits and his family with humour. For example, in F5.2.15 he can be seen pausing before lifting his left hand to point at two sumo wrestlers and saying '*look at ... hehe*' before moving off to catch his sister up.

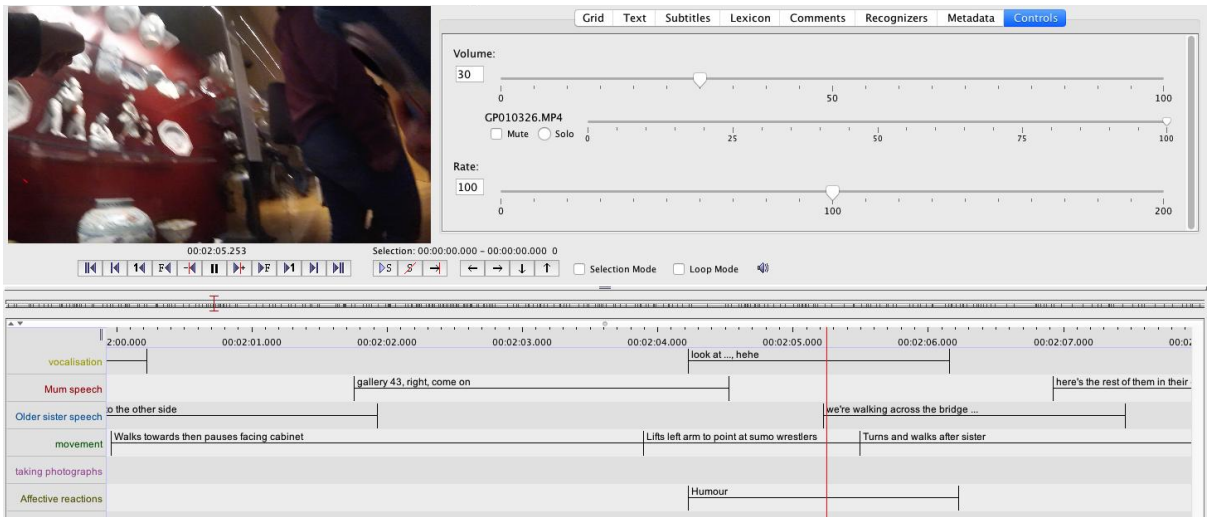


Figure 5.2.15: Edward laughing at the sumo wrestlers

Although Edward continued to enjoy himself as described above throughout, he did begin to exhibit signs of tiredness and impatience towards the end of the visit. During this time, he demanded more of his mum's attention in order to remain happy and occupied. Edward's tiredness (See F5.2.12) towards the end of the visit resonates with Melber's (2008) point (with reference to school visits) that museum fatigue can set in if a visit proves too long for a young child.

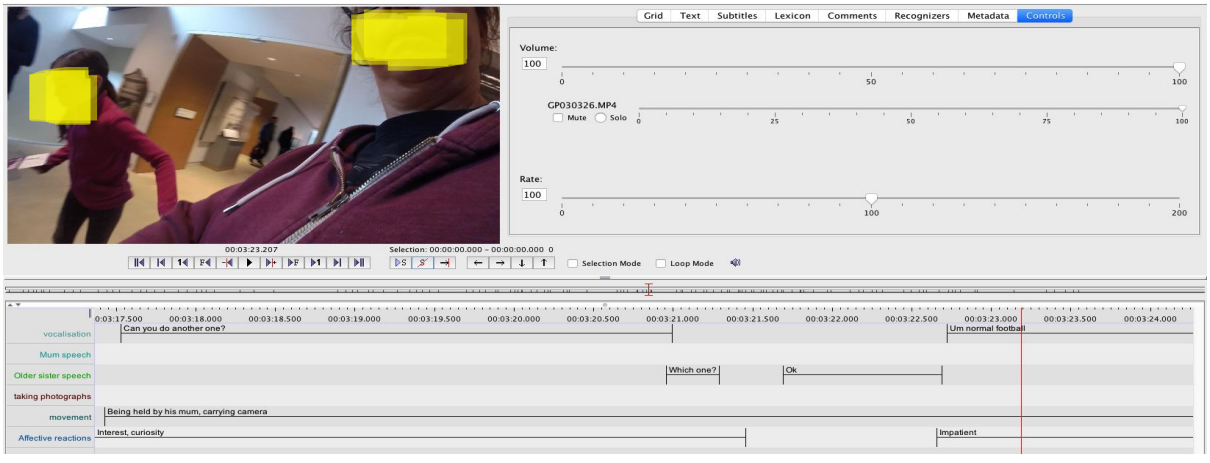


Figure 5.2.16 (part one): Edward being impatient

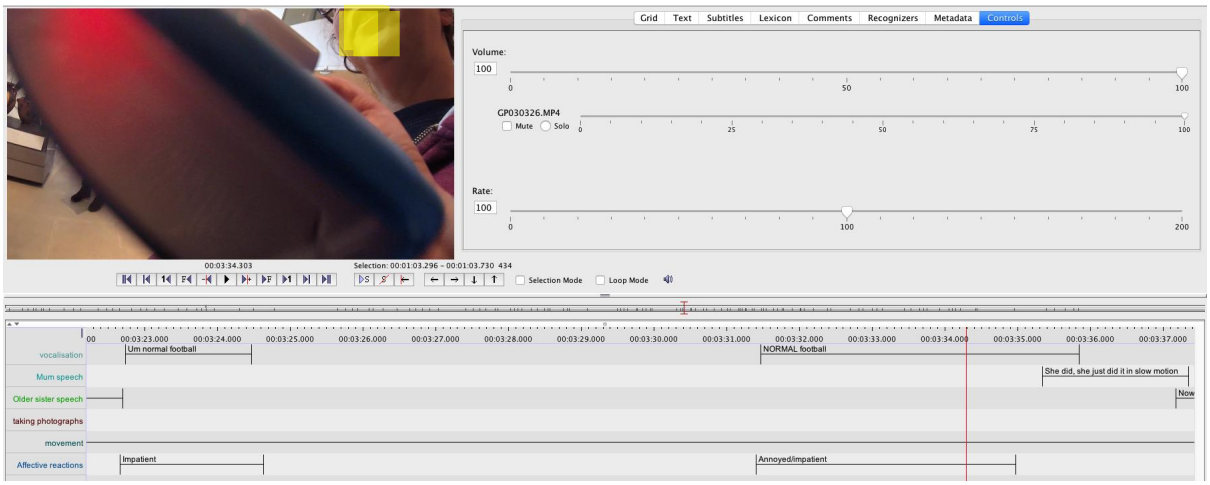


Figure 5.2.16 (part two): Edward being impatient and annoyed

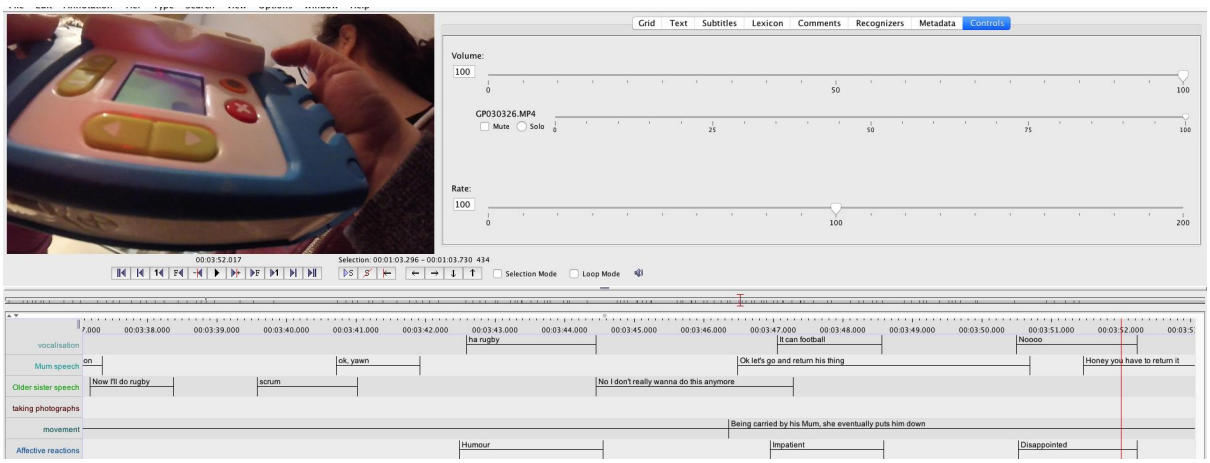


Figure 5.2.16 (part three): Edward being disappointed

Tiredness underpinned Edward displaying a number of negative emotions. For example, in F5.2.16, he is watching his sister acting out in slow motion the actions of a number of sports. This is an activity suggested on her trail sheet. In parts one and two, he asked his sister to do *'... normal football'*. When (in his opinion) she did not, he raised his voice in an annoyed tone saying, '*NORMAL football!*'. Shortly afterwards (part three) his mum suggested taking the camera back, he says '*Nooo*' in a very disappointed tone. This episode illustrates that his temper was shortening and

he was beginning to have short shrift with things that did not go quite his way. This was a change from his usual relaxed demeanor.

In summary his affective reactions were fluid and had a moment- by-moment effect on his interactions with family and engagement during the visit. Displaying this range of emotions, especially the negative, appeared to be a key method by which he interacted and communicated his needs (often successfully) to his mum and sister. For example, when he resisted taking the camera back he managed to gain a few extra minutes in the exhibitions with it. Tolmie *et al.* (2014) explain that parents are often keen to avoid a scene, and it is quite possible that Edward was aware of this and knew that displaying strong emotions can be a route to getting his own wants and needs met.

5.2.5 Patterns of attention

His patterns of attention were varied (e.g. Anderson *et al.*, 2002; Kirk, 2014) and included what might be considered as mundane aspects of the building itself (e.g. Dockett, Main and Kelly, 2011; Hackett, Procter and Kummerfeld, 2018). For example, he investigated a nook between pillars (F5.2.7), a skylight (see F5.2.19, part three and 5.2.20), as well as the exhibitions themselves. At the same time, his attention conformed to well documented patterns such as paying attention to representations of animals (see F5.2.13), both large (F5.2.18) and small exhibits (Jenkins, Lisk and Broadley, 2013), brightly coloured, shiny (see F5.2.22) or patterned objects (see F5.2.14) (Kirk, 2014).

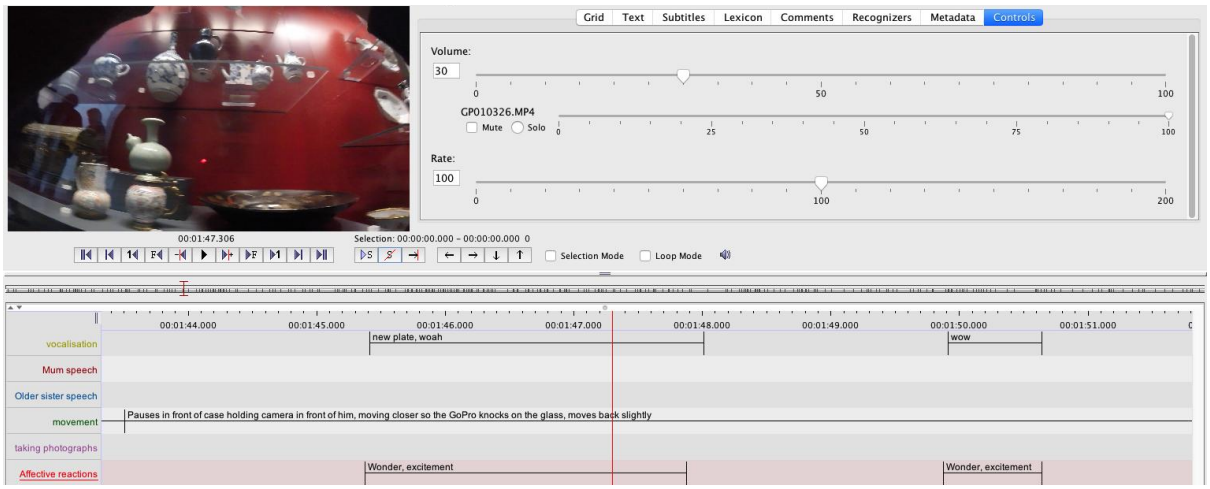


Figure 5.2.17: Edward wondering at a plate

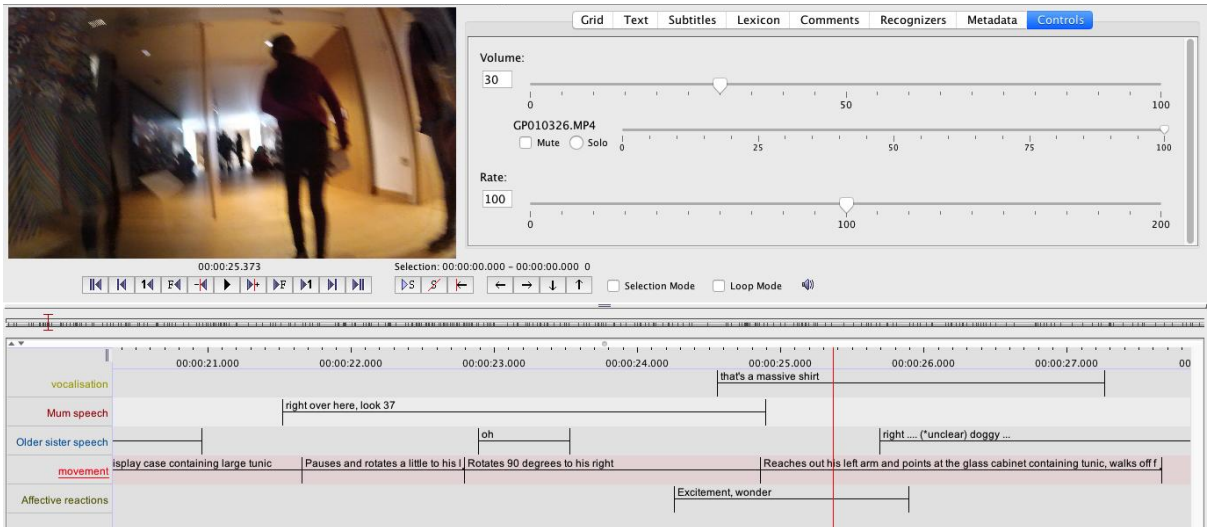


Figure 5.2.18 Edward commenting on a large shirt

He sometimes paid attention to things that his mum and sister discussed, even though they are not directly addressing him with this information. This ‘by-product’ is another way in which parents and siblings might mediate children’s engagement (Kirk, 2014), even if not deliberately. The extent to which he was listening to their conversations cannot be discerned, but there were a few occasions where this transfer of information is clear. For example, in F5.2.19 (part two) he overheard his sister talking about the artist Raphael and butts into her conversation with her mum

saying, '*Raphael?*'. The exact reason for this interest is not clear but his sister assumed it is because he is thinking about Raphael from the cartoon the Mutant Ninja Turtles. She abruptly said '*It's not the Ninja Turtles*' and then carried on talking to her mum. Edward having again overheard, repeats '*Raphael the Angel?*'. He is ignored this time and does not enquire any further, but he has absorbed some information without it being intended for him.

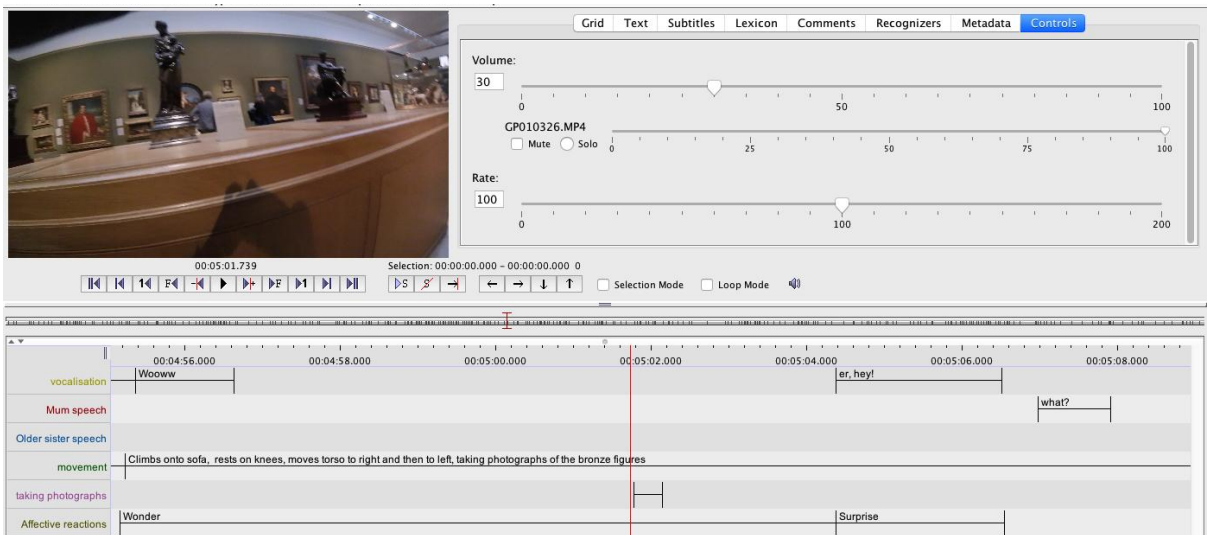


Figure 5.2.19 (part one): Edward exploring the Italian Renaissance Gallery

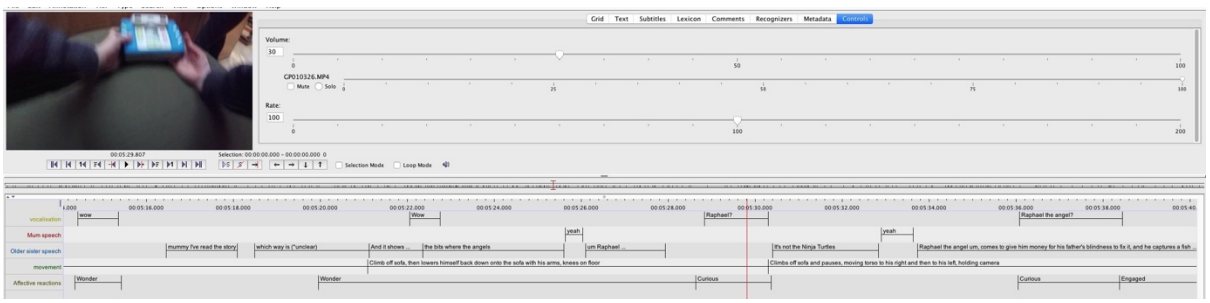


Figure 5.2.19 (part two): Edward exploring the Italian Renaissance Gallery

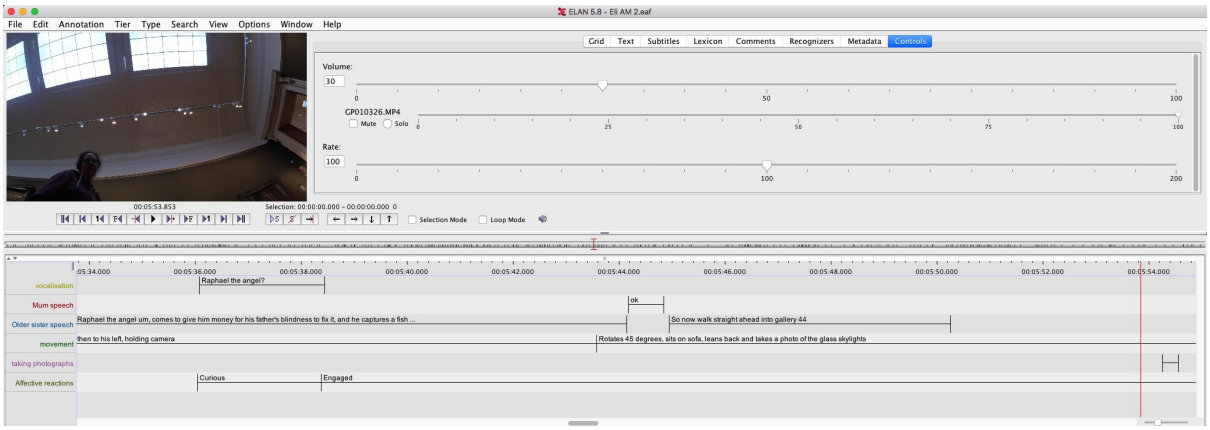


Figure 5.2.19 (part three): Edward exploring the Italian Renaissance Gallery

Figure 5.2.20: Edward's photograph of a skylight

Edward, without prompting, sporadically named or described objects using his own knowledge and experience as reference points (e.g. Piscitelli and Anderson, 2001; Dockett, Main and Kelly, 2011), however not always correctly (Kirk, 2014). For example, he called a limestone representation of a lion, a '*tiger*' and a painting of an aristocratic lady a '*Queen*'. Although naming was a noticeable characteristic of his interactions during his visit, he did not name many objects, especially in comparison to Bill and Noel. In interview he struggled to articulate a great deal about his visit,

with his recall focusing on naming objects (often things that related to everyday objects), from photographs e.g. '*pot*' or '*painting'.* He also described his photograph of a statue of a woman as a '*fireman*' (F5.2.21). When asked why, he said this is '*Because it has the same hat*'. He therefore interpreted the statue as a fireman based on his own wider experience. Although in an art and archaeology museum context, this resonates with findings concerned with children in natural history and science museums (Reiss and Tunnicliffe, 2011; Kirk, 2014). The low-level of naming and descriptive comments in both interview and during the visit are likely because he could not link many of the objects on display with his wider experience, not because he did not find the collections of interest. His frequent reactions of wonder when he encountered a wide variety of objects during the visit suggest that the former reason is correct.

Figure 5.2.21: Edward's photograph of a 'fireman'.

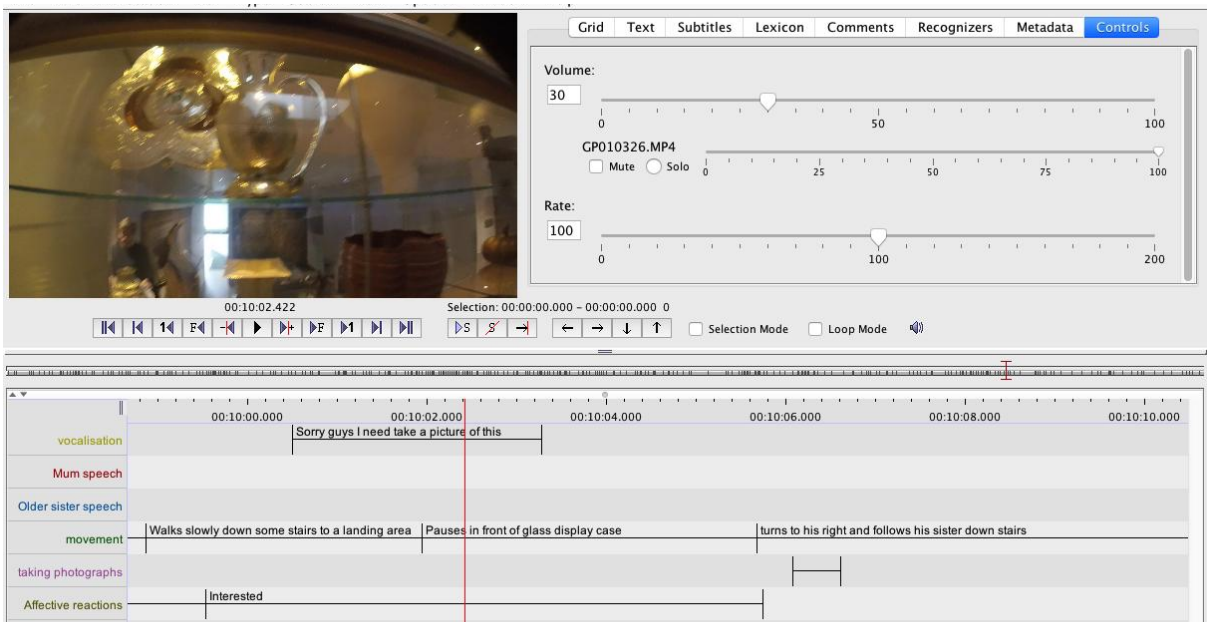


Figure 5.2.22: Edward stopping to photograph a bright object

As illustrated by F5.2.19 (part one), F5.2.23 and F5.2.24, he is interested in 3-dimensional (Danko-McGhee, 2006) representations of the human form such as statues, busts and figurines. This is likely again an attraction to the familiar.

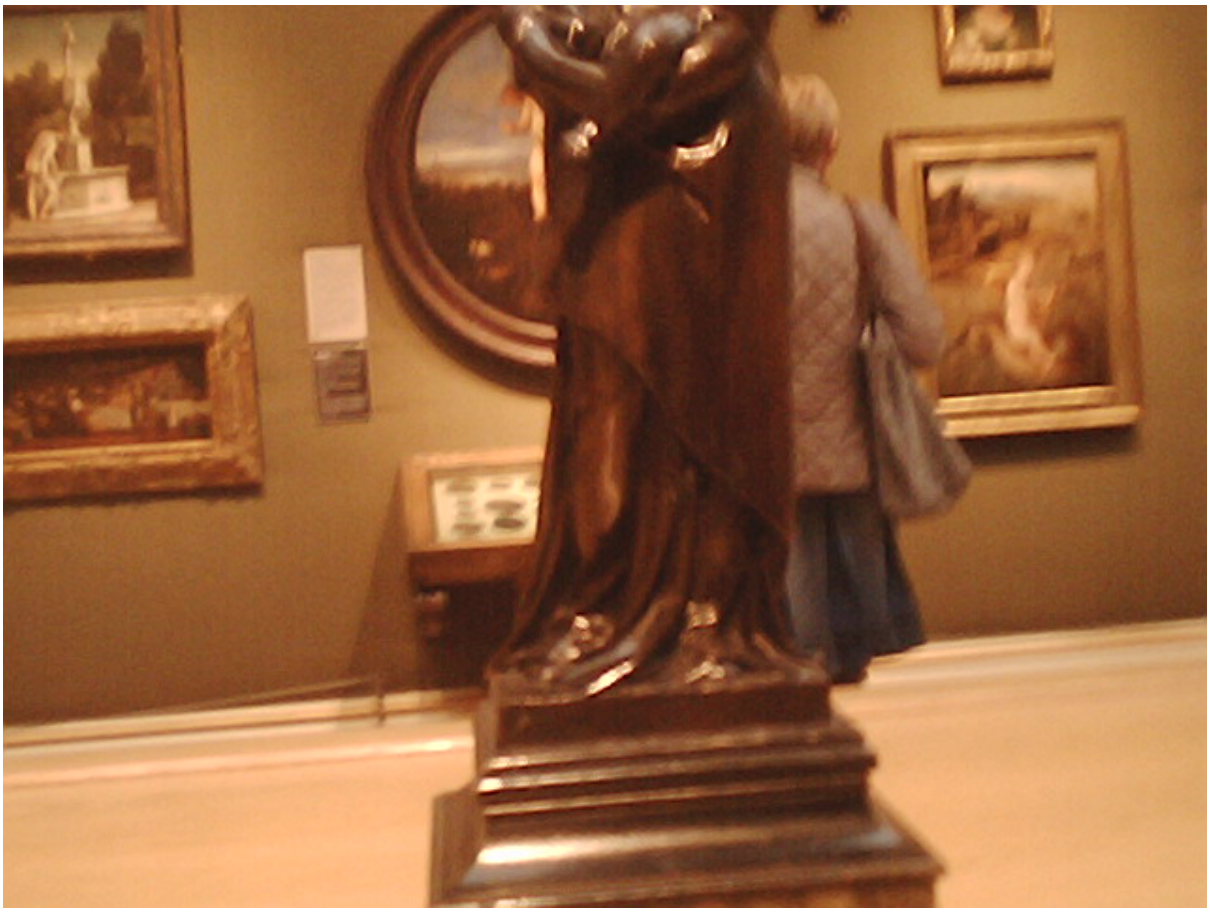


Figure 5.2.23: Edward's photograph of a bronze figurine

He often, considering they are inanimate objects, referred to them in animate terms. Not dissimilarly this is a trait that has been noted in older children's anthropomorphic treatment of animals in diorama scenes (Tunnicliffe and Scheersoi, 2009). For example, he categorised statues (sometimes incorrectly, see fireman example above) in terms of gender, and appeared surprised enough by those that were naked to describe them. For example, he commented, '*Look that man is naked*!' (See F5.2.24) in an amused way when pointing out a bronze figurine and laughed when he spotted a pair of half-naked porcelain sumo wrestlers (F5.2.15).

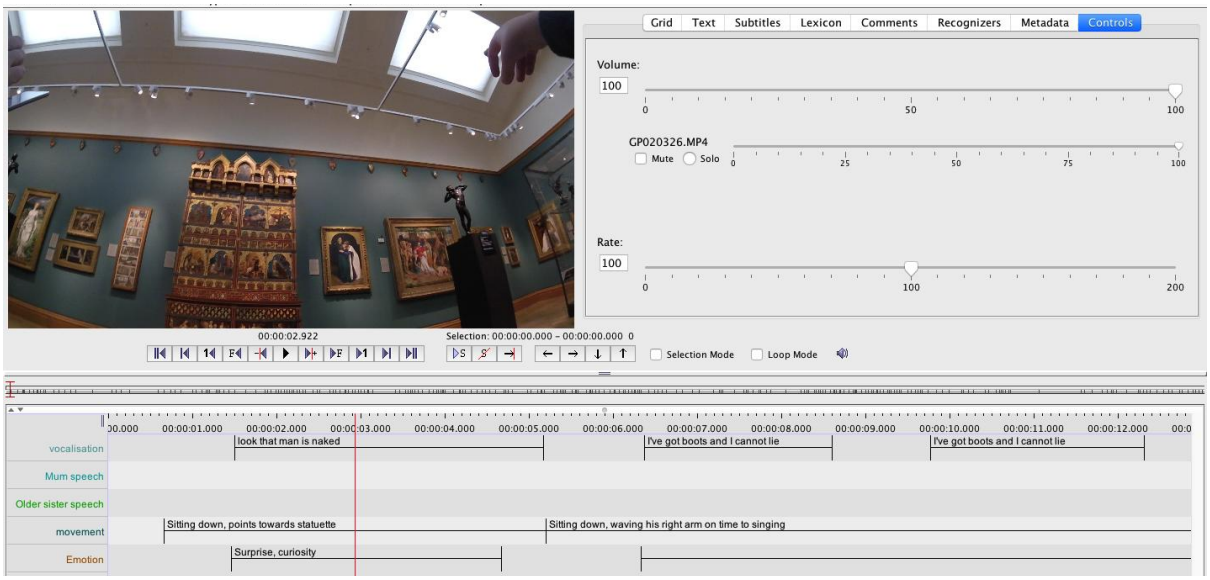


Figure 5.2.24: Edward surprised, pointing at a naked statue

He also showed an interest in lifts. He clearly enjoyed the activity of pressing the buttons (F5.2.27). Edward did not show any indications of being able to read labels, although he does at one point draw his Mum's attention to some words and dates written on an ancient Egyptian timeline on the wall, located approximately at his head height. He, under his breath mutters '*wow, wow, there's words*', before eagerly beckoning his mum over and showing her before enthusiastically taking a picture (which unfortunately is too blurred to show here) and saying to his mum '*I pictured these words*'. He also showed he could recognise individual letters, for example (F5.2.27) pressing the button 'G' when asked to by his mum. This response indicated that although Edward was not able to accurately read and therefore access information from the exhibition labels, he was interested in the text itself. This chimes with Fidler, Bunney and Craven's (2011) finding that young children applied their knowledge of letters and words unprompted by adults.

He also really enjoyed the act of touching (F5.2.25) and climbing on soft-covered furniture (F5.2.26). For example, he commented '*…'cause that bench is so soft*' as

he reached out with his hand before clambering onto a sofa (F5.2.26). This is part of the wider point that he instinctively interacted via touch although not all the time (Kirk, 2014), sometimes reaching out to touch things (F5.2.13) and sometimes using his whole body to interact with the spaces.

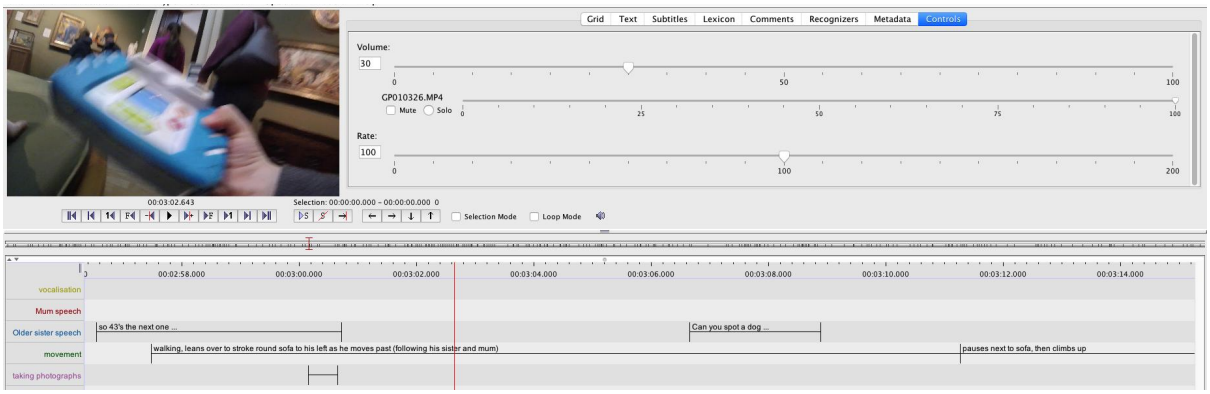


Figure 5.2.25: Edward touching sofa on his way past. (This episode corresponds with points 1 to 2 on the movement map)

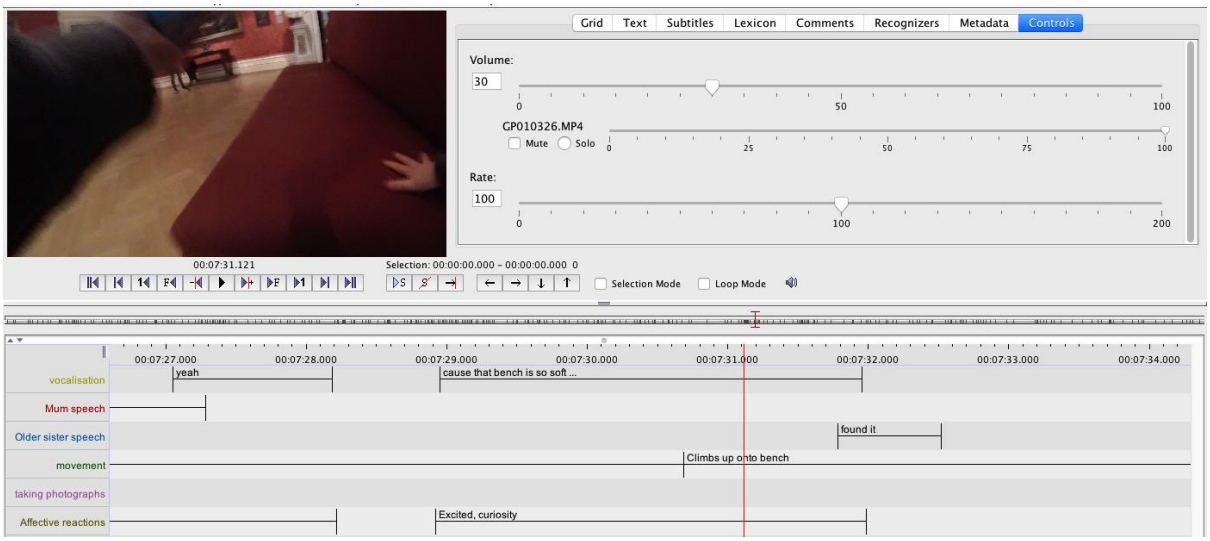


Figure 5.2.26: Edward touching a sofa

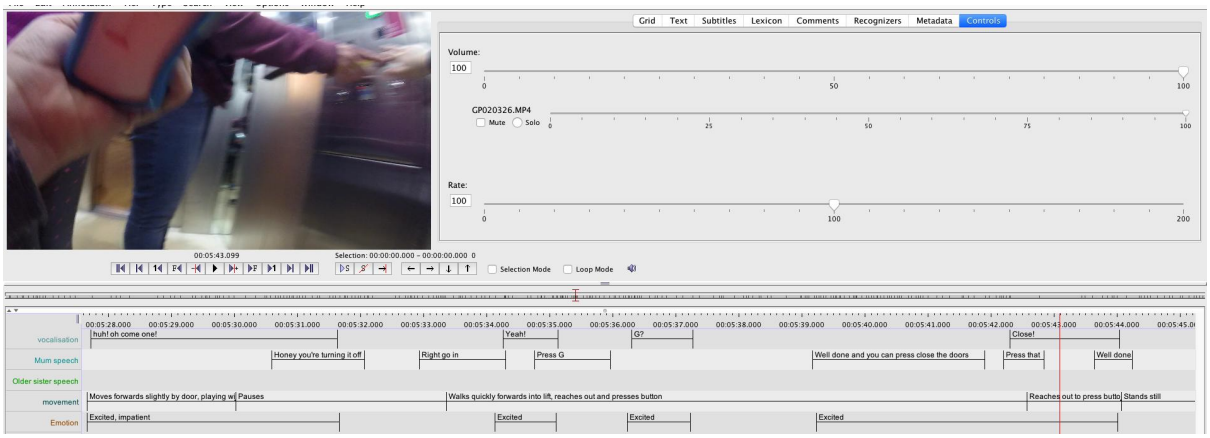


Figure 5.2.27: Edward excitedly entering lift

Edward very much enjoyed having and manipulating the handheld camera. He played with it as if it was a prop as much as a tool to take photographs with. His enjoyment was to the point he did not want to return it at the end of the visit (F5.2.16, part 3). This focus on play sometimes complicated the reasons why he took photographs; sometimes they were part of his play, sometimes they were because he was interested in something, and sometimes a combination of both. In F5.2.28 below he hammed up a typical photography scene and took a photograph of his mum. As Fasoli (2003) notes, photographs are constructs of the social context in which they are taken. This particular photograph (F5.2.29) is as much about a focus on the camera as it is a focus on his mum, the subject of the picture.

Figure 5.2.28: Edward playing with the camera

Figure 5.2.29: Edward's photograph of his mum

His playful interactions with the camera meant he did not pay a great deal of attention to the photographic product. He often took photographs on the move, or too quickly, lowering the camera when pressing the shoot button. This created a number of blurred shots (e.g. F5.2.29 above). This issue is contradictory to the ease of use reported by others (Stephenson, 2009; Kirk, 2014; Dunn, 2012; Dockett, Main and Kelly, 2011).

5.2.6 Summary

Edward's movement was mostly exploratory, and he showed an awareness of his mum and sister's whereabouts. On occasions he became absorbed in the synchronization of his movement and vocalisations. He was left to his own devices

for the majority of the time which he took in his stride, occasionally trying to join in with his mum and his sister's activities and conversations. Although his affective reactions were varied, he was mainly relaxed and having fun, although towards the end of his visit he became tired and correspondingly fractious. His attention patterns mostly conformed to well documented patterns. For example paying attention to things that are big, small, shiny and animals and other things that he recognised from his wider experiences. He also found lifts, soft furnishings, letters and three-dimensional representations of the human form (especially when they were naked or partially clothed) of particular interest. He enjoyed playing with the camera and periodically showed a desire to interact with objects through touch.

5.3 Sophia's visit to Museum A

Figure 5.3.1: A screenshot of the GoPro footage showing a queue of pushchairs outside the lift

5.3.1 Introduction

As Sophia's dad's comments in interview suggested they have visited the museum together on a number of occasions before:

'*Well, we stayed for so much longer than we normally do … we normally come for about half an hour … just do one little bit … but I think because she had the camera …*'

In addition to visiting the exhibition spaces, she also spent time drawing in the children's art area, drinking hot chocolate in the café, and visited the toilet on two

occasions. Although there was a steady stream of people in the exhibitions, the large size of the museum ensured that there were times when father and daughter were alone. There were a few occasions when the environment noticeably became busier, the most striking of which occurred when they were waiting for (and inside) the lift (F5.3.1).

Like Edward she was reticent in interview. This could reflect some museum fatigue after the long length of her visit, or that she struggled to articulate her experiences, a sense of shyness, or a combination of these factors.

5.3.2 Movement

Like Edward, Sophia's movement was exploratory (Kirk, 2014; Piscitelli, Everett and Weier, 2003) throughout her visit, eager, and varied (Hackett, 2016). She explored in a number of different ways. For example, rotating her torso when she moved and when paused. The impression was this helped her to visually scan the spaces around her. Not surprisingly she moved closer to things or areas she was interested in, sometimes reaching out to touch or draping her body over the display cases (F5.3.10, part one). For example, in F5.3.4, she turned a corner into an aisle, adjusted her torso to firstly her left and then to her right. This gave her the opportunity to scan the display cases she was facing. She then spotted an item that she was interested in. She then moved closer to take a look calling out '*I found it!*'.

In terms of variety of movement, she predominantly walked, but also twirled (F5.3.2), danced, marched, ran, rotated (F5.3.4) and jumped during her visit. On

occasion her movement was constrained by her dad's activity. This constraint is illustrated by the restricted circular movement at points 4 and 7 on the movement map below (F5.3.3). As illustrated by F5.3.2 this restricted movement is accompanied by repetitive and rhythmic vocalisations during which she becomes increasingly focused and absorbed. The impression is that Sophia was channelling her frustration into her movement and vocalisations. In this example, Sophia impatiently called out '*Daddy,… Daddy,… Daddy*' in time to her twirling (approximately) on the spot. The transcript F5.3.2 links to points 6 and 8 on the movement map. The frustration felt by Sophia is reminiscent of Tolmie *et al's* (2014) point that tension can develop between young children and parents because of conflicting attention thresholds. Although the resulting tension is similar, this finding diverges from Tolmie *et al's* (2014) point in that Sophia's dad is successful in finishing his text conversation, rather than cutting short his activity to keep up with his daughter. In other words, it is Sophia that is frustrated, not her dad. This fragment also chimes with Anderson, Piscitelli and Everett's (2008) discussion of agendas of mission and time. For example, Sophia, at odds with her dad, wanted to be in charge of both where to go next and how long to spend in this particular area.

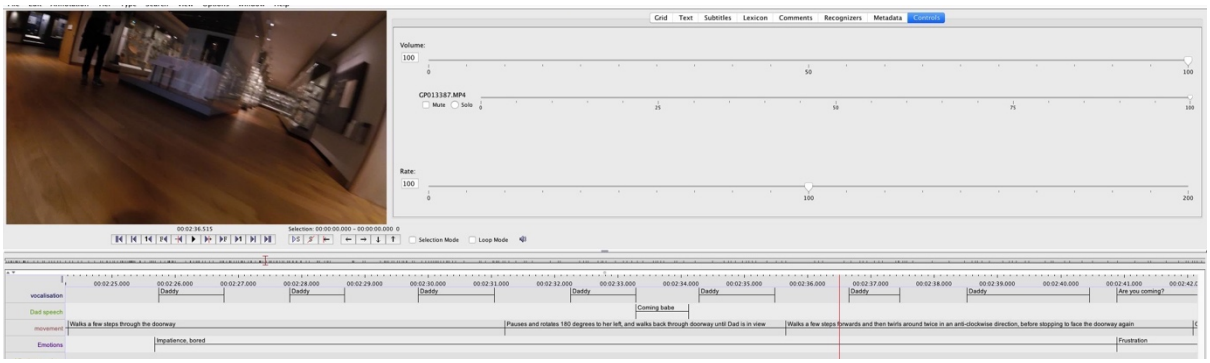


Figure 5.3.2: Sophia impatiently twirling while waiting for her dad

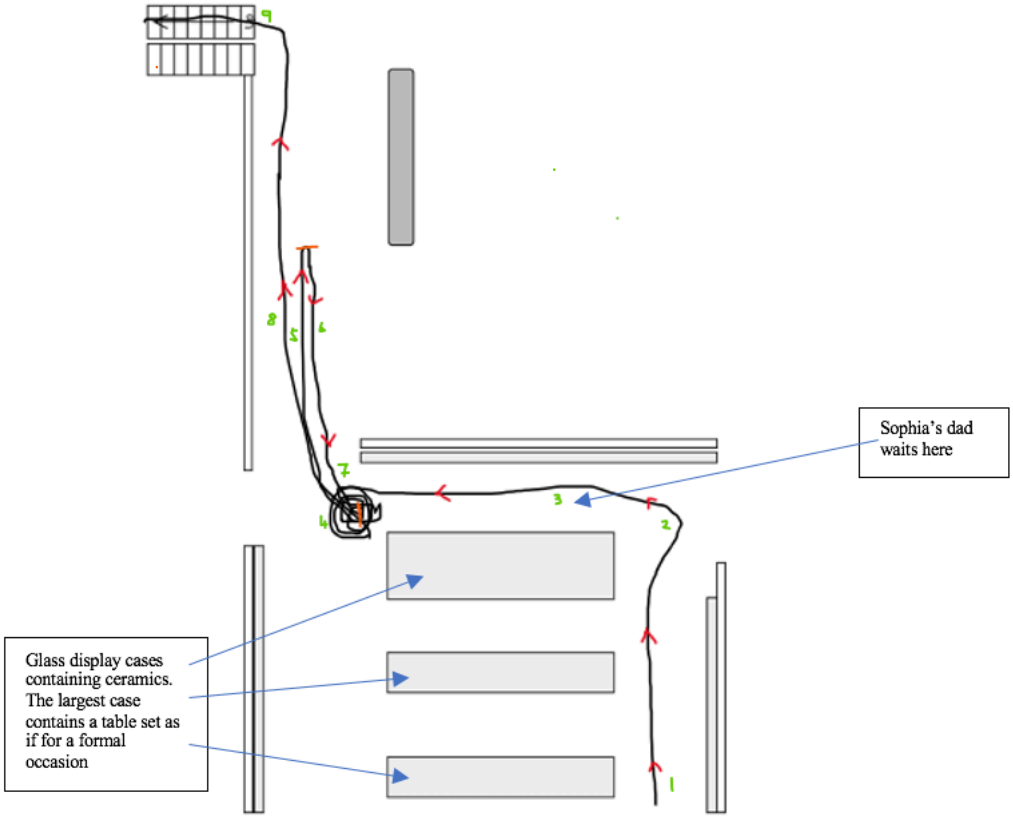


Figure 5.3.3: A movement map showing Sophia waiting for her dad (points 5 to 7 correspond with Figure 5.3.5.

(*The orange lines mark where she pauses. The black line is a trace of her movement through the space, the red chevrons show his direction of travel. The green numbers represent her movement from start (1) to finish (9). Sophia is leading her dad at all times. Figure 2 represents the short period between no's 6 and 8 when she impatiently returns back through the door to wait for her dad.)*

There were occasions when Sophia repeatedly returned to objects that interested her. One example is that she repeatedly returned and wanted to return to lifts (see F5.3.5, part two). This contrasted to Edward's returning movements that were restricted to the locality he was in. Sophia instead wanted to go to a different part of the museum specifically to find another lift. She did sometimes return to things of interest in the local area too. The reason for this is likely to be that she was a repeat visitor and knew she enjoyed riding in the lift whereas Edward was mostly focused on exploration in the local area he was moving through at the time. In slightly younger children, Hackett (2016) observed a comparable repeat movement in a smaller enclosed space, when a child zigzags repeatedly towards a plasma screen. She compares this to underlining written text on a page for emphasis. In the same way Sophia returning to the lift (albeit over the period of the entire visit and over a larger area) is her way of communicating that she really liked the lifts. Her dad, in recognition of multiple rides in the lift during their time in the galleries, commented in interview '*We had quite an up and down tour didn't we Soph?*', to which she nodded and said with emphasis '*Yes*'.

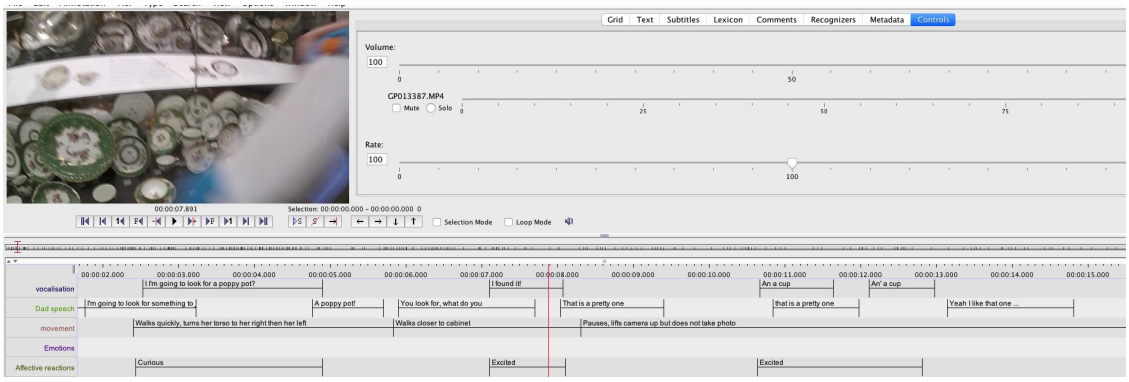


Figure 5.3.4: Sophia exploring the European Ceramics Gallery.

She also moved in a stop-start (Piscitelli, Everett and Weier, 2003) manner through the museum spaces. For example, in F5.3.16 (parts 1 to 4) she began by noticing a '*horsey*', she then moved a few paces to her right and began to pay attention to a '… *camel*...'. She then paused and contemplated taking a photograph before moving off to stop at another exhibit a few feet away. This pattern of movement was similar to that displayed by Edward but often with noticeably longer gaps between stops. This may be because she was not so struck by the novelty of the spaces (therefore being prepared to hurry through them) or perhaps that her movement was sometimes motivated with the 'purpose' of finding the lifts which interfered with her exploration of the local area.

Sophia was allowed to lead her dad at times. During the times when she took the lead, she was clearly conscious of her dad's whereabouts and uncomfortable if he was out of sight. For example, the movement map (F5.3.3) shows a trace of Sophia walking towards, and then timidly a few feet through a doorway and out of sight of her dad (numbers 4 and 5). This was an attempt to force her dad into following her. After she moved through the doorway, she turned to see if her dad was following. He was not. Sophia then quickly returned through the door and back to her dad (see points 6 and 7 on F5.3.3 and F5.3.5, parts one and two).

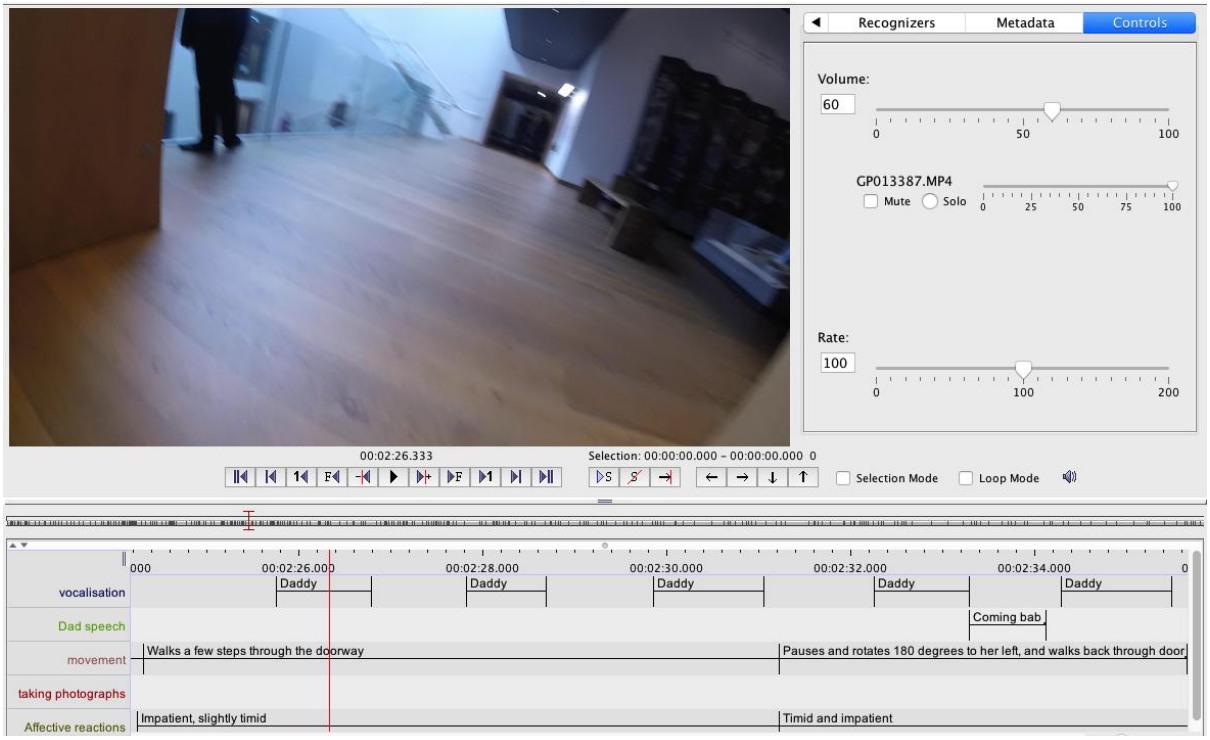


Figure 5.3.5 (part one). Sophia walking a few feet through the doorway before returning to her dad (Corresponds with points 5 and 6 on movement map above)

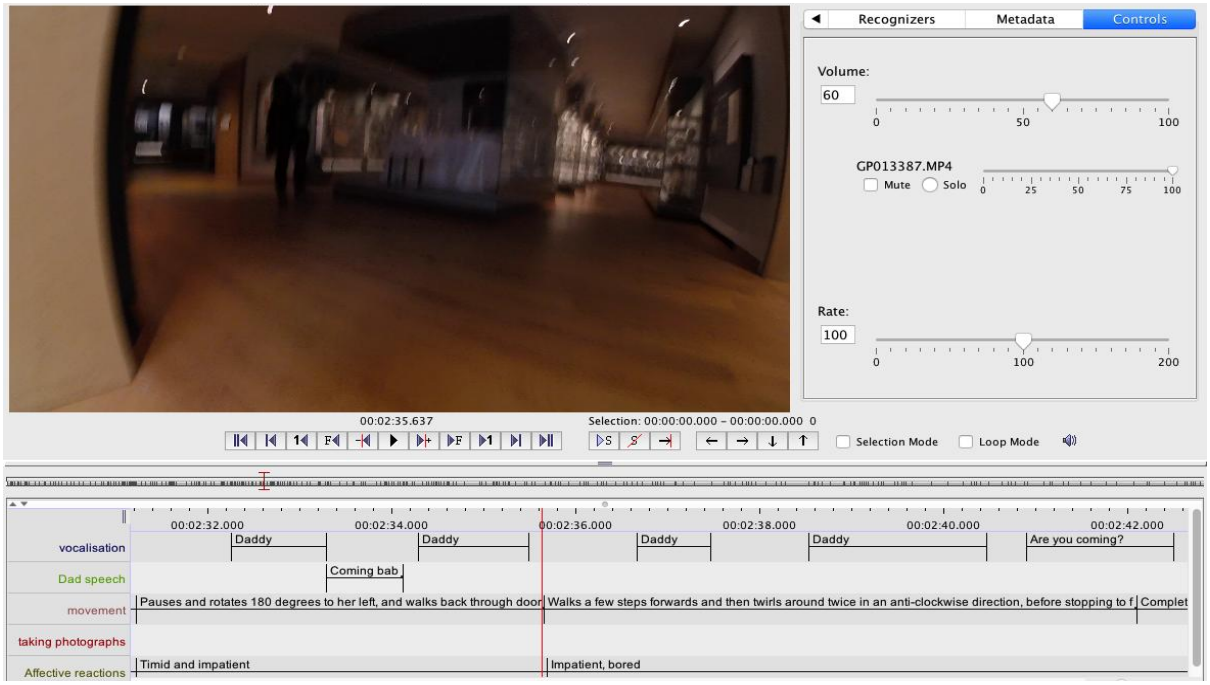


Figure 5.3.5 (part two) Sophia twirling and chanting (corresponds with point 7 on movement map above)

5.3.3 Family interactions

Sophia's dad was warm, kindly and often quite indulgent. In turn she was energetic and often very demanding. She appeared aware that she could often get her own way if she exerted enough pressure. F5.3.6 is illustrative of this indulgent versus demanding combination. For example, in F5.3.6 (part one) he suggested to Sophia a possible route by saying '*what about through here?*'. When she resisted and made her own suggestions (communicated by setting off in a different direction and saying '*no, no, no, no, I wan''*), he acquiesced (F5.3.6, part two) and followed her to the lift. Even though Sophia was often indulged, her dad was firm at times and was ultimately in control of the route around the museum and his daughter's behaviour.

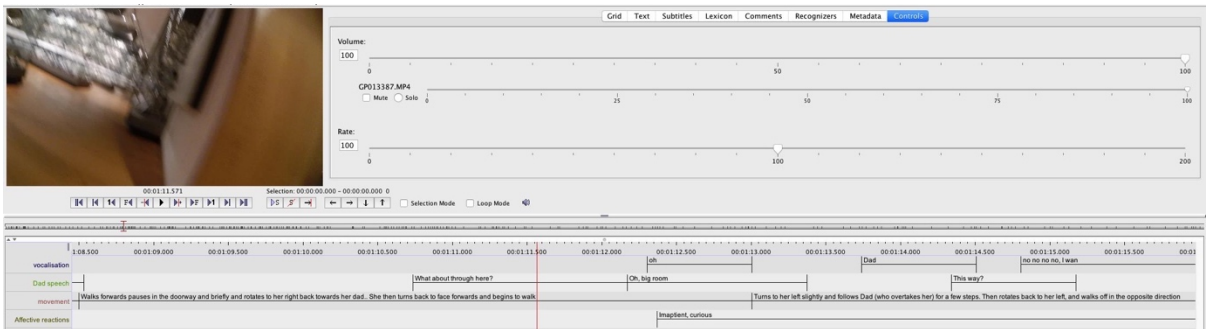


Figure 5.3.6 (part one): Sophia leading her dad

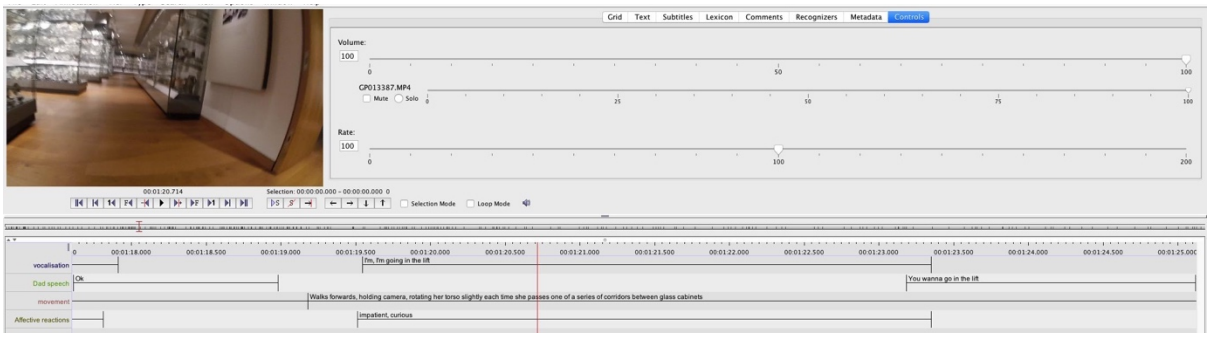


Figure 5.3.6 (part two): Sophia leading her dad

For example (Like Edward's mum) he upheld the museum rules such as no touching. For instance, in F5.3.8 (part two) after she reached out to touch a statue, he said '*No you are not allowed to touch, not allowed to touch*'. This resonated with Kirk's (2014) assertion that children have a relatively strong desire to touch things and this is sometimes interrupted by accompanying adults. Sophia responded with the slightly disappointed question '*Why I not allowed to touch?*'. This indicated that touching is an act that she valued and that, in that particular moment, she felt disappointed that her exploratory desire to touch was foiled.

In relation to museum rules, Fasoli (2001), referring to a preschool group, notes that children as a group become increasingly aware of the implicit rules of an art gallery such as not touching, being quiet and moving slowly due to frequent reminders from accompanying teachers. Although certainly not a structured visit, it is certainly the case that reminders from her dad served to gently immerse her into (or rather back into) the social rules concerning interaction with the museum's collections. Instinctively she would almost certainly have behaved differently but is being (sometimes reluctantly) socialised into what her dad considers the correct mode of behaviour.

Like Edward, Sophia was helped during the early stages of the visit by her dad to operate the camera. For example (F5.3.7), he was quick to offer advice when she asked him how to turn the camera off. During this period Sophia was experimenting with the camera in a sometimes earnest, sometimes playful way. Her focus on the camera will be discussed further in section 5.3.5.

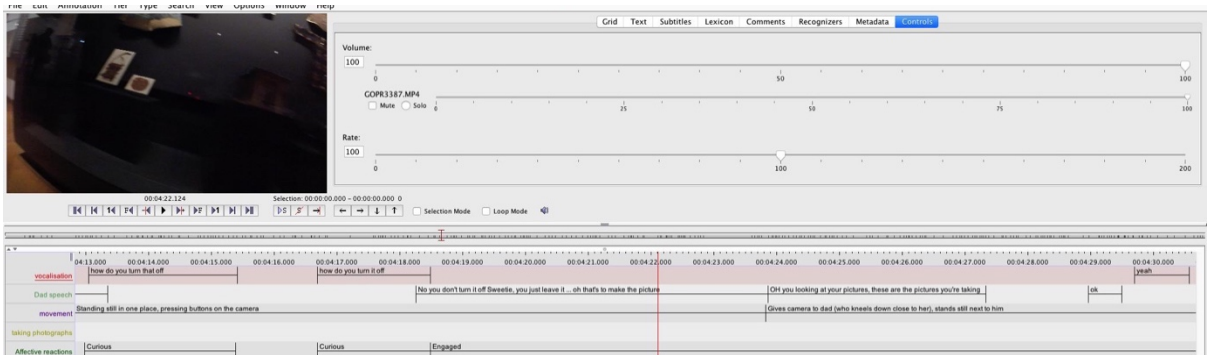


Figure 5.3.7: Sophia getting help with the camera

Sophia's dad often used gendered language. For example, he affectionately called her '*sweetie*' in interview and '*darl*' or '*babe*' (F5.3.5) during the visit. Perhaps deliberately he drew Sophia's attention to objects that he considered she might find 'pretty'. For example, when suggesting coffee pots and cups that Sophia might like he commented, '*That is a pretty one'* on three separate occasions after she pointed out the crockery she liked. (F5.3.4). This is in contrast to the language used by Edward's mum who only called him by his first name and did not comment on the aesthetic properties of objects (to him). Sophia appeared more concerned with finding the next object than what it looked like, however she was being rewarded for finding things that her dad thought were pretty.

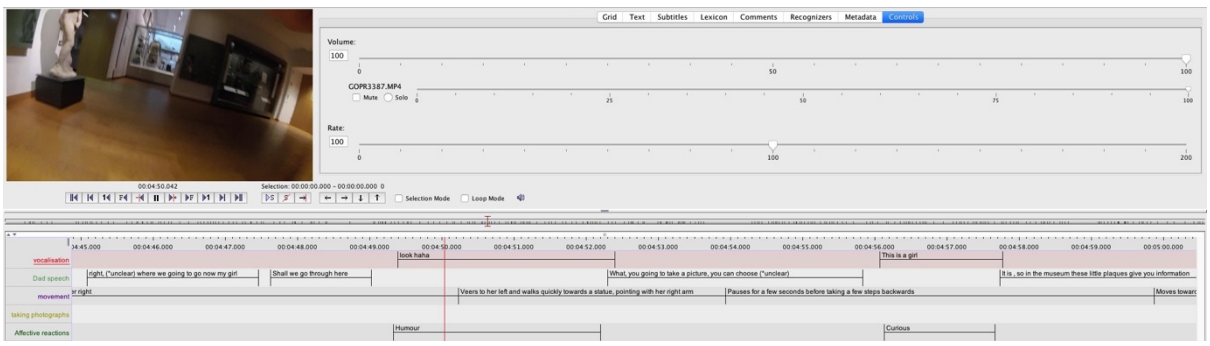


Figure 5.3.8 (part one): Sophia first encountering a statue of a 'girl'.

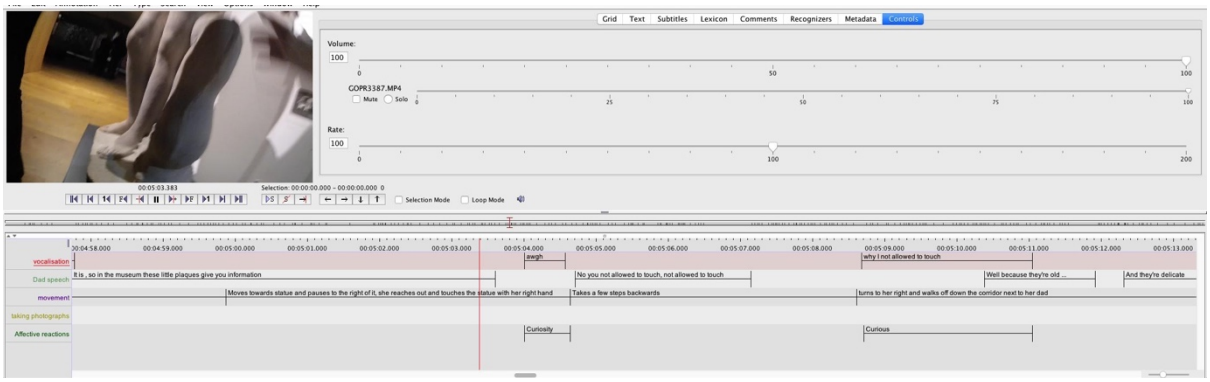


Figure 5.3.8 (part two): Sophia first encountering a statue of a girl

Sophia did not often ask her dad questions specifically about the exhibits. On the few occasions her curiosity was piqued to the point when she posed questions, her dad's answers were either brief or focussed on providing the name of an object or some other snippet of factual information gleaned from a label. For example, in Figure 5.3.9 she asked, describing, two porcelain sumo wrestlers, *'... Why they have small panties?'*. Her dad, somewhat flummoxed it seemed, replied '*Well that's what they wear, so I think that's just two sumo wrestlers*'. Sophia, satisfied by the answer, then moved on to the next thing.

Sophia could not read labels and unlike Edward gave no indication of interest in letters or symbols. Her dad sometimes read labels to her. The detail he provided was always cursory and factual such as a name or the provenance of an object. For example, he relayed that a plate was Italian and 400 years old (F5.3.13) and a coat from China (Figure 5.3.15). With reference to his reticence when answering questions this may be because he lacked the knowledge and or confidence to explain in any more detail (Wallis, 2018), or simply because he thought that this is the correct level to pitch the information. Sophia did not react to her dad relaying

information from the labels. Even when (referring to a selection of small jackets) he suggested *'... you got a choose which country they come from*', Sophia's reaction was not to focus on this suggested (abstract) attribute, but to focus on what she found attractive about the object. In this case it was that this was spotty. This could be a reaction to her dad rewarding her for finding pretty things in the ceramics area or it could simply be that she appreciated the object's aesthetic attributes. This resonated with the point that young children are often satisfied by the act of naming and/or describing the concrete aspects of an object, often not feeling a desire to pursue things further (Kirk, 2014). It is also pertinent to mention here that Kirk (2014) noted that girls were much more likely than boys to describe the surface attributes of an object.

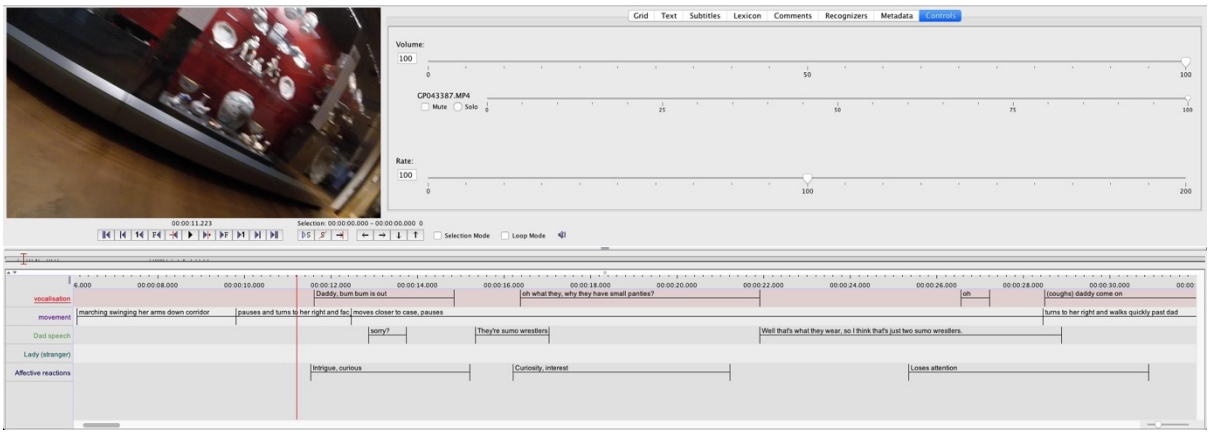


Figure 5.3.9: Sophia's interest in a pair of sumo wrestlers

Sophia enjoyed being part of 'finding games' that were initiated by her dad. For example, on entering the European Ceramics' Gallery he remarked, '*let's find, so we're going to have our dinner and we need to have something to drink*'. These games will be discussed in more detail in section 5.3.5.

Figure 5.3.10: Sophia's photograph of a plate during the finding game

5.3.4 Affective reactions

Although, like Edward, her affective reactions to the spaces fluctuated as she moved through the museum, she predominantly gave the impression she enjoyed her visit (Kirk, 2014). Her affective reactions were varied and impacted on her moment-by-moment engagement with the exhibitions and those around her. She expressed wonder and excitement when she moved through the spaces, although to a noticeably lesser extent than Edward who was a first-time visitor. For example, in F5.3.11 (part one), she exclaimed '*wow, pennies*' when her dad pointed out a hoard of coins to her. Moments after this she took a photograph of the coins (F5.3.12). Both these reactions suggested a connection with the object. But the wonder and excitement she felt (plus consequent naming of the object), similarly to Edward, did not prompt any further

enquiry. Instead, she quickly moved on down the corridor after she took the photograph as shown in F5.3.11 (part two). Her reactions of wonder and excitement were similar when she noticed objects of her own accord.

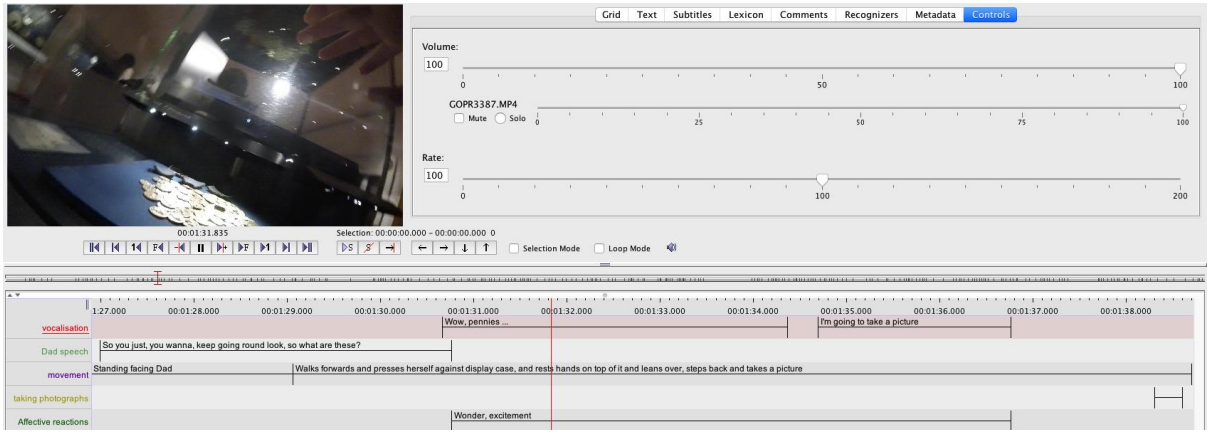


Figure 5.3.11 (part one): Sophia excited when seeing a hoard of coins

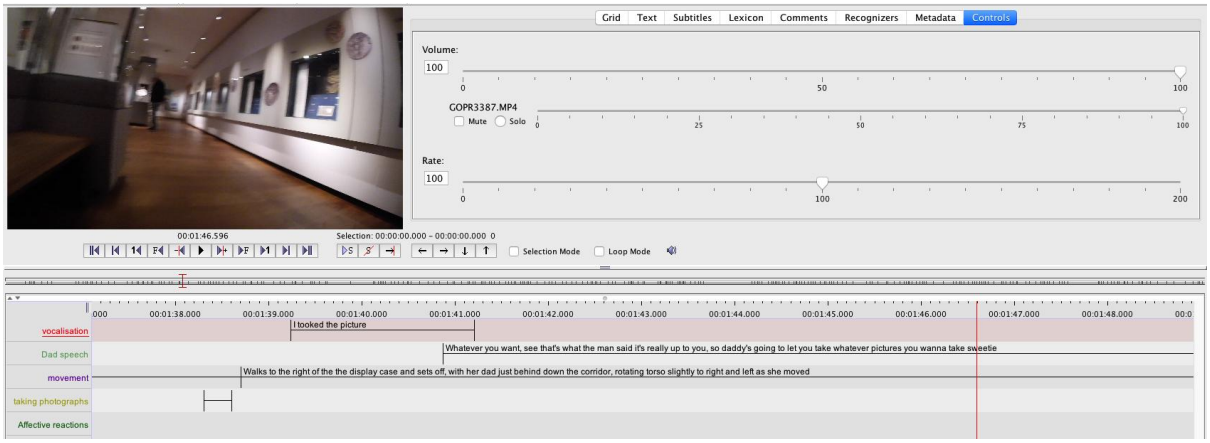


Figure 5.3.11 (part two): Sophia moving on from the coins

Figure 5.3.12: Sophia's photograph of the 'pennies'

Sophia demonstrated a sense of curiosity about the spaces she moved through and the things in them. This curiosity was predominantly expressed in terms of her movement, including touching things. On the few occasions she asked questions, firstly they tended to relate to finding things in the museum (e.g. '*where's the lift?'*), secondly why something is as it is, (e.g. '*why that horsie have a saddle?*') and thirdly '*what is this for*?' (e.g in relation to a fire hydrant). As outlined in section 5.3.3, her dad's answers were always cursory.

She also engaged, like Edward, with the exhibitions using her sense of humour (e.g. Dockett, Main and Kelly, 2011). For example, saying '*look haha*' when she first encountered a statue of an unclothed female (F5.3.8). Most of the time, judging from her tone of voice, she presented a rather earnest demeanor when reacting to exhibits

concerning the nakedness (Figure 7) of three-dimensional human representations indicating that she was intrigued (See section 5.3.5).

She was playful (Danko-McGhee, 2006) during much of her visit, for example joining in with her dad's finding games as illustrated in F5.3.4 and F5.3.15. She also played with the camera as illustrated in F5.3.21. Her playfulness with the camera will be revisited in section 5.3.5.

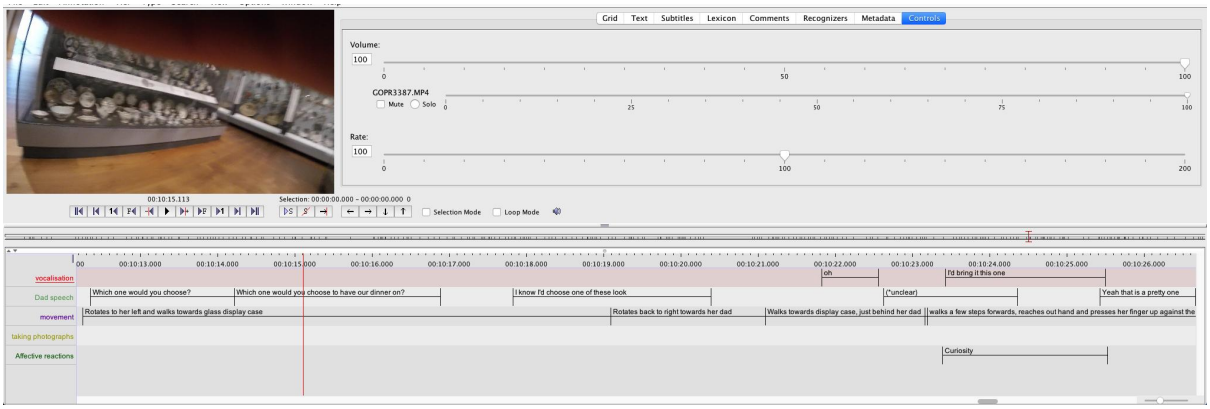


Figure 5.3.13 (part one): Sophia choosing a plate

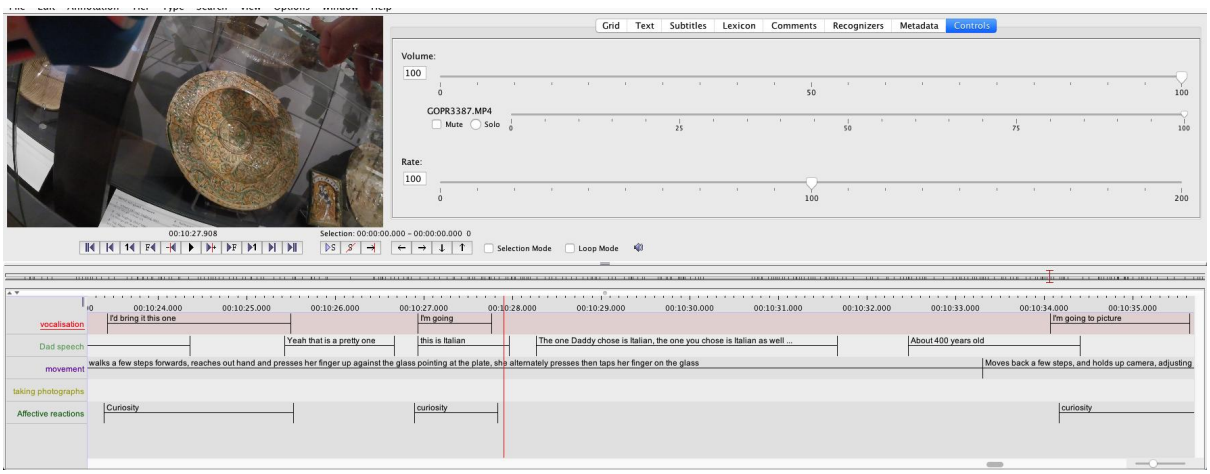


Figure 5.3.13 (part two): Sophia choosing a plate

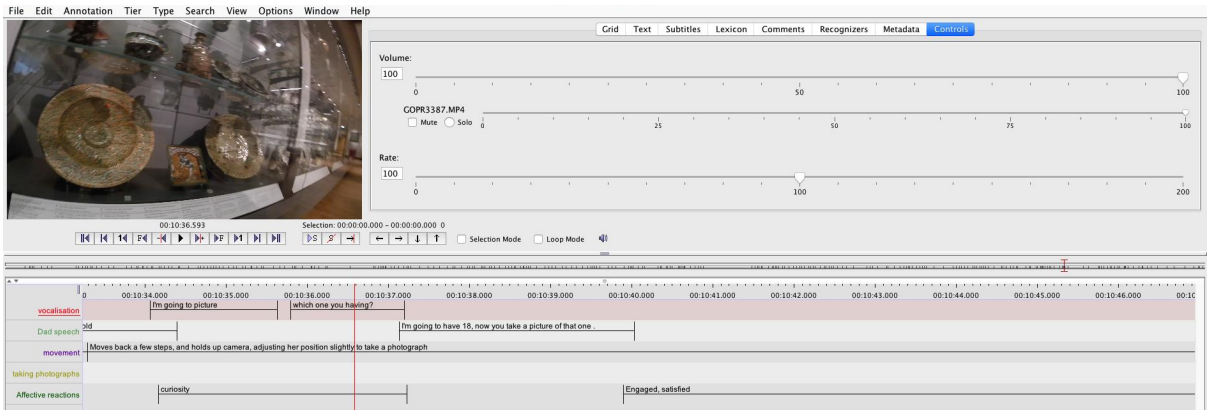


Figure 5.3.13 (part three): Sophia photographing plate

Sophia also showed signs of being impatient, frustrated and demanding (See F5.3.2). These reactions were mostly concerned with issues of pace, direction of movement (section 5.3.2) and in the later stages of the visit her reluctance to return the camera. Sophia's impatience at not being able to move forward at her own pace had the effect of fixing her attention on her desire to move on and her frustration at not being able to do so. This meant that there were times when her bad mood meant she showed no desire to pay any attention to the surrounding spaces.

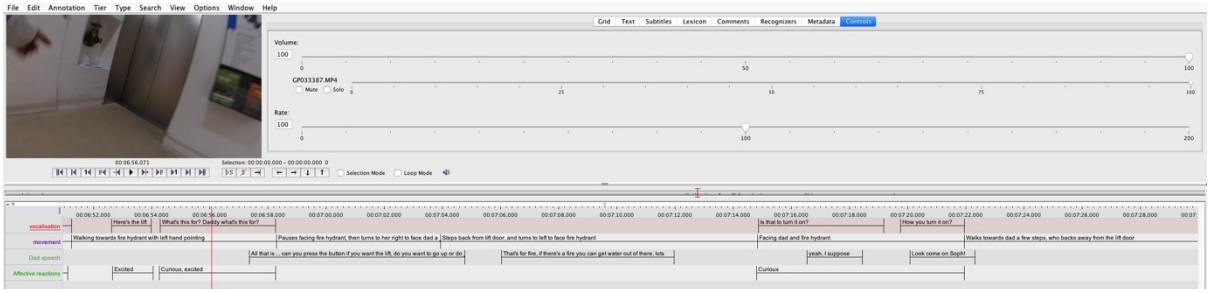


Figure 5.3.14: Sophia's interest in a fire hydrant

5.3.5 Patterns of attention

Sophia's attention, although varied and idiosyncratic, followed the well-worn patterns of attending to exhibits whose properties are large or small (Jenkins, Lisk and Broadley, 2013), brightly coloured, or shiny (e.g. Figure 5.3.12) (Danko-McGhee, 2006), or patterned (e.g. Figure 5.3.13, part two) (Kirk, 2014; Kirk and Buckingham, 2018).

Figure 5.3.15: Sophia's dad initiating a finding game

She also paid attention to objects that were either artistic representations of (e.g. F5.3.16) animals (Danko-McGhee, 2006), or (like a sphinx) reminiscent of animals. Like the other children she paid attention to aspects of the building (including lifts) that were not part of the exhibitions (Hackett, Procter and Kummerfeld, 2018; Anderson *et al.*, 2002). In particular the lifts which will be discussed below. Another example is the fire hydrant that she encountered outside a lift (F5.3.14).

Linking to things that are familiar to her was one concrete way that she spontaneously engaged with objects in the exhibitions (Kirk, 2014; Piscitelli and

Anderson, 2001; Dockett, Main and Kelly, 2011). Recognizing a ‘horsey’ and ‘a girl’ being two examples. Demonstrating that she recognised things was unusual during her visit, as was describing things. The low levels of naming and description could be a reaction to her being a repeat visitor and therefore not struck by so many of the things she encountered. As discussed in section 5.3.4 she only rarely followed up her naming with a question and these were often responded to briefly. Like Edward she was also reticent in interview, and only named two things from the 46 photographs she took, ‘*A statue*’ and ‘*The coins’.* This combined with the low levels of naming during the visit (perhaps exacerbated by her shyness in an interview situation or being tired at the end of her visit) indicated that she was unable to easily link many of the objects in the collections to her wider knowledge base.

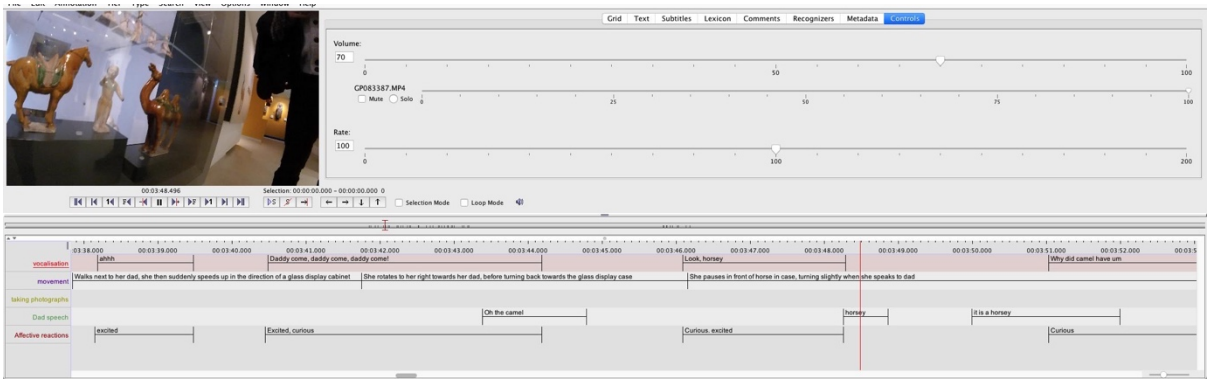


Figure 5.3.16 (part one): Sophia naming a horse

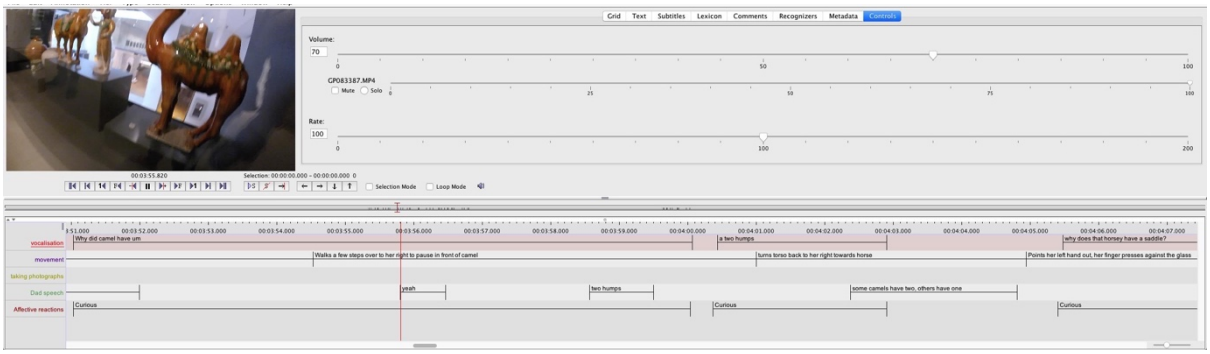


Figure 5.3.16 (part two): Sophia’s attention is now on the camel

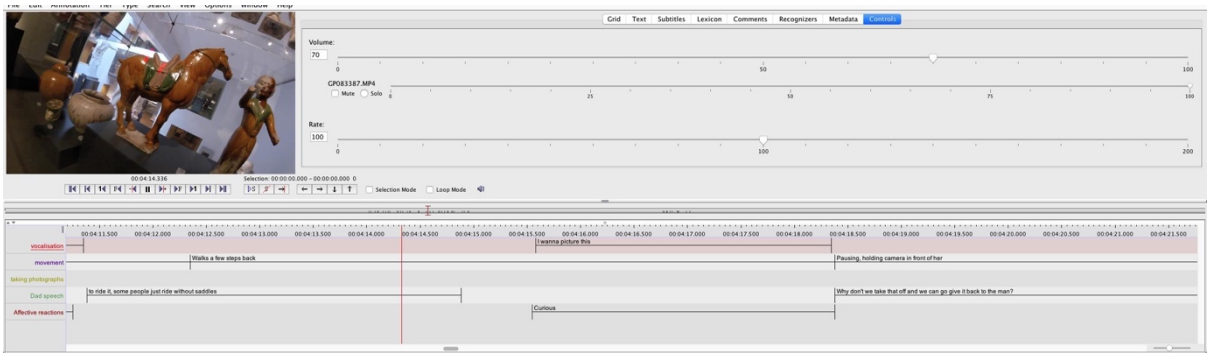


Figure 5.3.16 (part three): Sophia discusses taking a photograph but does not

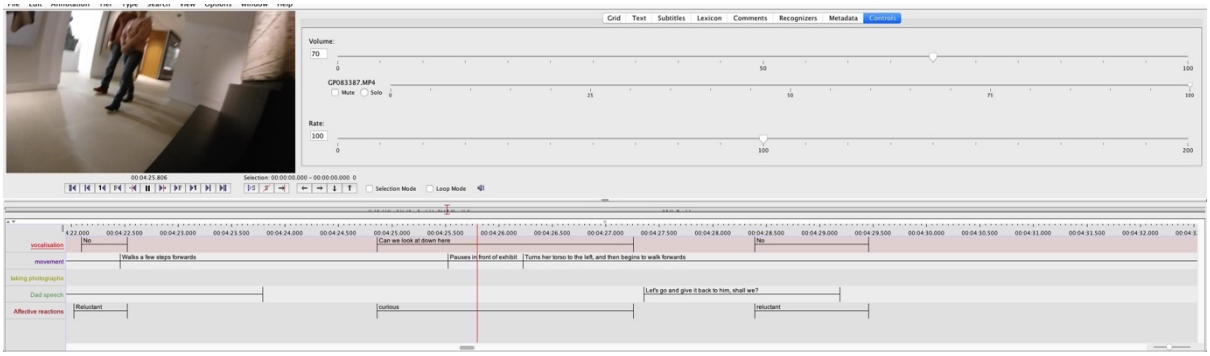


Figure 5.3.16 (part four): Sophia begins her stop-start movement again.

The point above links to her enjoyment of finding games that were initiated by her dad (F5.3.4, F5.3.13, F5.3.15). To begin these games, her dad created a scenario where she needed to find something in the collections that linked to either some crockery she wanted to eat or drink from (F5.3.4 and F5.3.13) or something she wanted to wear. For example, in F5.3.13 he said, '*Which one would you choose to have our dinner on?*'. This sparked a search for a plate (F5.3.13 part two) that was clearly enjoyable for her. Both in terms of looking for things and in terms of the social engagement with her dad. For example, she was also interested in finding out what he would choose to eat from. These scenarios both linked the collections to her own experiences of eating and drinking. In interview she proudly mentioned, '*that was my one'* when looking at her photograph of a plate (F5.3.10) she took during this game. Although not reflecting the enjoyment that can be gleaned from the FPV trace,

the comment with its emphasis on *'... my one*' suggested that the game allowed her to create a personal attachment to one of the objects in the museum.

Another finding activity that developed was looking for lifts. Her Dad initially initiated this by suggesting they take the lift. This suggestion sparked great enthusiasm in Sophia and consequently a further six rides in the lift that were all asked for by Sophia. Not surprisingly this indicated that she very much enjoyed the lifts, including pressing the buttons inside and out, the ride itself and talking to strangers both inside and outside the lift. As noted in section 5.3.2 purposefully moving to the lifts was a key feature of her visit. For example, in F5.3.18 (part one) she clomped up the stairs clutching her camera, and in answer to her dad's question '*where are you going?*' announced with an excited lilt '*To the lift*'. When she arrived outside the lift, she spontaneously struck up a brief conversation with a member of staff who was waiting for the lift (F5.3.18, part two). Sophia clearly felt confident to talk to strangers while either waiting for the lift and during five of her seven rides. The social conditions of her being in close proximity with others who had the similar purpose of using the lift provided a source of conversation that she very much enjoyed. For example, on one occasion she initiated a conversation with a female visitor by saying '*I have camera*'. On another occasion she spoke to a member of staff asking her if she was going in the lift (F5.3.18).

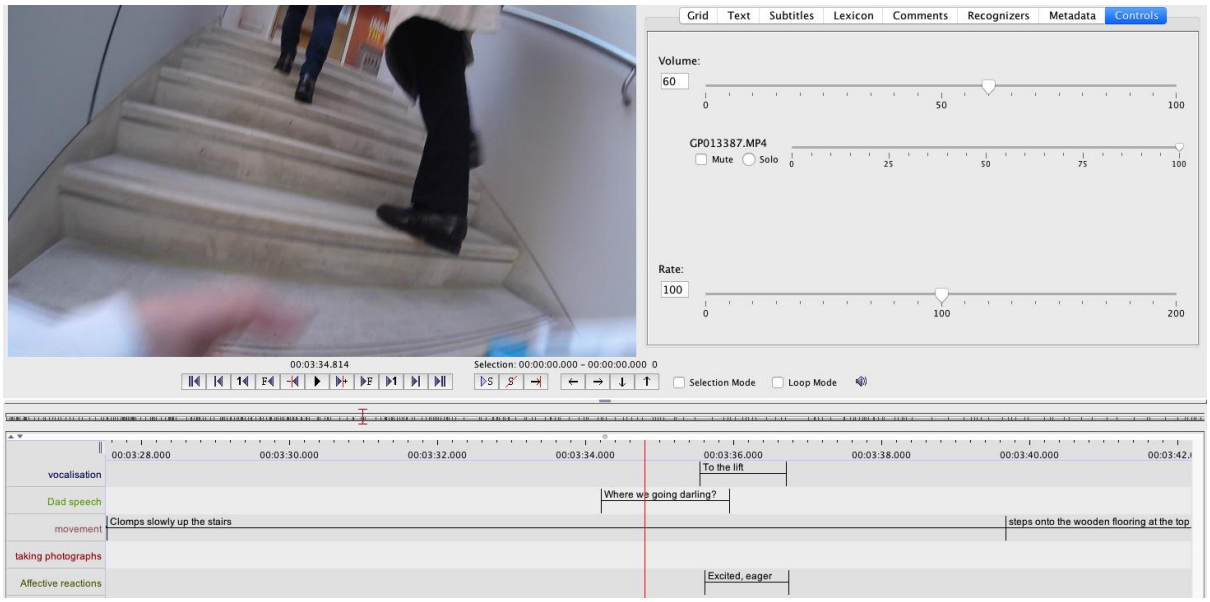


Figure 5.3.18 (part one): Sophia looking for the lift

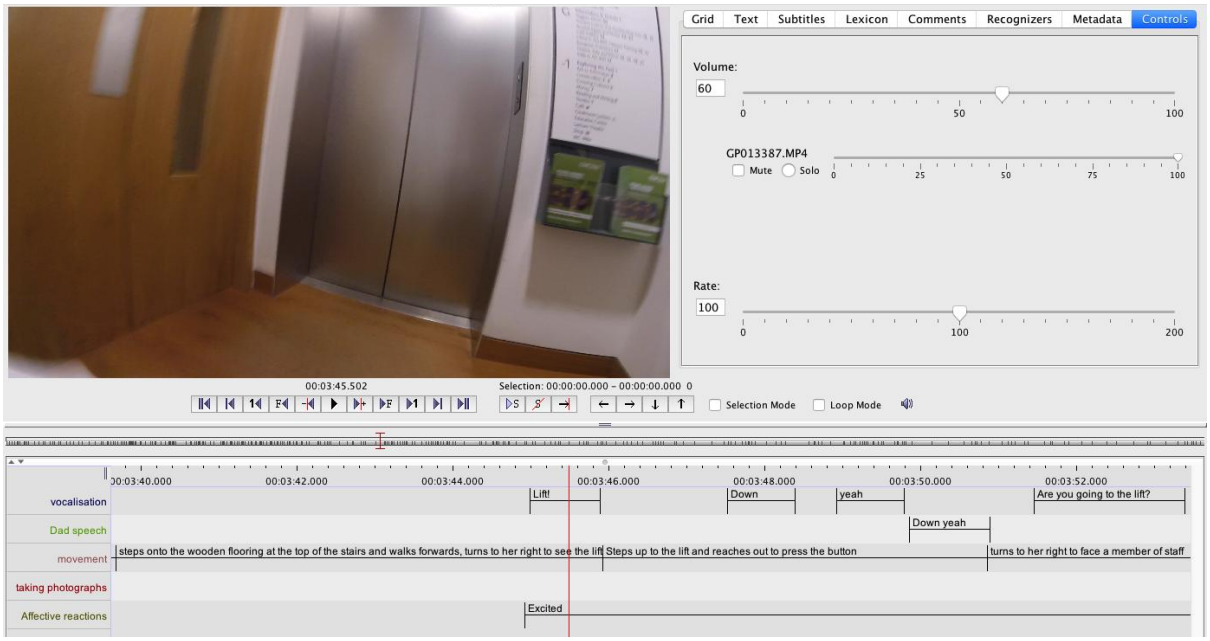


Figure 5.3.18 (part two): Sophia finding the lift

Like Edward, Sophia showed a particular interest in 3-dimensional representations of the human form e.g. statues and figurines (e.g. F5.3.8). In particular she was struck or intrigued (again like Edward) by the nakedness of some of these representations. Interestingly she did not show any interest in two-dimensional paintings or her

photographs with similar content. For example, in interview she indicated that she was interested in the naked statues:

R: *What was your favourite thing?*

Sophia: *This* (pointing at photograph 17)

R: *And what is that?*

Dad: *It's ok, you can say*

Sophia: *Because I like it, I did like it*

Dad: *You did but what did you like about it? Did you take a picture because it's got no clothes on?*

Sophia: *Yes*

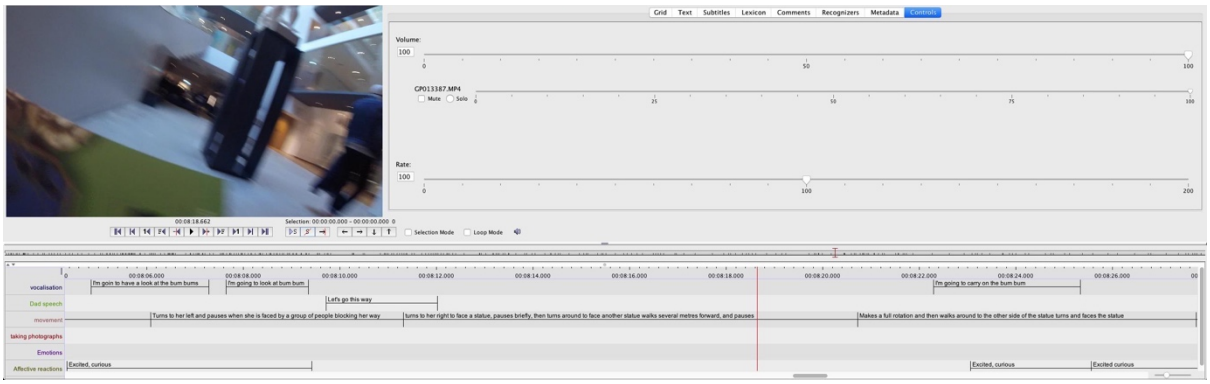


Figure 5.3.19 (part one): Sophia excited and curious about the statue

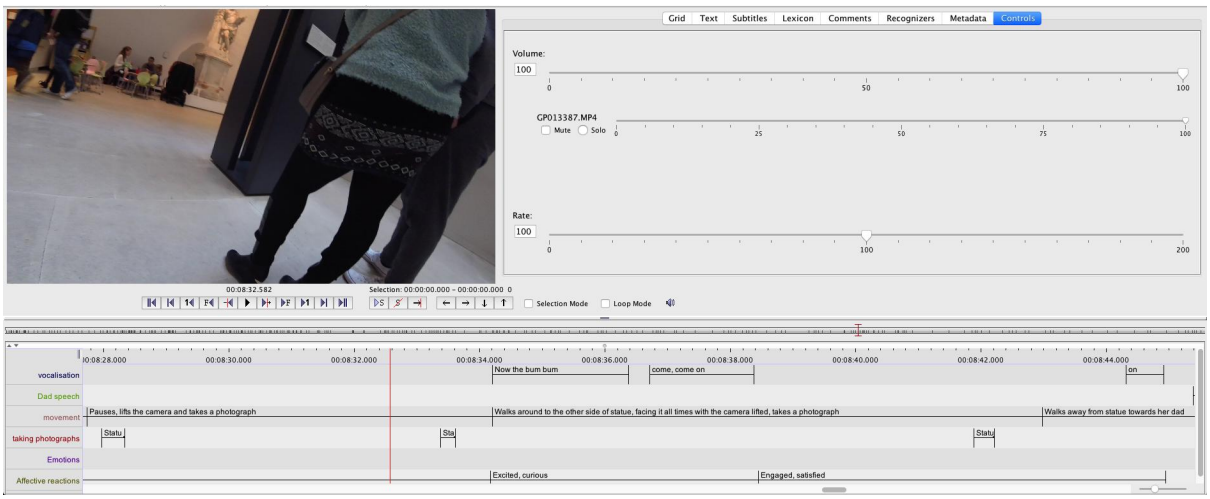


Figure 5.3.19 (part two): Sophia excited and curious about the statues

Figure 5.3.20: Sophia's photograph of a statue's 'bum, bum'

Although her dad asked a leading question concerning the statue having no clothes on, it is clear from the FPV trace that she was indeed very keen on this aspect of the exhibitions. During the visit she communicated her interest by a combination of

speech, movement and photography. For example, in F5.3.19 she communicated her intrigue with the statue's backside by her speech (e.g. '*Now the bum bum … come, come on'*), her movement (e.g. circling the statue) and the act of taking a photograph (F5.3.20). Furthermore, in relation to the porcelain sumo wrestlers mentioned earlier she was struck by their clothing or lack of. During another conversation with a stranger outside a lift she said in answer to the question '*are there lots of lovely things?*' she said in an earnest tone, '*I saw a guy with nothing on, with panties*' (F5.3.21). This finding resonated with Savva and Trimis' (2005) and Danko McGhee's (2006) finding that 81% of children prefer three dimensional works of art, however more specifically her interest was predominantly in the human form and their clothing or lack of.

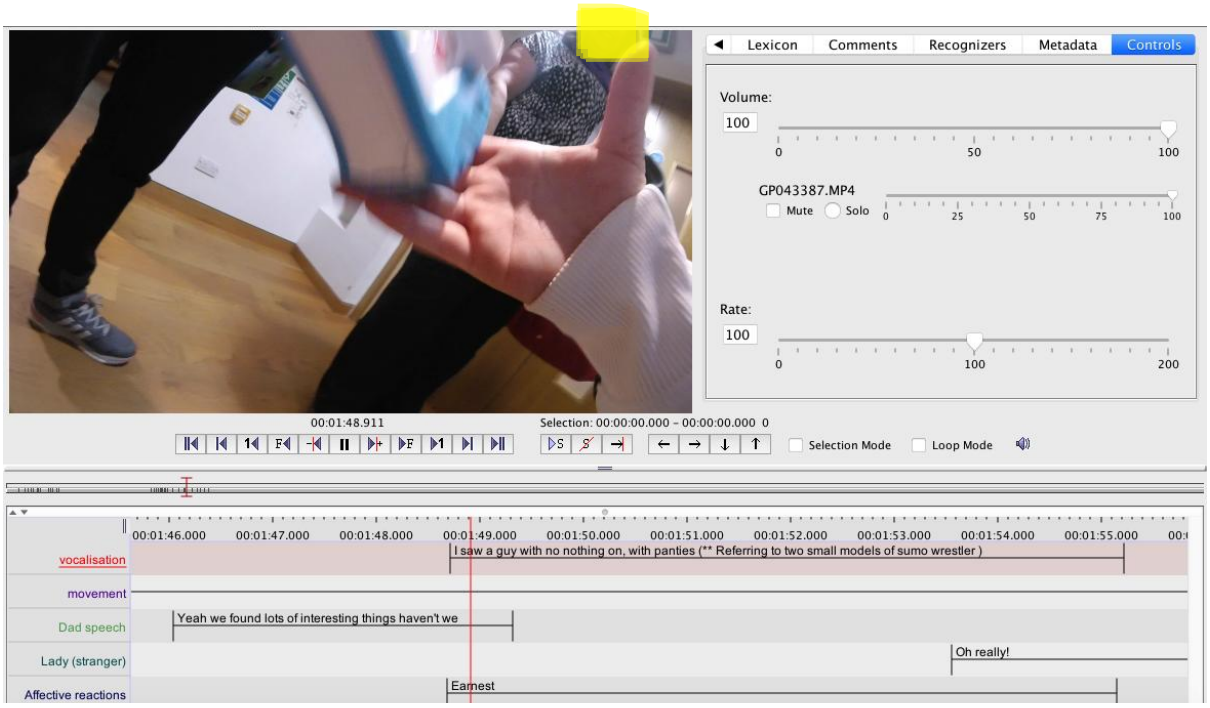


Figure 5.3.21 Sophia talking to a stranger outside the lift

It has been mentioned that Sophia was playful in the museum. This extended to her use of props, for example, similarly to Edward, she hammed up the stereotypical

adult activity of photography when taking a photograph of her dad (F5.3.22 and 5.3.23). This included bossily telling him to say cheese (‘*You have to say cheese*’) and a little to his surprise making sure he said it at the correct time (‘*Or when I say’*).

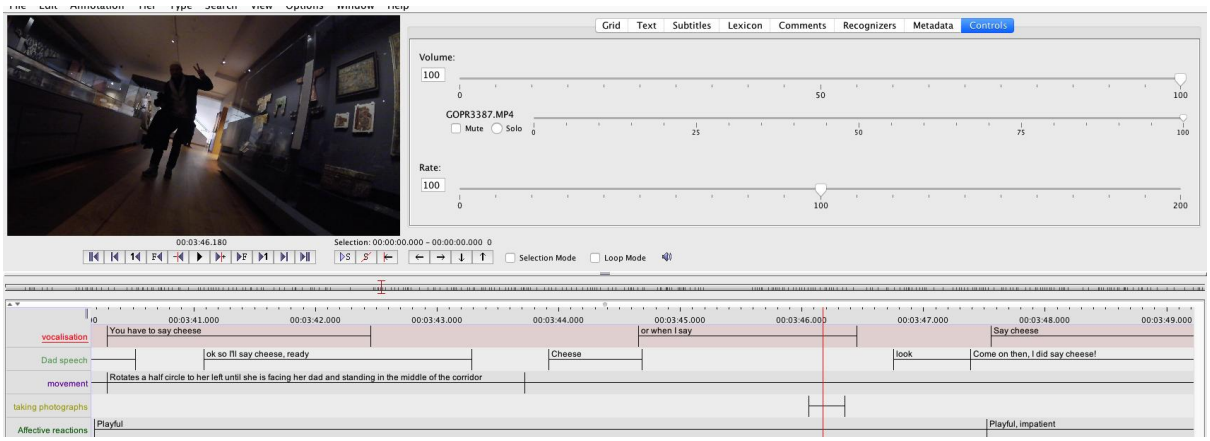


Figure 5.3.22: Sophia playing with the camera

Figure 5.3.23: Sophia’s photograph of her dad

5.3.6 Summary

Sophia's movement was predominantly exploratory in nature, however on occasions she became fixated on finding lifts. This meant that at times she travelled through the spaces with the purpose of reaching a destination rather than with a desire to explore the spaces she was passing through. Sophia moved in a stop-start manner, using body rotations to aid her visual scanning of the spaces. She occasionally enjoyed engaging with touch, sometimes with her whole body. Her relationship with her dad was warm and close. However, she could be demanding of his attention and petulant at times. Her affective reactions are varied, ranging from wonder to disappointment. Her expressions of wonder and excitement were less prevalent than Edward's. This might be due to her having visited the museum on several previous occasions. Sophia was playful, enjoyed using the camera and finding games that were initiated by her dad. She was particularly interested in lifts and the nakedness of statues.

5.4 Noel's visit to Museum B

'It was kind of broken because look, the teeth are supposed to be down there and the holes are saying hehehe'

(Noel in interview talking about a plesiosaur jawbone he photographed)

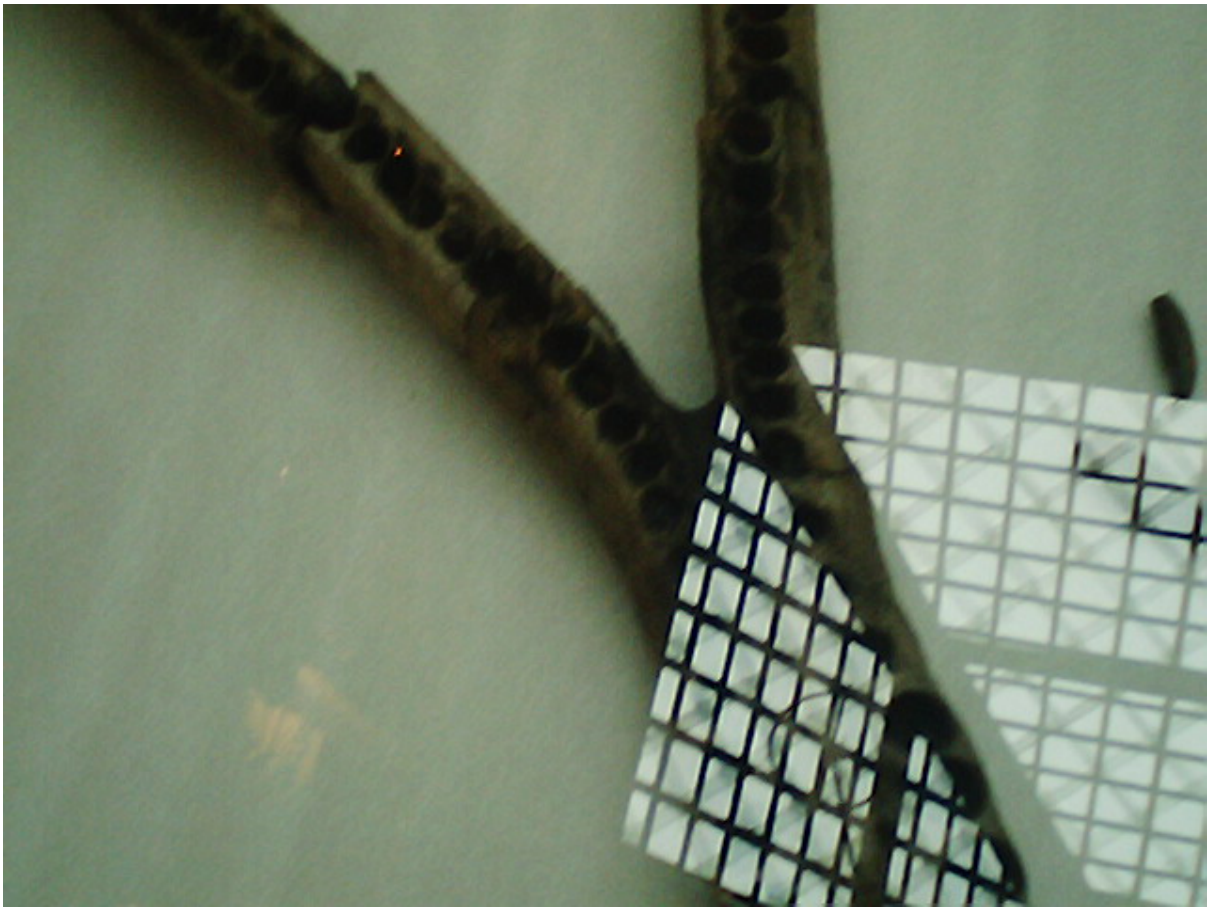


Figure 5.4.1: Noel's photograph of a plesiosaur jawbone

5.4.1 Introduction

Noel was a first-time visitor to the museum. He was visiting with his grandparents. His reactions to his grandfather's questions during the visit demonstrated that he had mastered basic phonics but could not yet read proficiently. This meant that he was unable to access exhibit labels without help. Noel was recovering from an injured leg. The extent of the injury is unclear, but it did not seem to affect his mobility to any great extent (See section 5.4.2). To illustrate, in interview Noel commented, '*I've got a bad leg'*, and his grandparents both expressed sympathy and concern when he climbed a large stone staircase, as shown in F5.4.2 below.

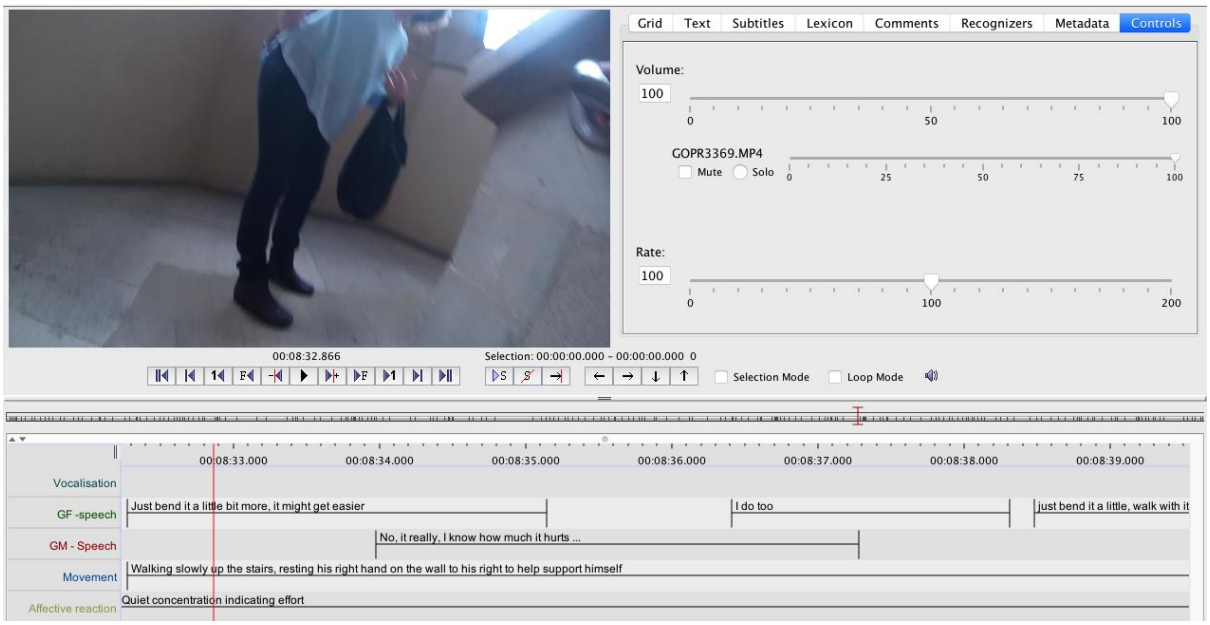


Figure 5.4.2: Noel effortfully climbing the stairs

The museum has a steady stream of visitors that Noel had to navigate but not to the extent it affected the family's route around the museum. Noel was chatty in

interview. He clearly enjoyed showing off his knowledge of the things he saw in the museum (See Appendix 6) which was also characteristic of his interactions in the museum (See section 5.4.3).

5.4.2 Movement

Like Edward and Sophia before him, Noel's movement is predominantly exploratory (Kirk, 2014; Kirk and Buckingham, 2018; Piscitelli, Everett and Weier, 2003). His exploratory movement included rotations and moving closer to objects of interest or returning to things in the local area that he found interesting. Body rotations when he moved or when paused allowed him to scan the areas that he passed through in a more comprehensive way than might be expected. For example, as shown in F5.4.3 (parts one and two) Noel moved down a corridor flanked by display cases on both sides. As he did so the trace revealed that he rotated by approximately 45 degrees to his left focussing his attention on the display cases on the other side of the corridor. This subtle movement, that might easily go unnoticed, provided him with the opportunity to scan the cases to his left. This allowed him to check if there was anything of interest before returning to look at the case closest to him. He then rotated back to his right and began to move leaning into the display case as he walked alongside it. He paused twice when he spotted something that was momentarily of interest. During this episode he vocalised a sense of wonder and excitement (e.g. '*huahh, woo'*) which coincided with his pauses. This pause/wonder sequence indicated his attention was directed at the insect collections in the adjacent display case. This fragment is also represented on the movement map below (see

numbers 12 to 13, F5.4.7). This stop start movement pattern was typical of his approach when moving through the exhibitions and is illustrated on a larger scale in F5.4.7. His attention to objects was sometimes self-initiated as above, for the purpose of taking a photograph, or in the case of the shoebill (F5.4.4) prompted by either grandparent.

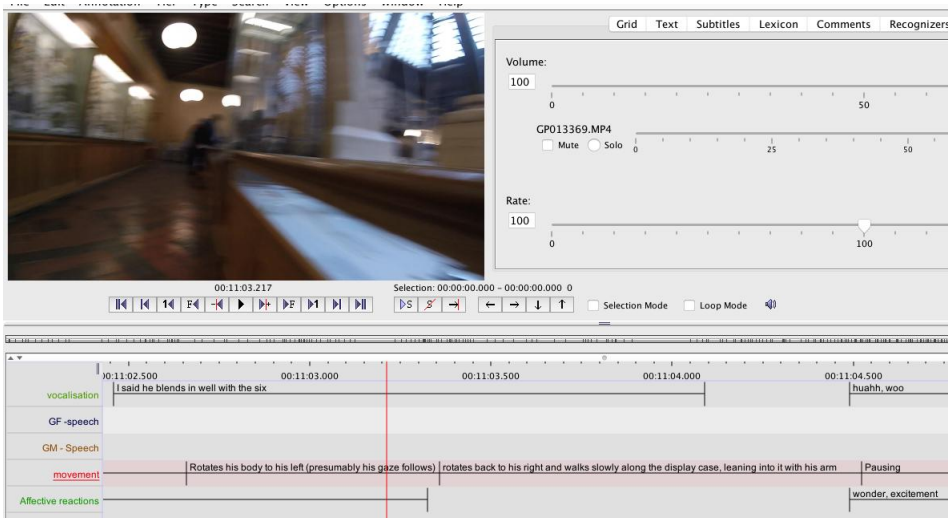


Figure 5.4.3 (part one): Noel rotating to explore

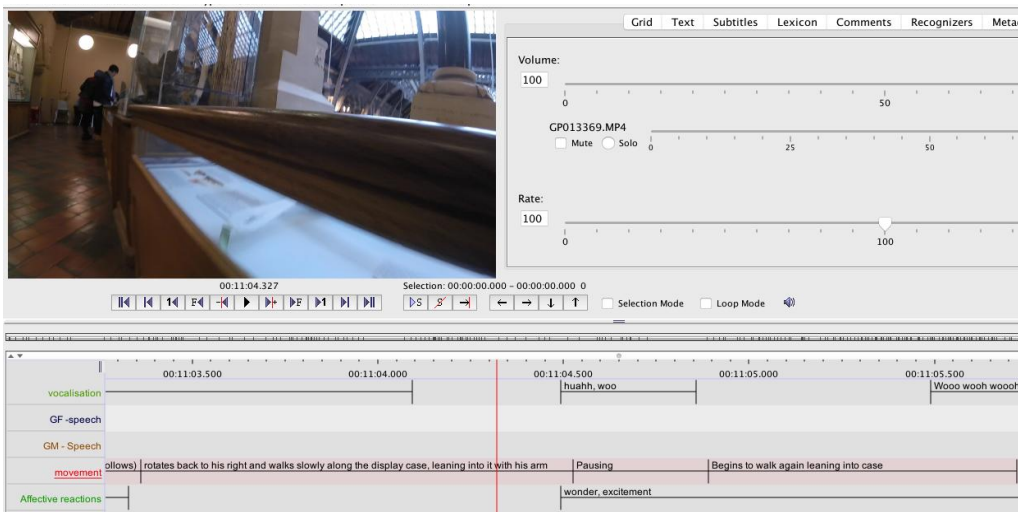


Figure 5.4.3 (part two): Noel rotating to explore

Although he sometimes led and often explored independently in the local area, for the most part his grandfather directed the overall route around the museum. Noel was happy to follow on most occasions. For example, in F5.4.4 he can be seen moving just behind his grandfather who was leading him to a case containing a taxidermy shoebill.

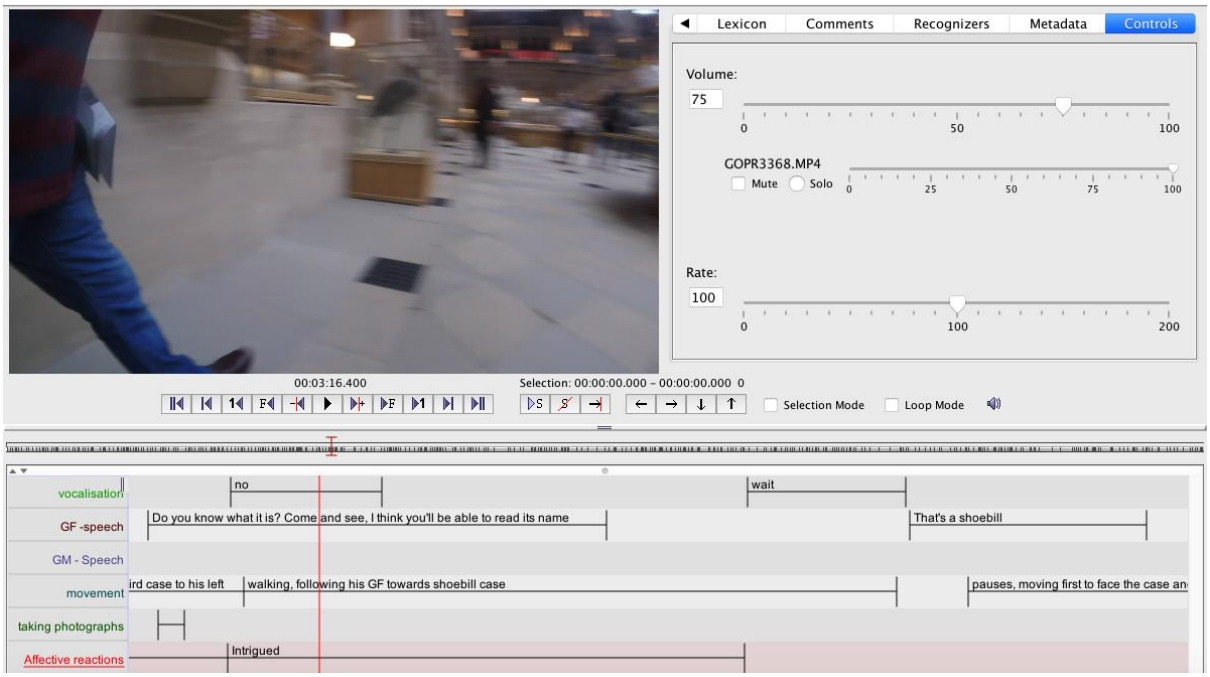


Figure 5.4.4: Noel following his grandfather

Noel exuded a sense of independence concerning his movement when in the vicinity of his grandparents. When this independent movement was curtailed, he tended to exhibit a momentary sense of disappointment (F5.4.5) or sometimes passive resistance. This will be addressed in more detail in section 5.4.3.

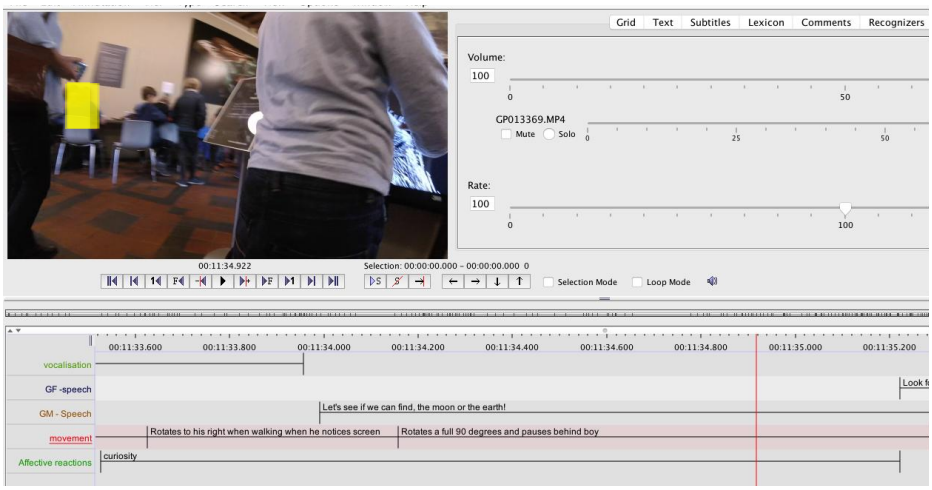


Figure 5.4.5 (part one): Noel wanting to stop and investigate a screen

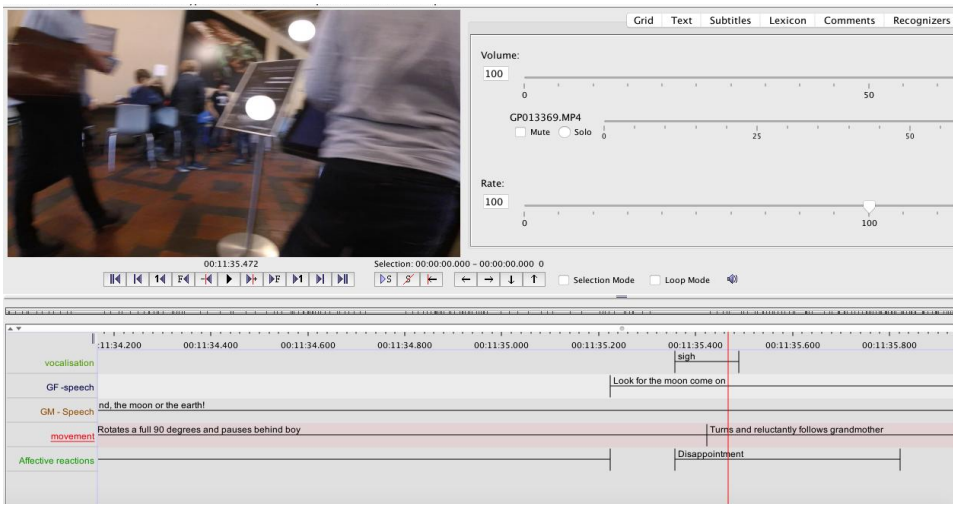


Figure 5.4.5 (part two): Noel's grandfather suggesting he moved on

Even though he had a hurt leg, his movement was energetic and eager, especially during the first half of his visit. He flitted from one thing to the next as illustrated by the movement map (F5.4.7) below. His movement was also varied but not to the extent of the other children. This is likely to be because he was hampered by his leg. For example, he swayed, fidgeted, hurried, rotated, walked forwards and even backwards and sideways.

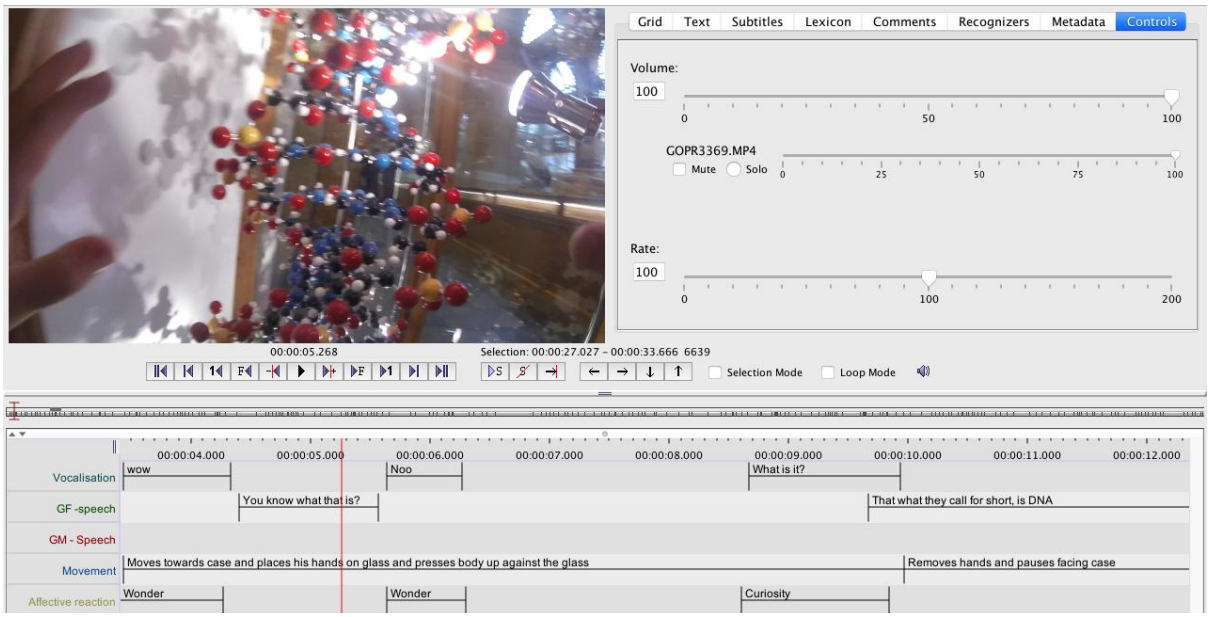


Figure 5.4.6 (part one): Noel interested in the bright rotating DNA model

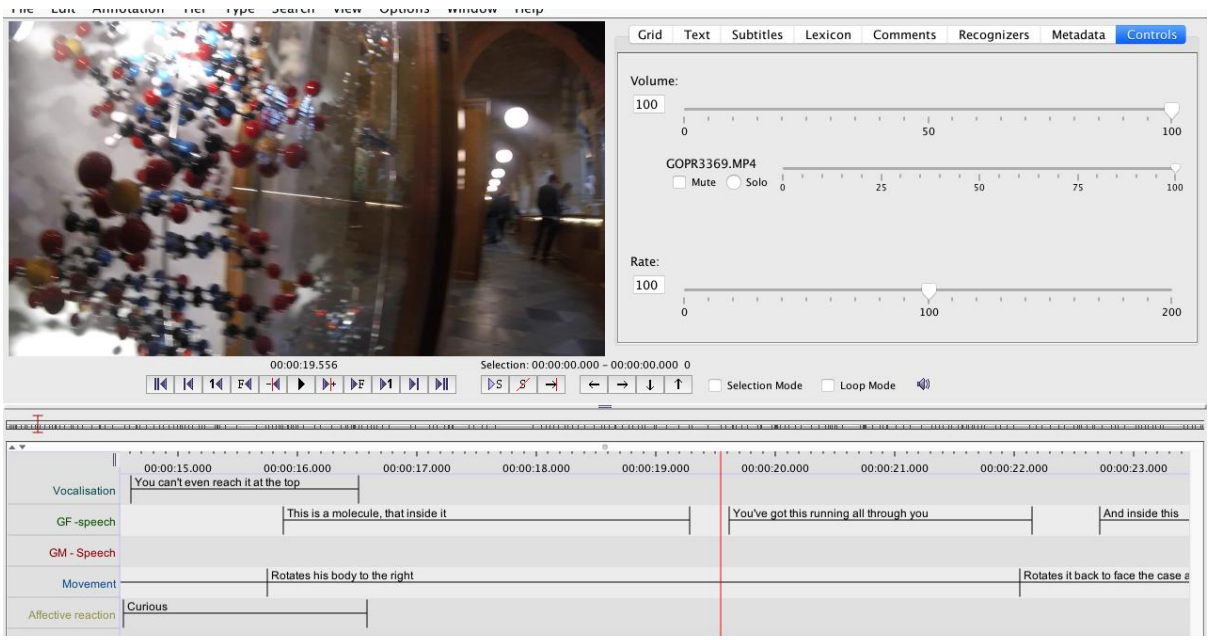


Figure 5.4.6 (part two): Noel listening to his GF, but also turning to visually scan the surrounding area.

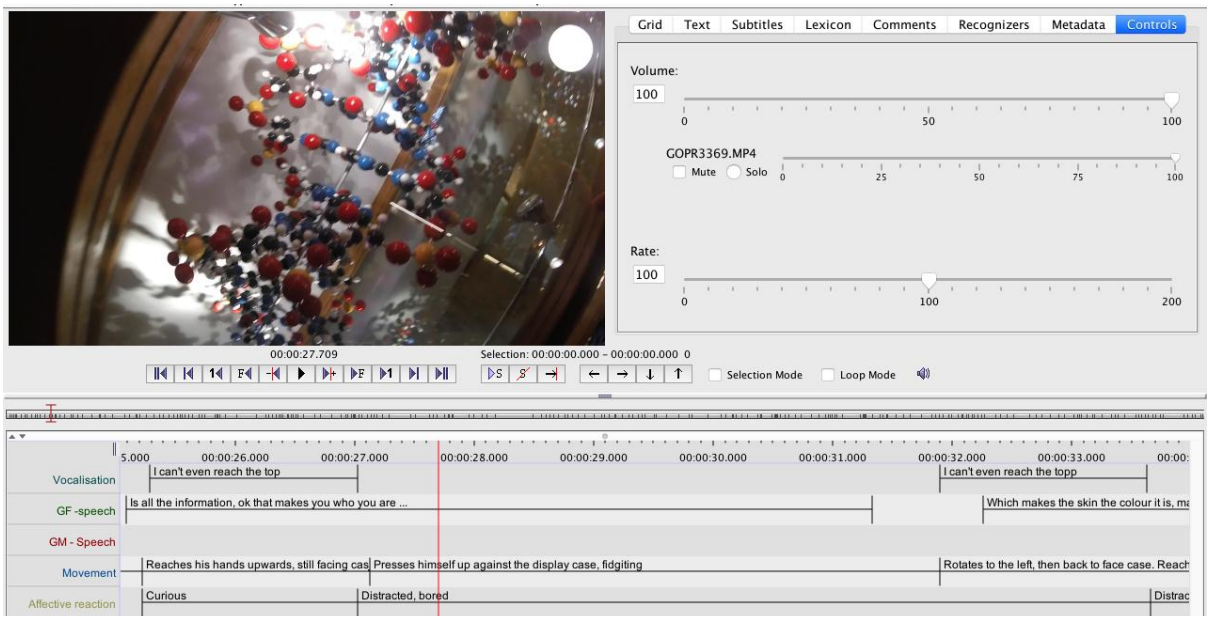


Figure 5.4.6 (part three): Noel not listening to grandfather any more

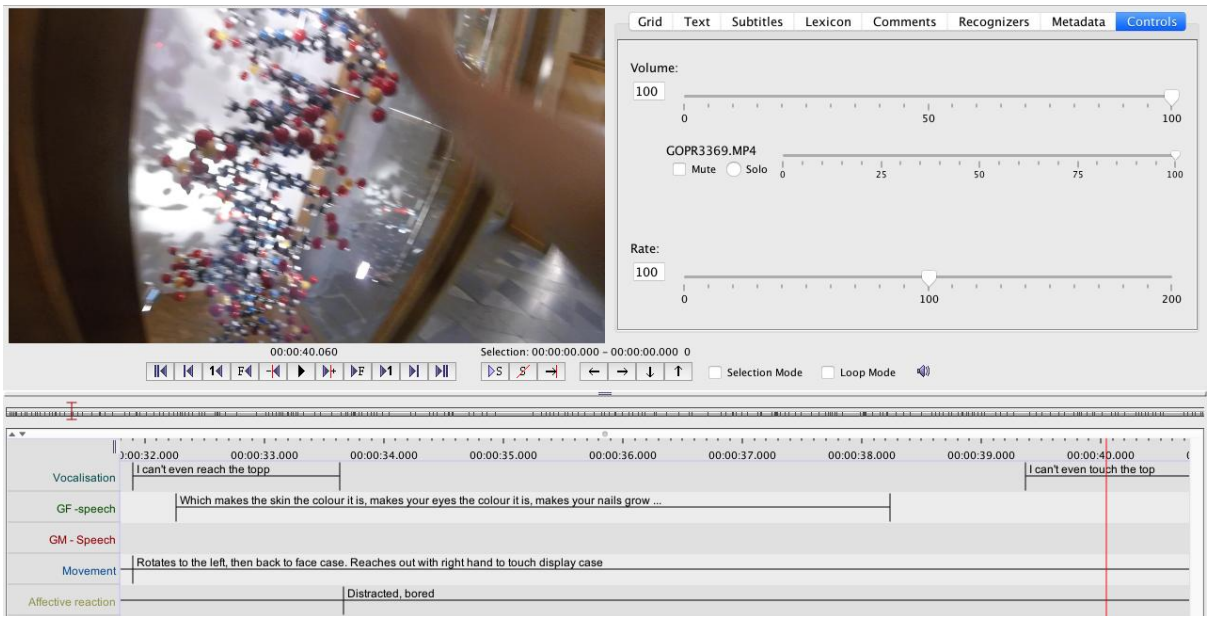


Figure 5.4.6 (part four): Noel reaching out to touch instead of paying attention to grandfather

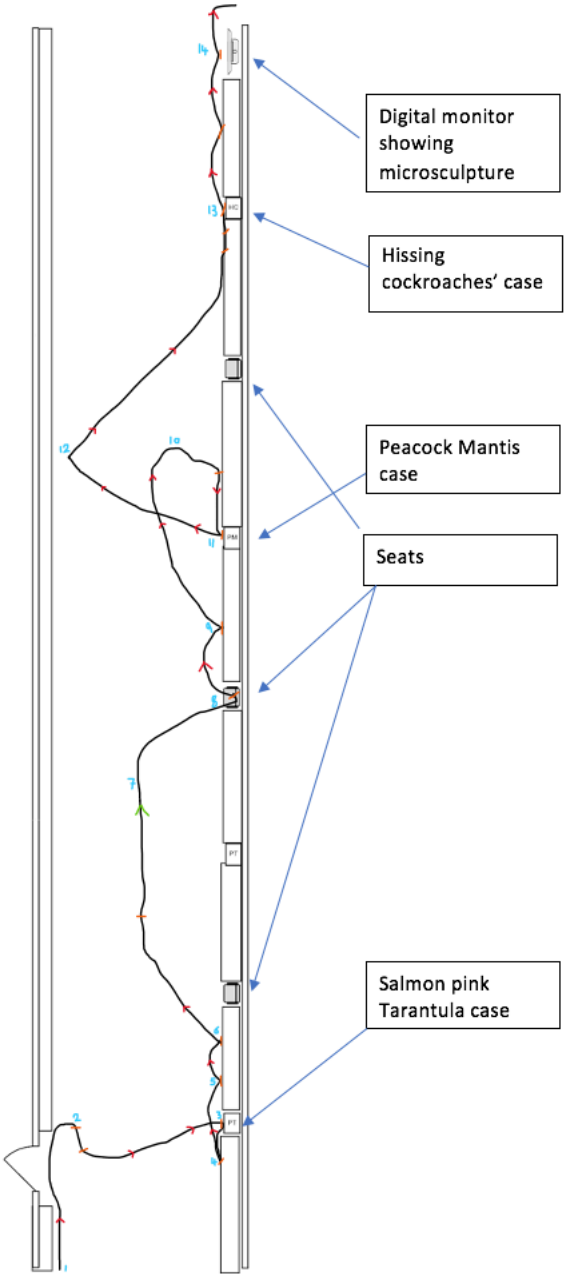


Figure 5.4.7: A movement map showing Noel's trip along a narrow corridor containing the museum's entomology collections including several live specimens. Numbers 12 and 13 correspond with Figure 5.4.3, parts one and two.

(*The orange lines mark where he pauses. The black line is a trace of his movement through the space, the red chevrons show his direction of travel. The blue numbers represent his movement from start (1) to finish (9).*

Noel, like Edward and Sophia, was reluctant to pass through doorways, or more specifically archways, when not closely accompanied by his grandparents. Contrastingly if either one of them passed through a similar entrance then he would happily follow. F5.4.8 shows Noel as he approached an archway. He slowly walked into the 'doorway' and stopped for a few seconds on a line created by darker tiling. He then backed up, turned around saying '*That's scary*' and quickly followed his grandfather. This fragment illustrates how Noel, without the reassurance of having his grandparents in front of him, did not feel confident moving into a new space. He was also conscious of his grandfather's whereabouts and that he had not followed him.

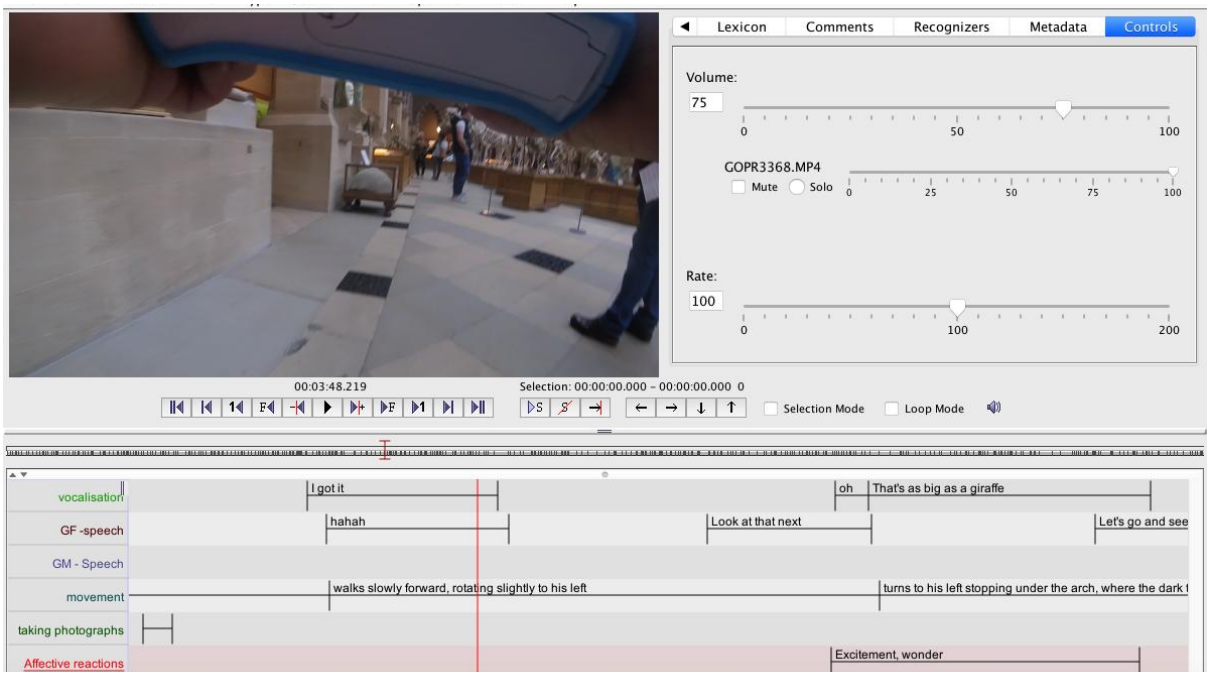


Figure 5.4.8 (part one) Noel approaching an archway

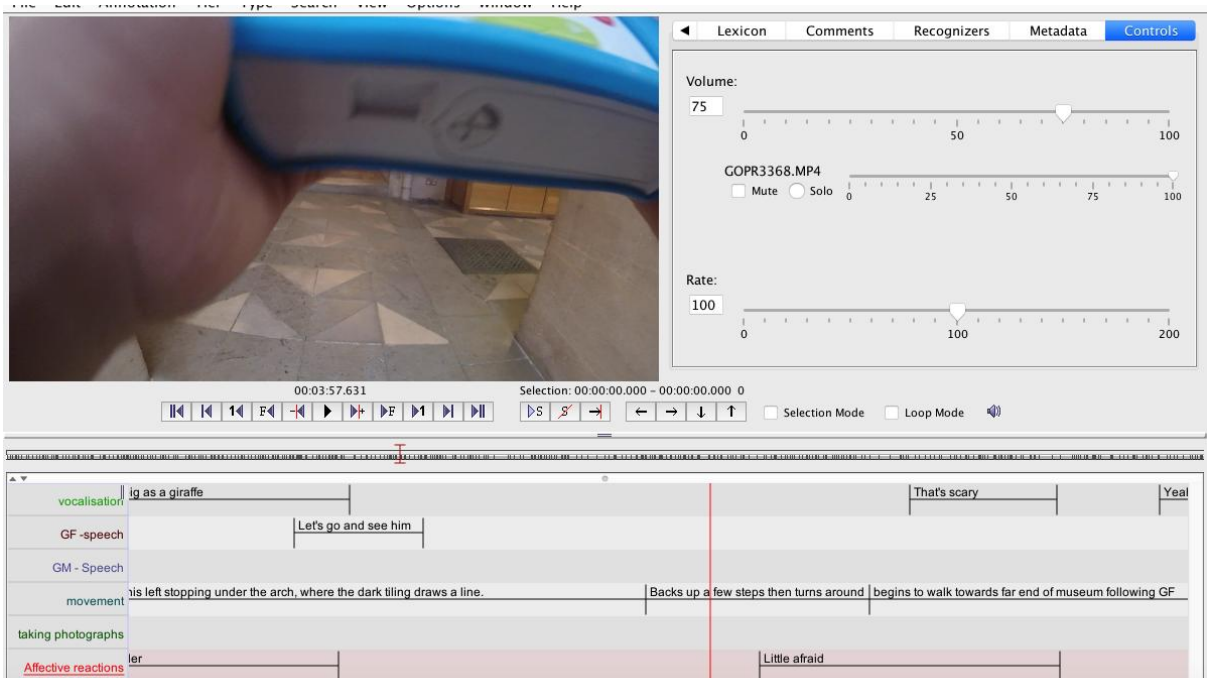


Figure 5.4.8 (part two) Noel exploring the archway ahead of his grandparents but not progressing through

Like the others he used his movement to underline his interest in things (Hackett, 2016). For example (F5.4.9 parts one and two), when following his grandfather, he spotted a touch screen. He moved over to it and the boy using it told him to go away. He backed off towards his grandfather but then returned a few seconds later only for the boy to repeat his rejection. This return movement (especially after the first rejection) indicated that he had a strong desire to interact with the screen.

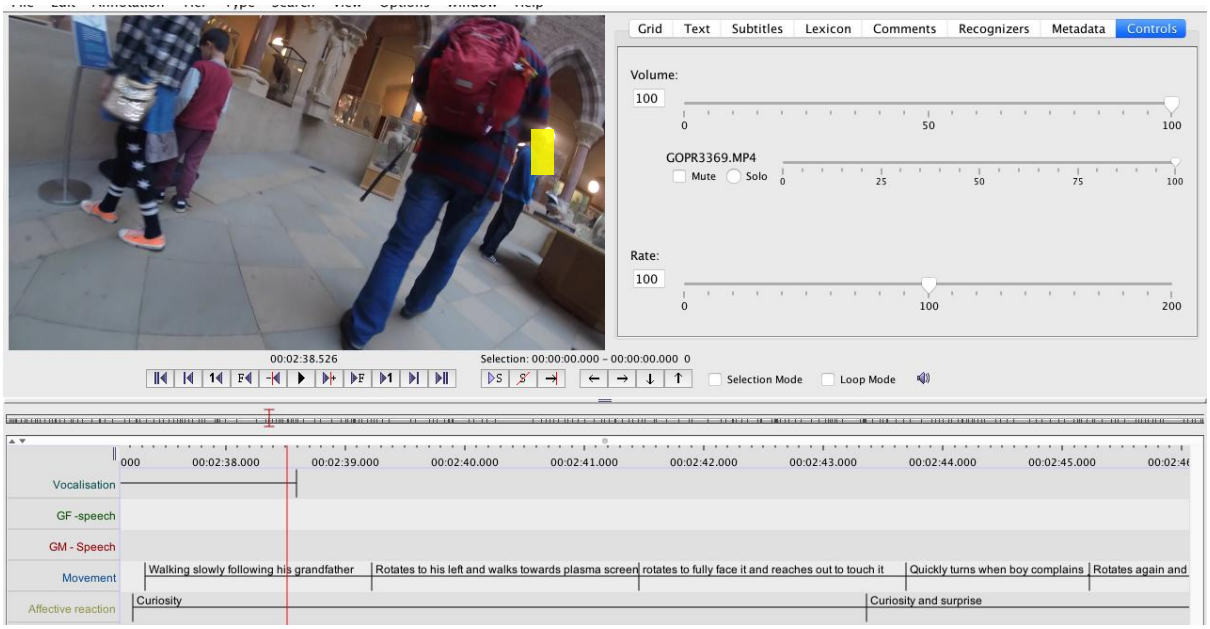


Figure 5.4.9 (part one): Noel underlining his interest in the touch screen

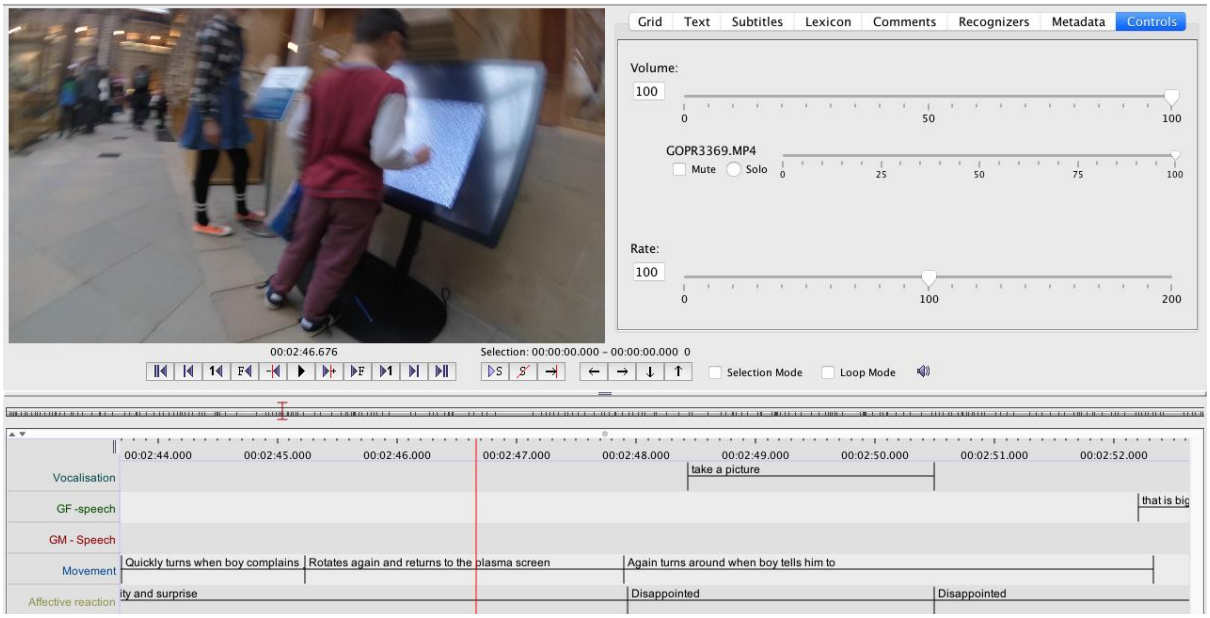


Figure 5.4.9 (part two): Noel underlining his interest in the touch screen

He was also inclined on occasion, like Edward and Sophia, to combine his movements and vocalisations. For example, in F5.4.10 (parts one and two) Noel dragged his hands or rubbed his body over several contrasting surfaces as he moved past them. He chants '*ow, ow, ow*' in time with the 'knocking sound' or impact he is making against each surface. During this short fragment he is absorbed and focused

on the combination of his physical interaction with the material objects he knocked against and his rhythmic vocalisations. This absorption ended when he swung from the corridor (following his grandfather) through an archway, into a different area of the museum.

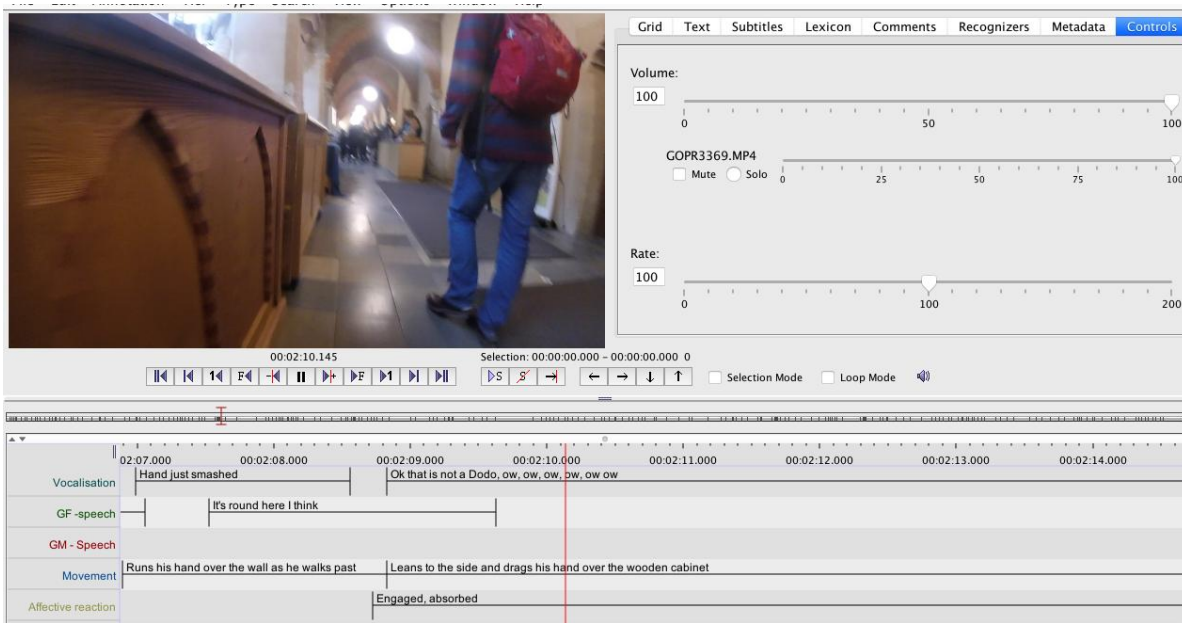


Figure 5.4.10 (part one): Noel combining vocalisations with movement

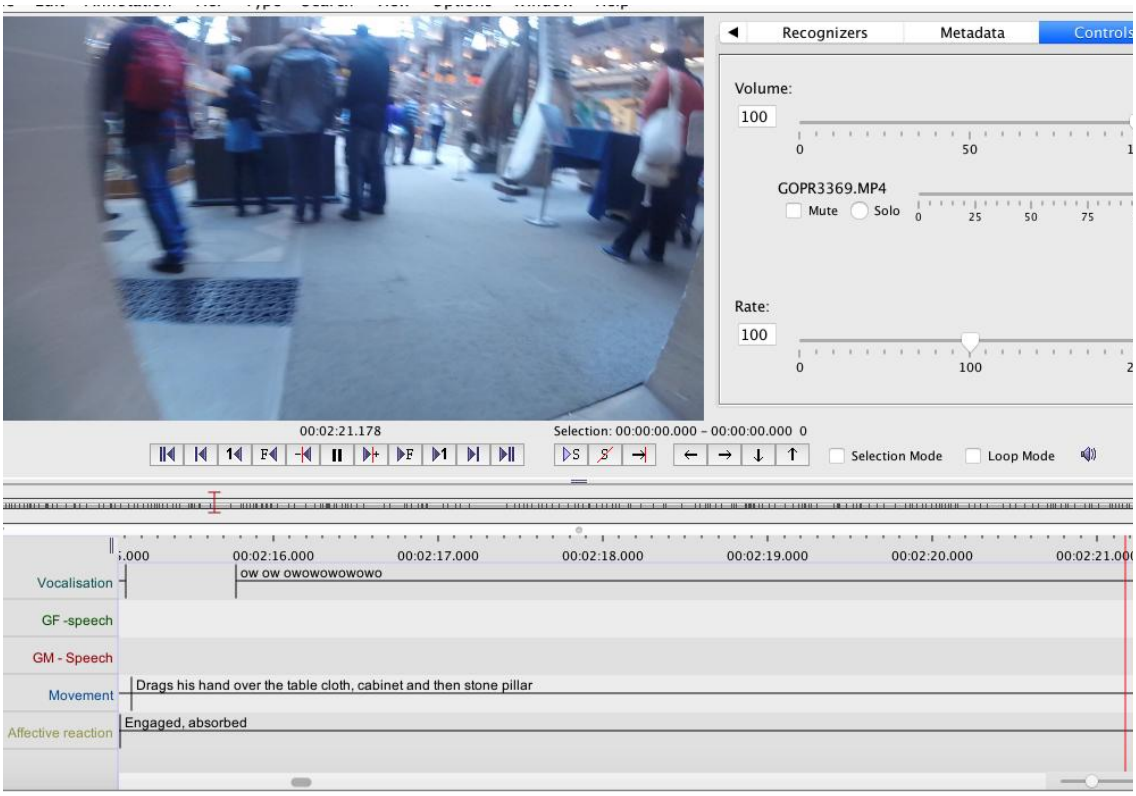


Figure 5.4.10 (part two) Noel combining vocalisations with movement

5.4.3 Family interactions

Noel demonstrated a close relationship with his grandparents and clearly felt relaxed and confident in their company. This is illustrated by the frequent good natured, and often humorous exchanges between them that are often prompted by objects on display. For example, in F5.4.11 (part one) Noel's grandfather pointed out a tuna skeleton saying, '*There's a fish watching you!*'. Noel turned to look, and in a surprised but also incredulous fashion, replied '*whaaat!*'. The good-natured conversation between the two of them then continued, alongside a closer investigation of the skeleton by Noel (F5.4.11, part two). The atmosphere created by these close relationships and corresponding good humour served to put Noel at ease

during his visit. Dockett, Main and Kelly (Dockett, Main and Kelly, 2011) comment that children react well to exhibits that are humorous. Although in this example he did not spontaneously react to this exhibit with humor, the humorous interjection by his grandfather certainly served to foster his engagement with the tuna skeleton.

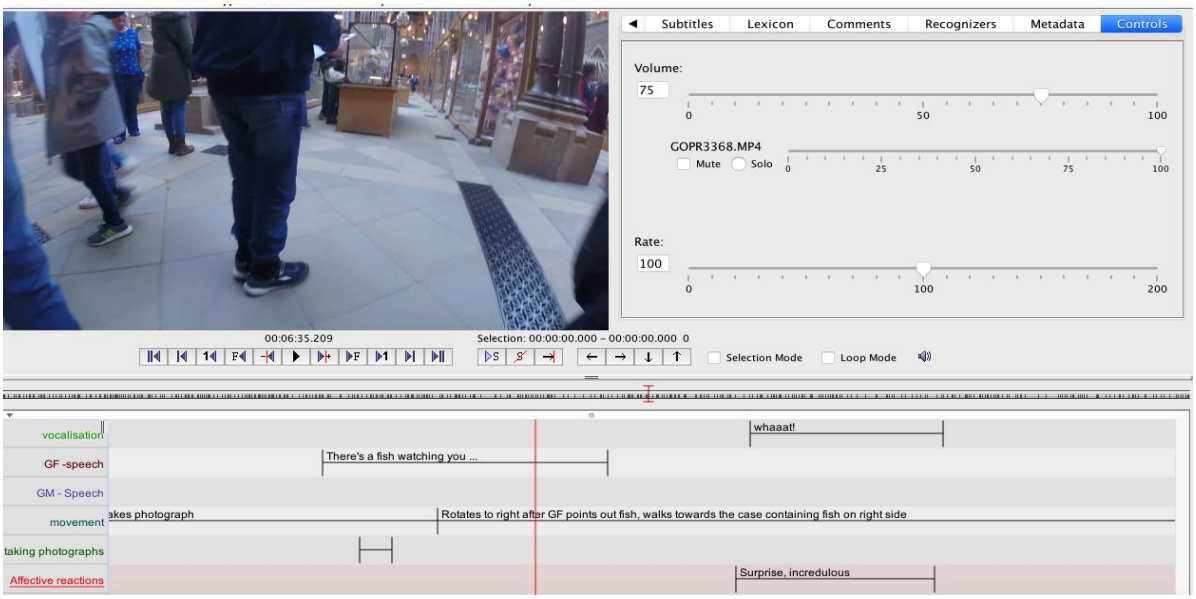
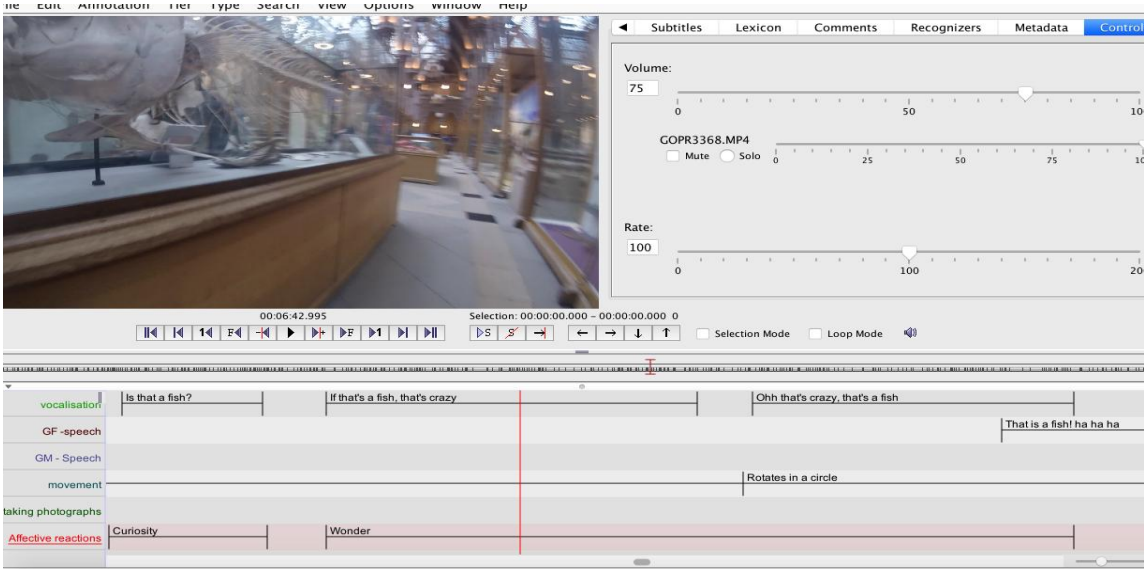


Figure 5.4.11 (part one): Noel's grandfather pointing out the tuna skeleton



5.4.11 (part two): Noel's relaxed and good-natured conversation with grandfather

As discussed in section 5.4.2, Noel was excited to explore. Although this was not discouraged, on occasions, there were minor conflicts between his grandfather's sometimes long-winded efforts to engage him with the exhibitions and his instincts to explore. Noel's actions sometimes communicated a sense of passive resistance. For example, Noel excitedly spotted and moved towards a colourful rotating 3D model of the molecule DNA housed in a glass cabinet (F5.4.6). His initial interest in this bright and 3-dimensional model chimes with Danko McGhee's (2006) observation that children preferred 3-dimensional artwork. His Grandfather then joined him and began to explain to him what DNA is and what it is for. Noel's resistance in this instance involved reaching out as if to touch the model through the glass and looking around him and repeating his observation that he could not '... *reach at the top.*' In other words, anything but stay still and listen to his grandfather's explanations. It appears Noel's interest was in the concrete dimensions of the model whereas his grandfather wanted to convey a more conceptual and abstract message that was likely to be beyond Noel's levels of understanding or at the very least not of interest to him. This fragment resonated with Anderson, Piscitelli and Everett's (2008) point that adults and children can clash in terms of agendas of content. In other words, the content of what they want to discuss can differ and lead to conflict. Callanan (2002) also made the point that adults' assumptions that young children know what they are talking about (I suspect like Noel's grandfather in the example above) can cause dissonance and impede learning.

Noel enjoyed his interactions with his grandmother. She had a gentler, cannier approach to engaging Noel with the exhibitions. Her approach was characterised by drawing attention to the size of objects or their aesthetic qualities. These are two

aspects of exhibits that have been noted before as being of interest to young children (Dockett, Main and Kelly, 2011). For example, in F5.4.12 she commented after Noel had expressed surprise at its size, '*Look at this little tiny one ...*' and Noel responded excitedly '*Oh I know!*'. As with this example, Noel reacted extremely positively to this approach throughout the visit.

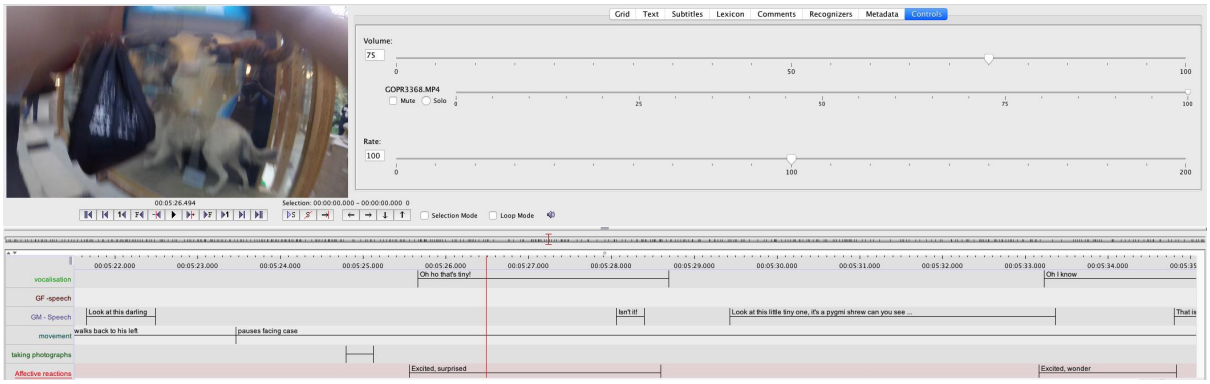


Figure 5.4.12: Noel's grandmother commenting on the size of an object

Sanford, Knutsford and Crowley (2007) found that grandparents tended to lead conversations with their grandchildren. Noel's experience of his grandfather very much followed this pattern. However, his interactions with his grandmother were slightly different. She did initiate conversations, but at times she was happy to listen to Noel explain things to her. It is possible that Noel was imitating his grandfather's didactic approach in this respect. For example, in F5.4.13 (part one) his grandmother drew his attention to a case of snakes. Noel spotted a python curled up on a bed of eggs and began to tell his grandmother about it. She encouraged this by being attentive and repeating what he had said in an interested tone e.g. '*From the Everglades are they?*'. In interview Noel revealed the source of this knowledge to be the tv programme the Octonauts saying, '*I know everything about snakes ... I*

actually learnt on The Octonauts '(e.g. Kirk, 2014; Burbank, McGregor and Wild, 2018). As this comment indicates Noel was very proud to be able to tell her about the snakes. He also took a photograph of the python and her eggs (F5.4.14). Although snakes cannot necessarily be considered an area or 'island of expertise' for Noel, Palmquist and Crowley's (2014) point that parents tend not to engage as much with children that they consider as experts, could explain his grandmother being content to simply listen to Noel's account.

Figure 5.4.13 (part one): Noel's attention being drawn to the snakes

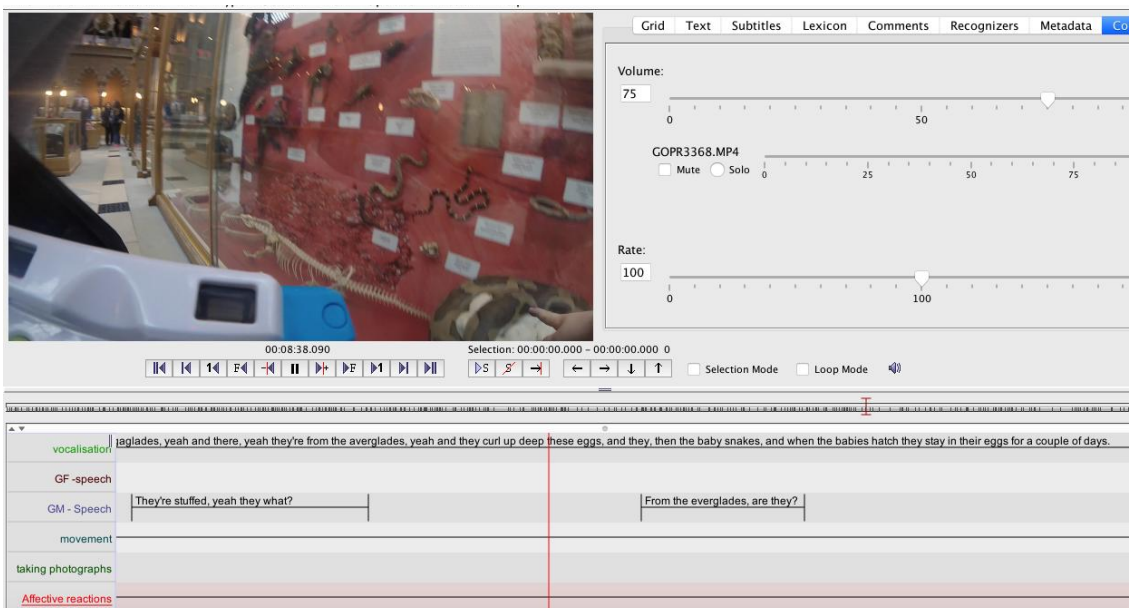


Figure 5.4.13 (part two): Noel explaining to his grandmother about the snake and its babies

Figure 5.4.14: Noel's photograph of the python and her eggs

Noel's grandparents both sometimes enforced the museum rules such as no touching. Noel, particularly during the later stages of his visit often began to whine and moan

and even on one occasion asked to go home. His grandparents on these occasions tried to jolly him along and interest him in the next thing they were going to see. These slumps in mood tended to be only temporary and were often followed by times in which he enjoyed himself again (see section 5.4.4 for more detail).

Noel sometimes asked questions. These questions about the exhibits were predominantly focused on finding out the name of an object (see F5.4.11, part two). Other questions tended to focus on the structure of the visit such as when they were leaving or going to the shop. On the isolated occasions that he asked questions that required an answer beyond naming, he was rarely given an answer. For example, in F5.4.15 he asked '*Cricket, why there's a cricket?*' when looking at a fossil display. Neither of his grandparents who were standing right next to him responded to him. In fact, his grandfather gave the impression he ignored the question. Superficially his question might seem rather offbeat, or even flippant, but it is quite likely that one of the fossils reminded him of a cricket. This was a missed opportunity for his grandparents to engage with his interest and build a conversation around this.

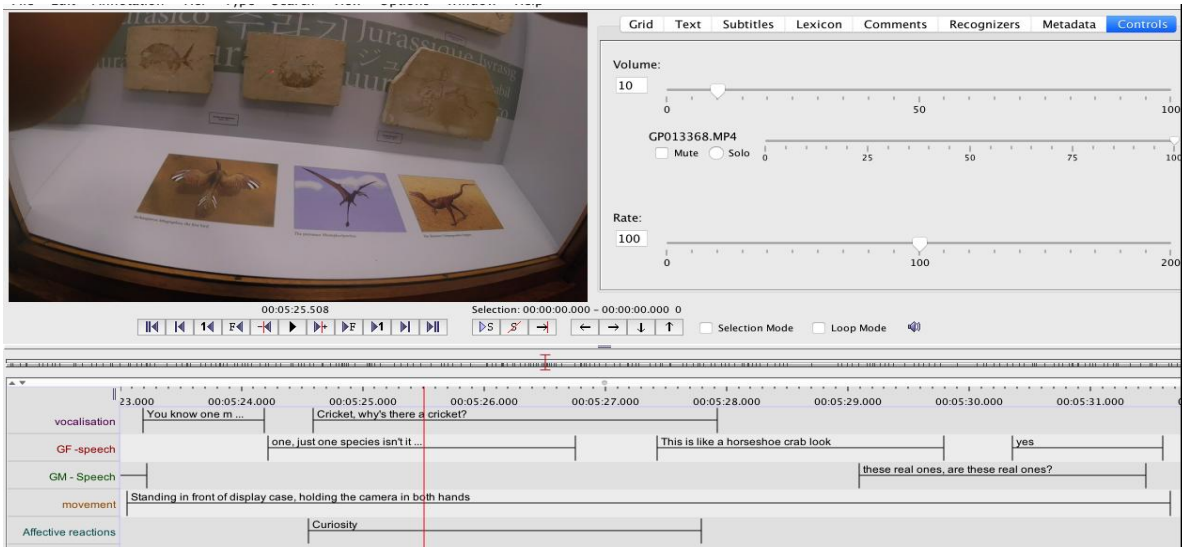


Figure 5.4.15: Noel asking a question

5.4.4 Affective reactions

Noel's affective reactions were varied and ranged from excitement and wonder to irritation and frustration. That said, his visit experience was mostly happy. In interview he commented that '*It was cool*'. He most often engaged with exhibits with a sense of excitement and wonder (see F5.4.3 and F5.4.16).

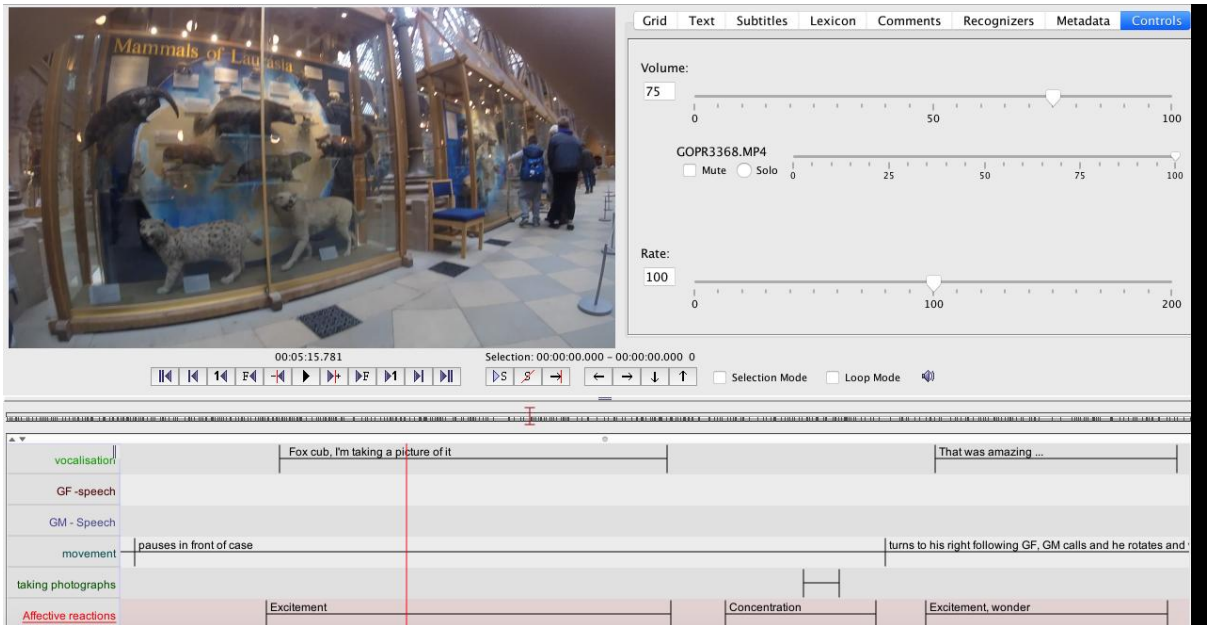


Figure 5.4.16: Noel's excitement at seeing a 'fox cub'

Figure 5.4.17: Noel's photograph of the Red Panda (Fox cub).

This sense of wonder did not often translate into a desire to enquire about exhibits beyond what they are. Unless of course he was not already able to name them. Noel also often exhibited a sense of delighted surprise at some of things he encountered. For example, his reaction when he first saw the tuna skeleton (see F5.4.11, part one). As noted in section 5.4.3 Noel responded well to his grandparents' use of humour. In addition, he sometimes spontaneously reacted with humour to the exhibitions. For example, his mirth at confusing the word sticks with six when describing the Peacock Mantis in its tank (F5.4.19). His humour did not prompt any further enquiry from Noel, he seemed satisfied with enjoying the jokes themselves.

On occasions Noel exhibited a sense of exhilaration. This occurred when he viewed two things that might be considered dangerous, a T-Rex head model and a large model of a wasp. I will focus on his experience of a T-Rex head model as illustrated in Figure 5.4.18 below.

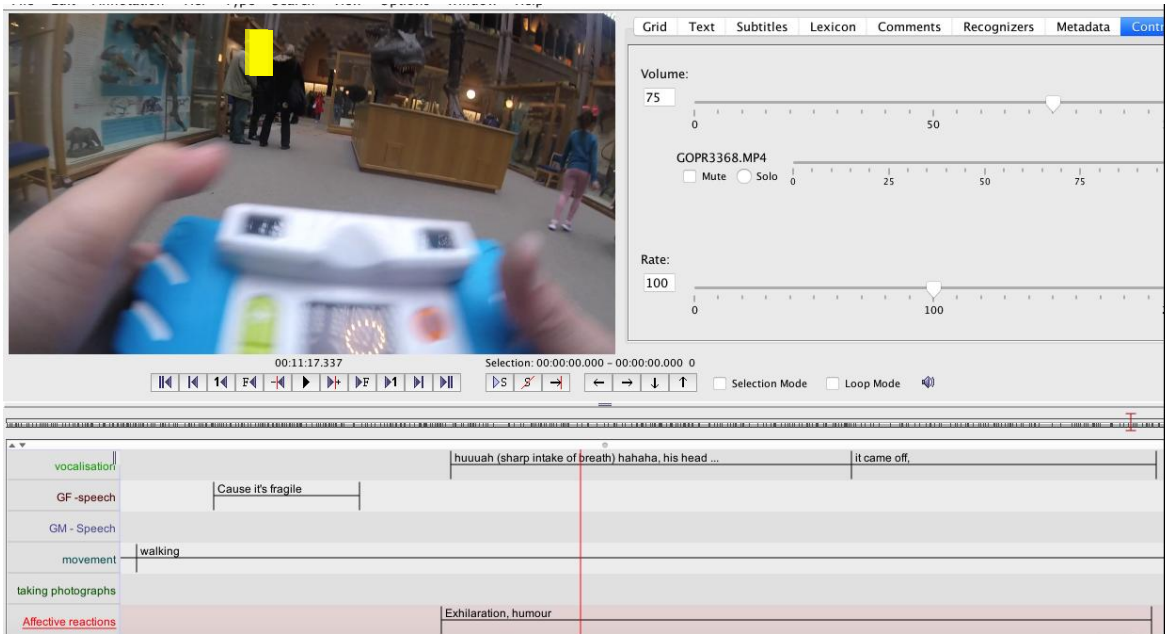


Figure 5.4.18: Noel's exhilaration on seeing a T-Rex head model

Kirk (2014) noted that a similar model could sometimes induce real terror, but more commonly mild fear and an intense fascination. Noel certainly was not terrified of the model or indeed frightened at all. Instead, his initial reaction was exhilaration ('*Huuaaah*') which quickly turned to humour that is illustrated by his flippant comment '*Hahah, his head ... it came off*'. This initial reaction did for a few seconds provoke him to stand, stare and exclaim '*That's amazing*' but his interest very quickly moved onto a taxidermy Moa positioned behind the T-Rex.

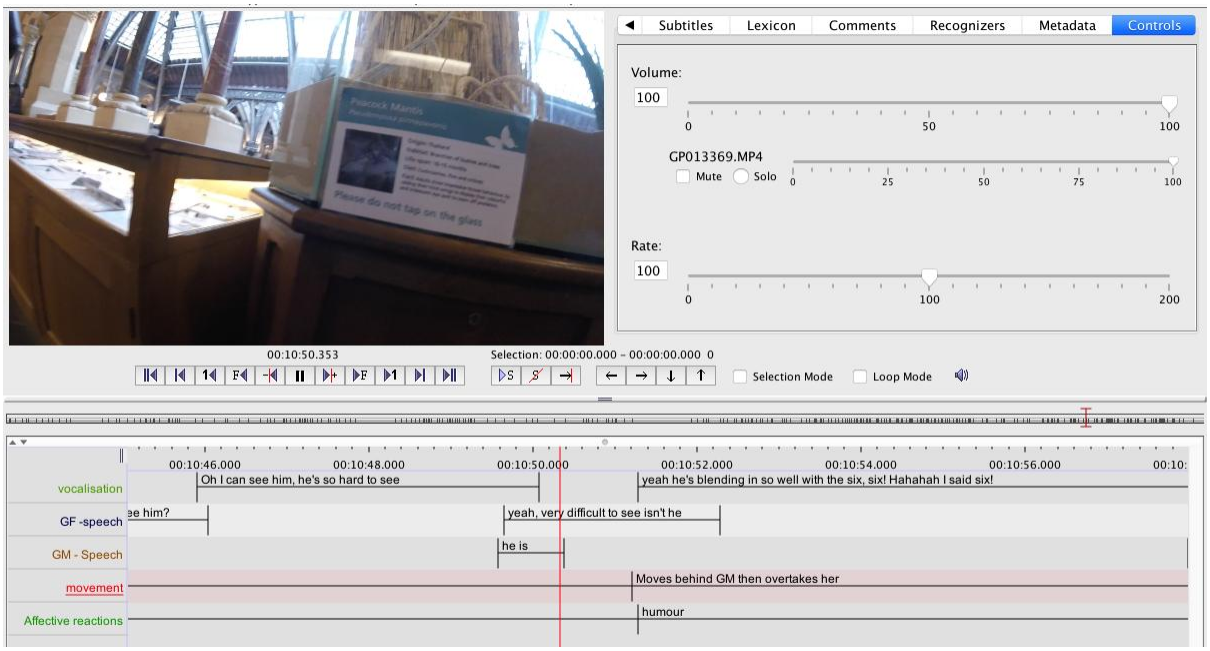


Figure 5.4.19: Noel's humorous response to the Peacock Mantis case

His reactions to the exhibits were not all positive. At times, especially in the later stages of his visit, he exhibited signs of boredom, frustration and impatience. Bench and Lench (2013, p. 461) explain that boredom is a discrete emotion that can arise from the perception that a situation is no longer stimulating. They continue to argue that boredom, *'... organizes responses to this situation that encourage people to seek alternative goals and experiences...*'. An example of this type of response was Noel's passive resistance to his grandfather's explanations of DNA, illustrated in section 5.4.3.

This trio of affective reactions were again often the result of his movement being curtailed. For example, in F5.4.20 (parts one and two) Noel had just been told that there are diamonds that he will be able to see. In interview he said that the thing he enjoyed most about his visit was '*Looking at diamonds*'. The reason for this is that '*They are really hard to find*'. This is something he knew about because '*I play tons*

of Minecraft'. During this fragment his grandparents had both stopped to look at a display case. Noel clearly wanted to move on to see the diamonds. His boredom was communicated by a sense of impatience and frustration. These emotions were translated into jerky, quick movements and moaning comments. For example, in part two, he rotated quickly and banged into a display case and whined '*Are we nearly there yet?*'. In part two, when he did not receive an answer, he petulantly said '*huh I asked the wrong question*.' as a further demonstration of his frustration.

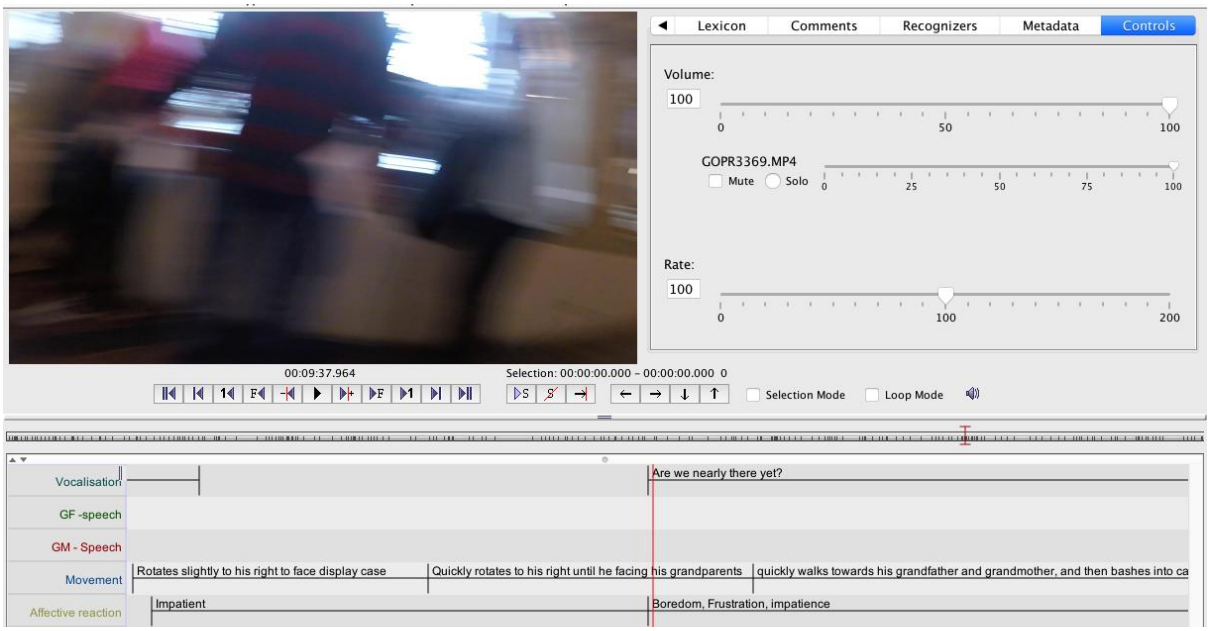


Figure 5.4.20 (part one): Noel bored, frustrated and impatient

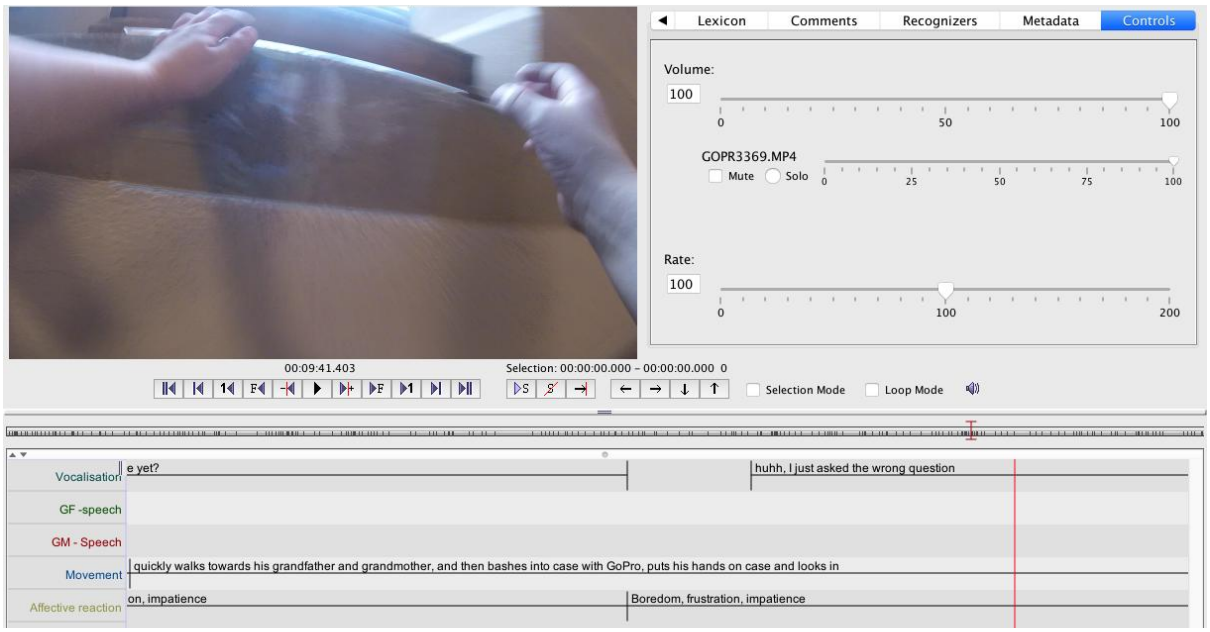


Figure 5.4.20 (part two): Noel bored, frustrated and impatient

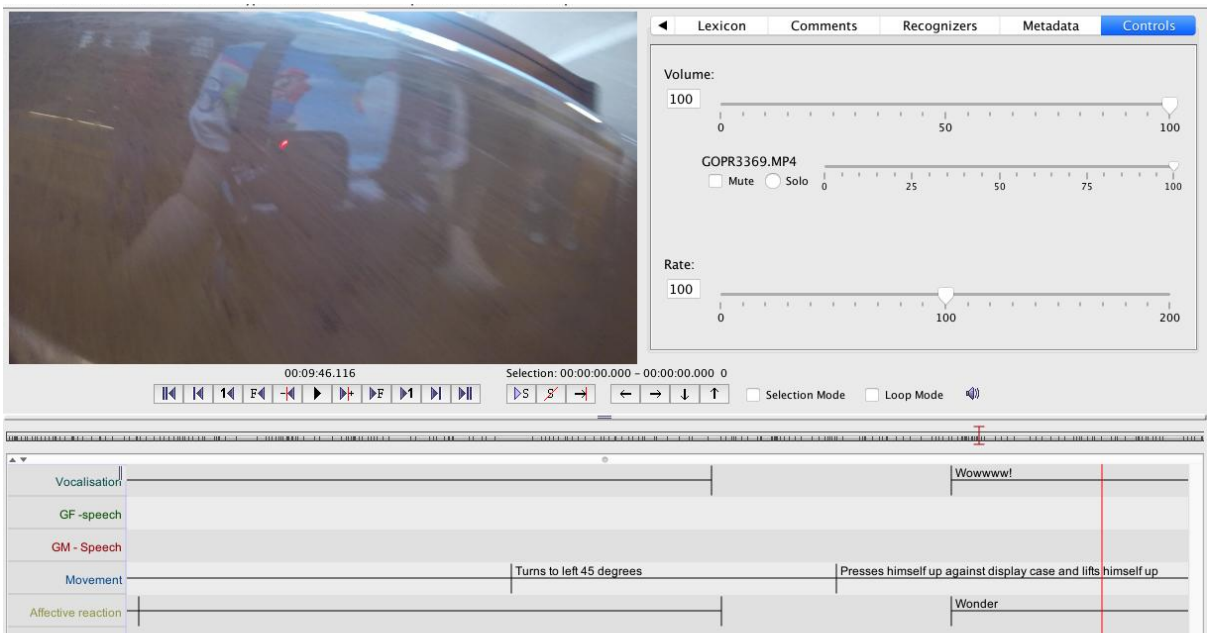


Figure 5.4.20 (part three): Noel bored, frustrated and impatient

During these periods of impatience and frustration he did not engage with the exhibits. Instead, he was too focused on resolving the negative emotions he was feeling to pay any attention to the things around him. These types of reactions,

although common, were short lived. For example, a few seconds later (part three) his attention was briefly captured by something else. He let out an exclamation '*Wowwww!*' and his mood was immediately reset which allowed him to enjoy exploring again.

5.4.5 Patterns of attention

Similarly, to Bill (section 5.5), and other children of this age in natural history museums, Noel paid attention to a diverse and idiosyncratic range of objects during his visit (e.g. Kirk, 2014). In addition, Noel's patterns of attention conformed to established patterns. For example, he showed interest in objects that were large or small (Jenkins, Lisk and Broadley, 2013), sparkly, patterned, brightly coloured and shiny (Kirk, 2014). For example, Noel's photograph of some shiny and bright beryllium in F5.4.22. He also showed interest in objects that linked to his past knowledge and experience (e.g. diamonds and Minecraft as noted in 5.4.4) (Piscitelli and Anderson, 2001; Kirk, 2014).

As illustrated in the previous sections Noel overtly engaged with the spaces using a combination of gaze, touch, photography and movement. His engagement will be multisensory and the senses themselves interlinked (Pink, 2015a). The interlinked nature of visual and haptic sensory systems is illustrated in F5.4.6, part four when he reached out as if to touch the colourful DNA model that was in a glass cabinet. The indication was that he experienced a sense of touching the object even if he could not actually make physical contact (Hackett, Procter and Kummerfeld, 2018). Noel

clearly enjoyed touching things, for example, in interview he said the thing he found interesting about the black bear was '*Because I could touch him.*' When Noel actually encountered the black bear his grandmother invited him to '*There stroke him*'. He reached out and commented *'... he's so soft.*'. He then felt the bear's claw and exclaimed '*Do not feel his claw .... Ow my hand, oh my!*' (F5.4.21). As he later commented in interview, '*And the claws felt very sharp. I could squeeze my finger under them and it was really sharp.*' Both of these comments indicated that Noel was interested in exploring and experiencing the bear's surface features rather than a social interaction with the animal (like petting) that Kirk (2014) suggested was common for young children.

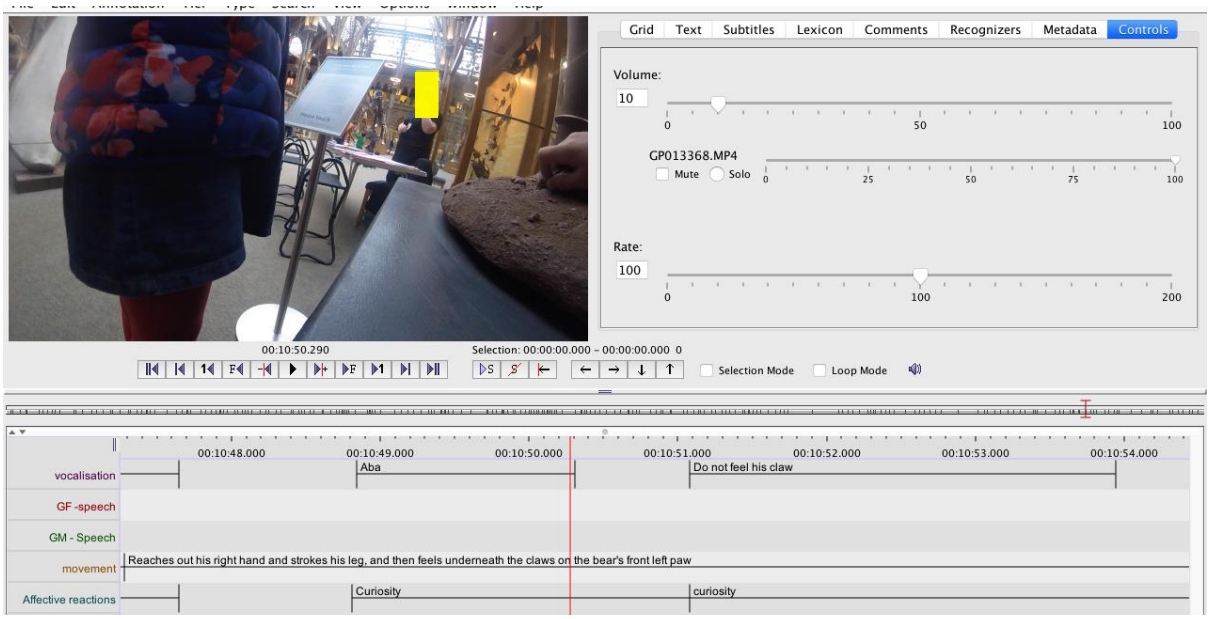


Figure 5.4.21 (part one): Noel touching the black bear

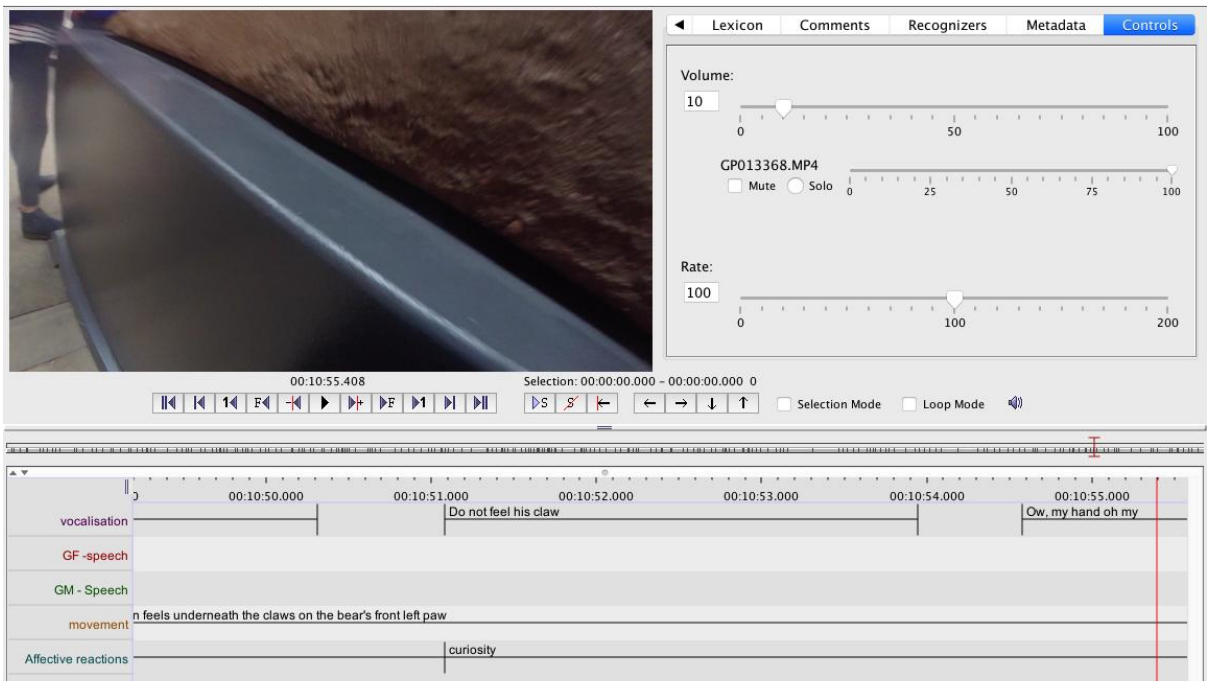


Figure 5.4.21 (part two): Noel touching the black bear

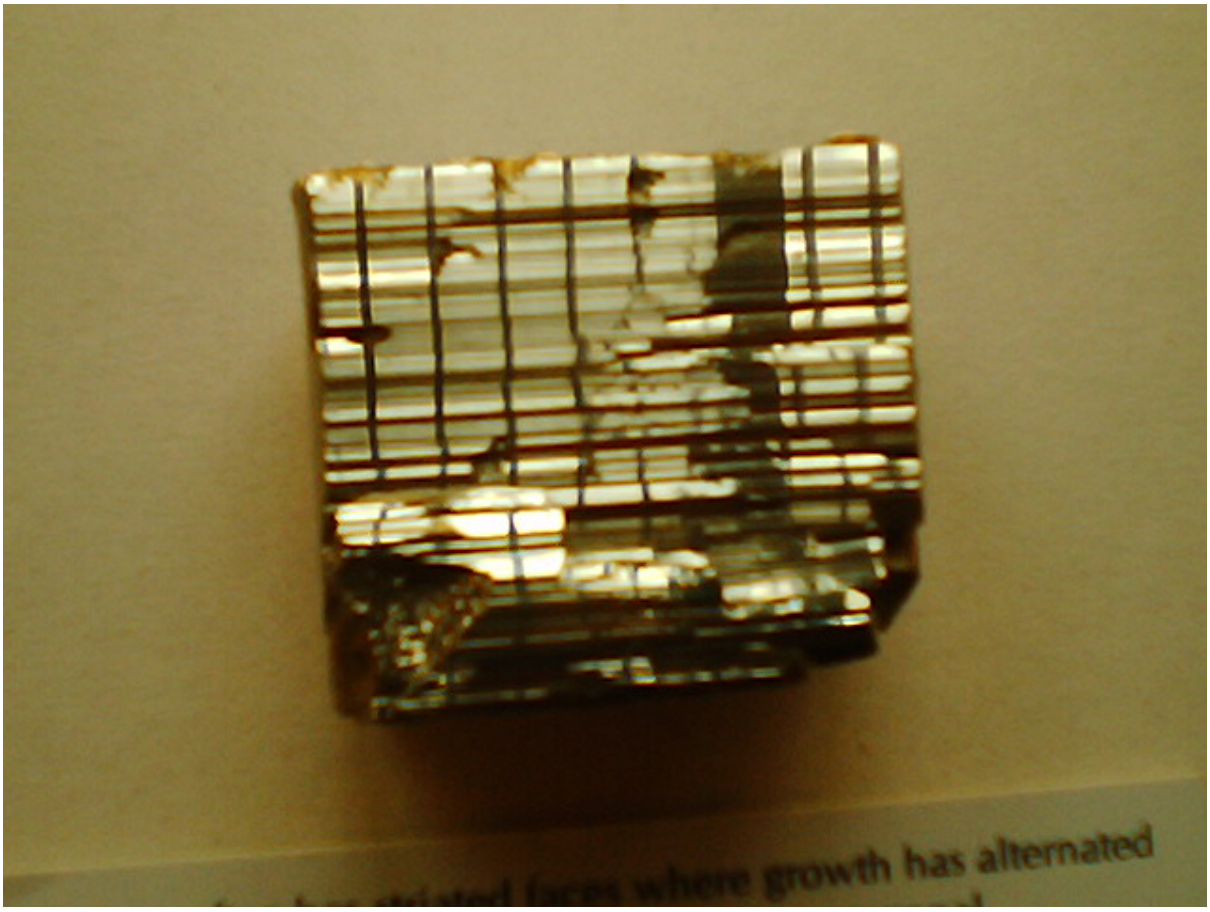


Figure 5.4.22: Noel's photograph of some bright and sparkly Beryllium

Noel is particularly interested in contrasts of size; getting very excited when he noticed (or had something pointed out to him) something particularly large or small. An example of this excitement occurred when he encountered and photographed a pygmy shrew pointed out by his grandmother (F5.4.12 and F5.4.23).

Figure 5.4.23: Noel's photograph of the pygmy shrew

As discussed in section 5.4.2 Noel was interested in screens. He seemed drawn when one was in the vicinity even if he did not get the opportunity to play with them.

His interest, in common with the other cases, also extended to aspects of the building itself. For example, in F5.4.24 Noel noticed some stairs that had been cordoned off. His curiosity piqued, he asked his grandmother ‘, *... why’s there stairs there for no reason?*’. The implication being that he is interested in going up and is curious about why he cannot. Like Edward he was also interested in investigating the gap between two pillars (F5.4.27, part one).

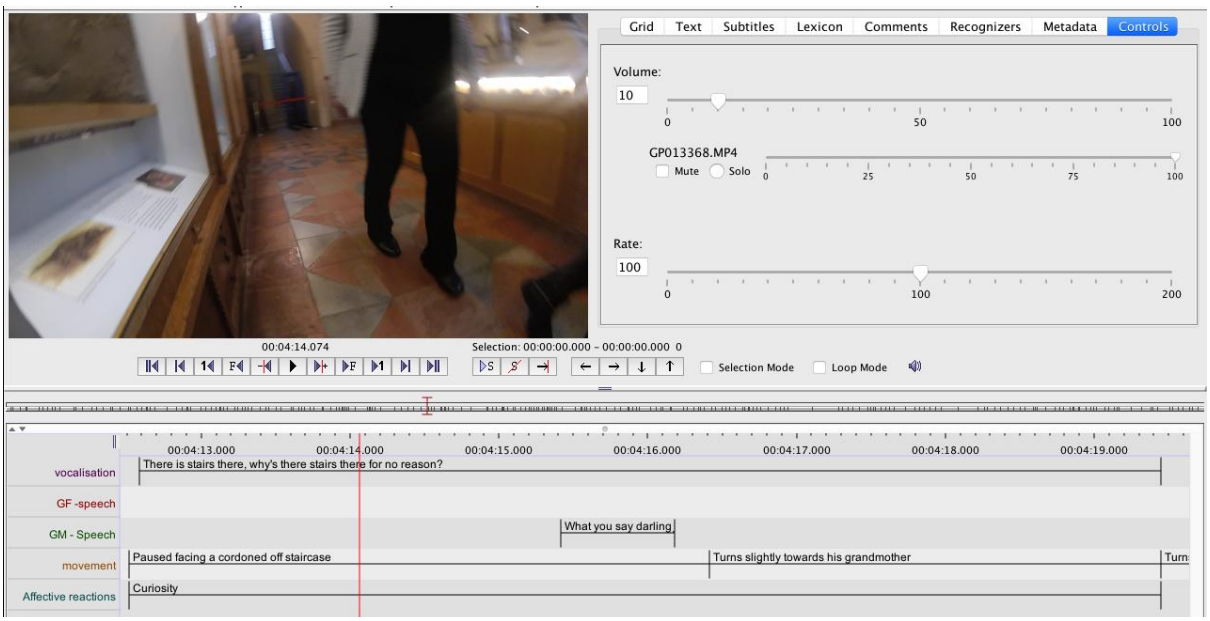


Figure 5.4.24 (part one): Noel asking about the stairs

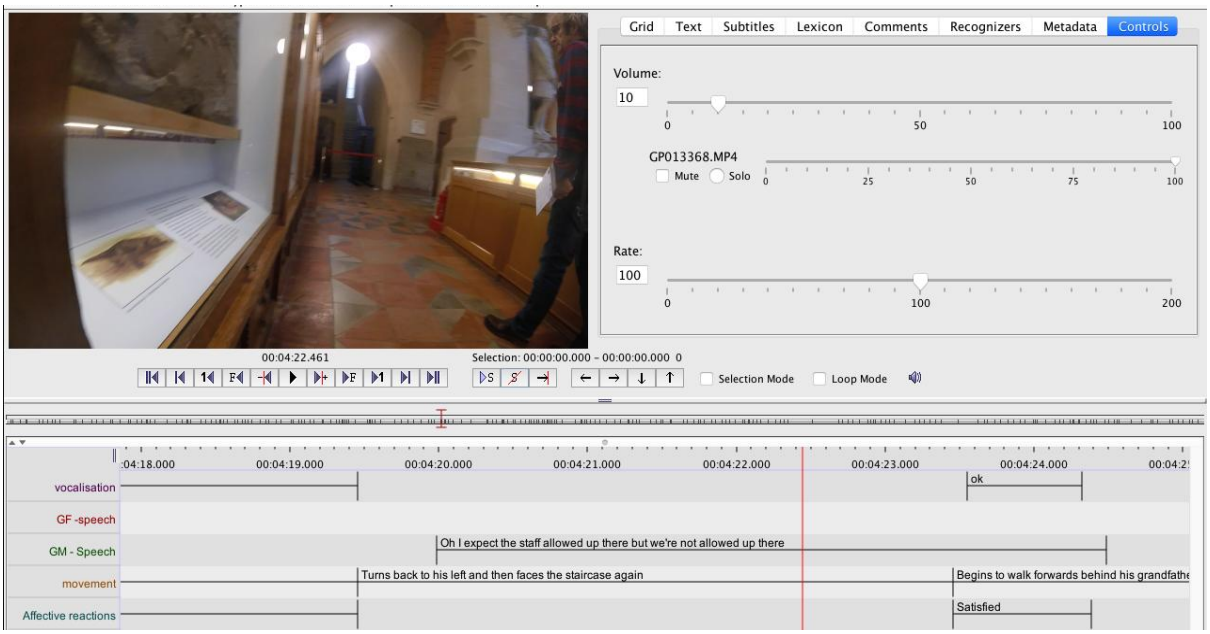


Figure 5.4.24 (part two) Noel asking about the stairs.

Noel is very excited about having the camera. He paid close attention to its operation, for example his ability to frame a target in the camera's viewfinder (F5.4.25/26) and the amount of battery that has been used up.

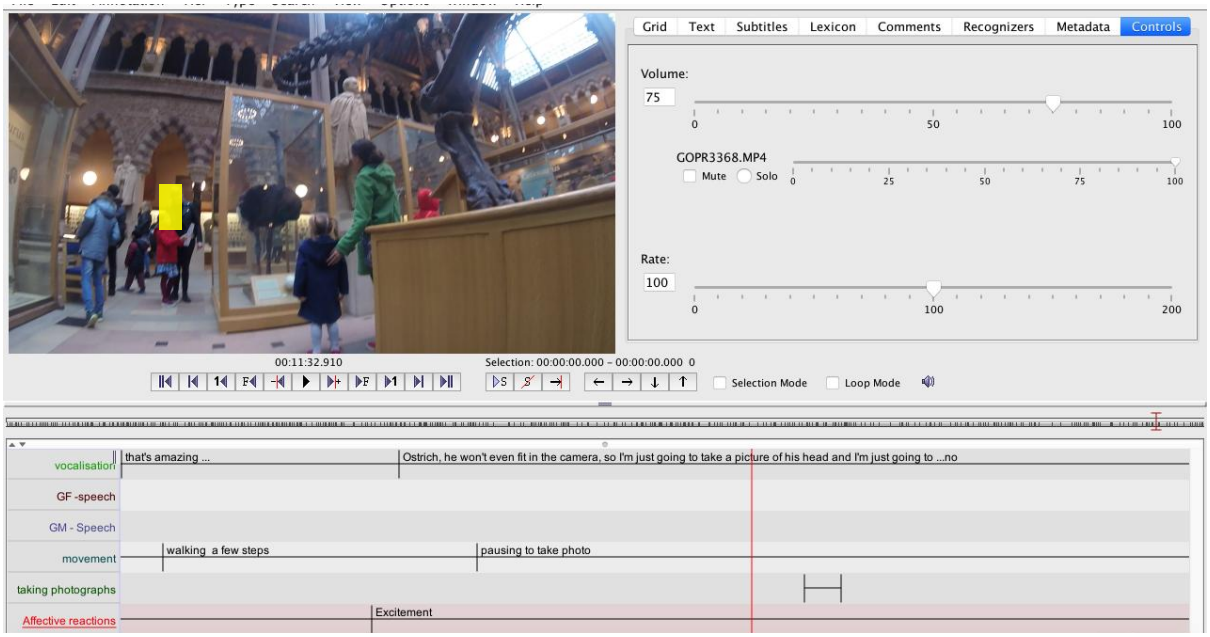


Figure 5.4.25: Noel taking a photograph of an ostrich (Moa)

Figure 5.4.26: Noel's photograph of a Moa

Noel's play with the camera extended beyond its technical operation and taking photographs of things he enjoyed. He also enjoyed pretending that he was taking photographs. In F5.4.27, parts two and three, he jokingly pretended to photograph first his grandmother and then other people in the museum. He enjoyed this and seemed focused in his play. He combined his actions moving the camera back and forth with the chant *'... and you, and you ...*'. His pretense was initiated by his grandmother taking a photograph of him. Similarly, Shaffer (2011) notes that young children learn by mimicking others. Although with an adult, Noel imitated his grandmother's interactions with the camera.

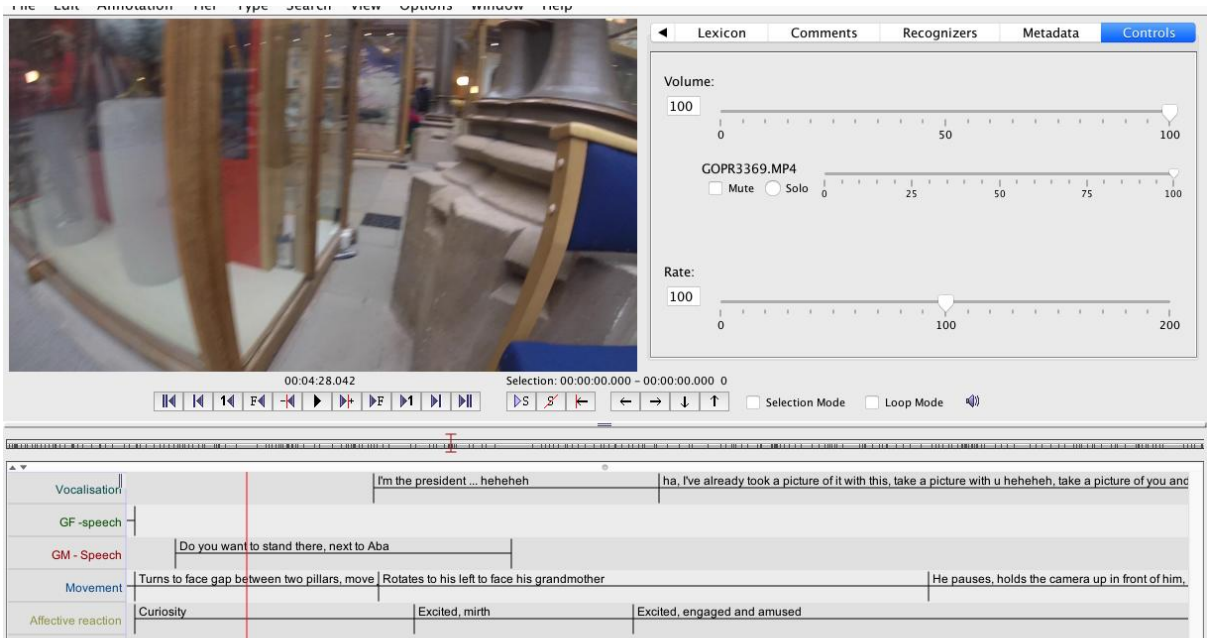
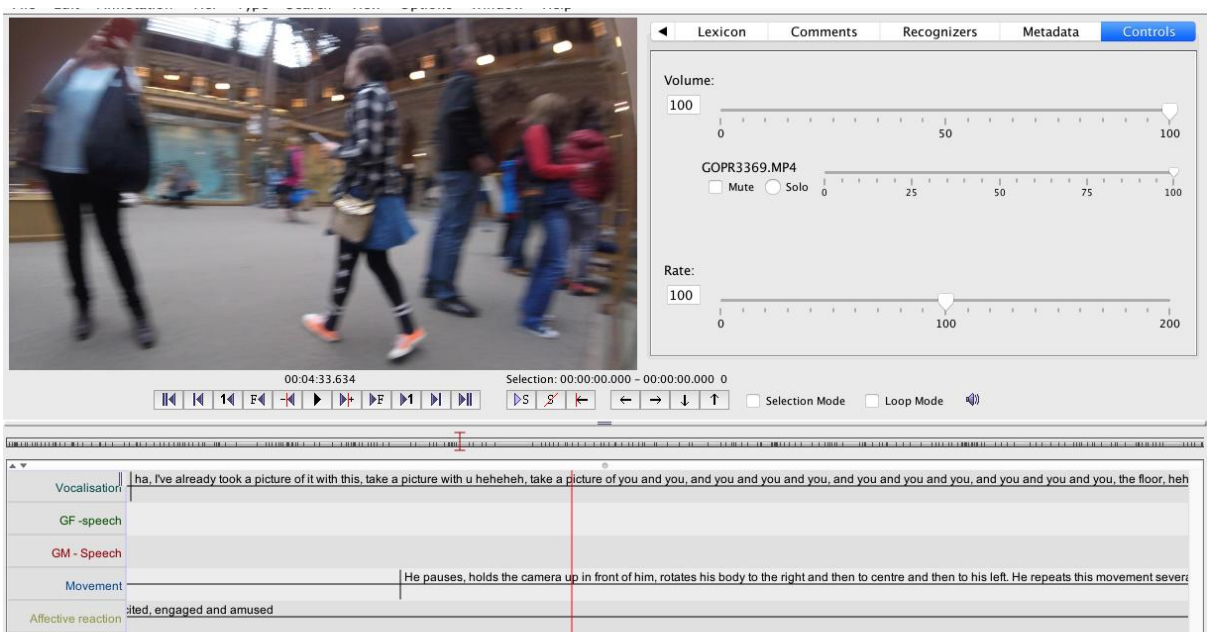
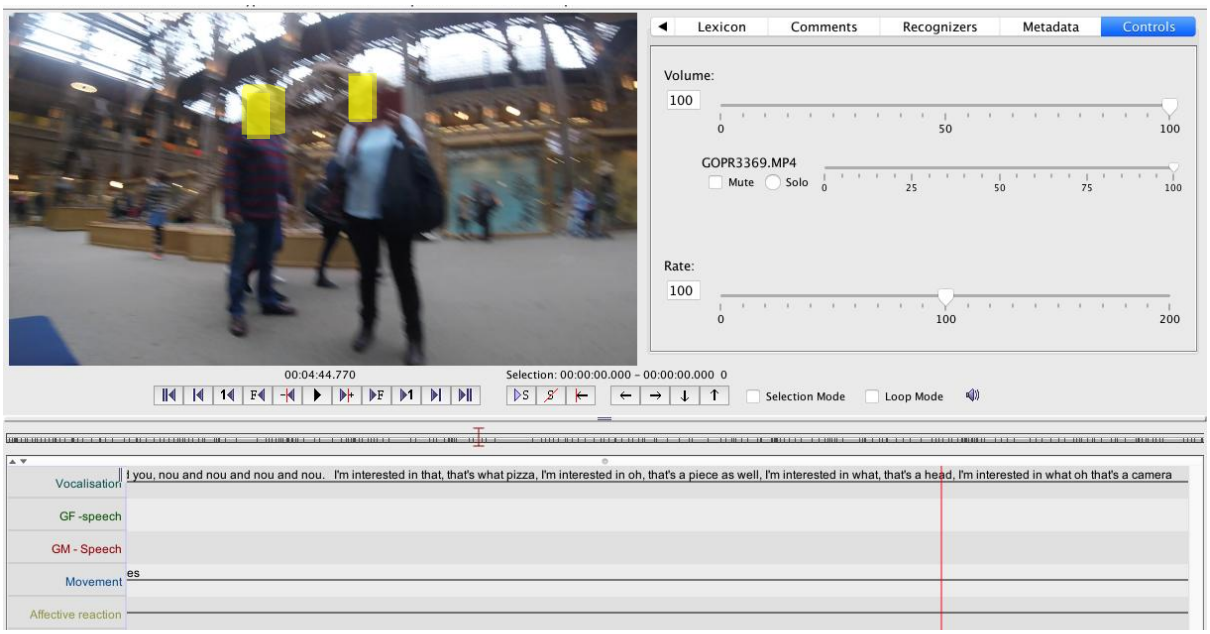


Figure 5.4.27 (part one): Noel investigating a gap between two pillars



5.4.27 (part two): Noel playing with camera.



5.4.27 (part three): Noel playing with camera

Noel often named objects he thought he recognised. For example, calling out '*ostrich*' when confronted with a large bird (in fact an extinct Moa) in F5.4.25 and '*Fox cub*' when he first saw a red panda (See F5.4.16/17). Naming has been noted as a common reaction for children in natural history museums (Kirk and Buckingham, 2018). Other than snapping a photograph, Noel's spontaneous naming reactions were rarely followed by any further enquiry (F5.4.16, F5.4.25, F5.4.28), indeed the act of naming seemed satisfying in itself.

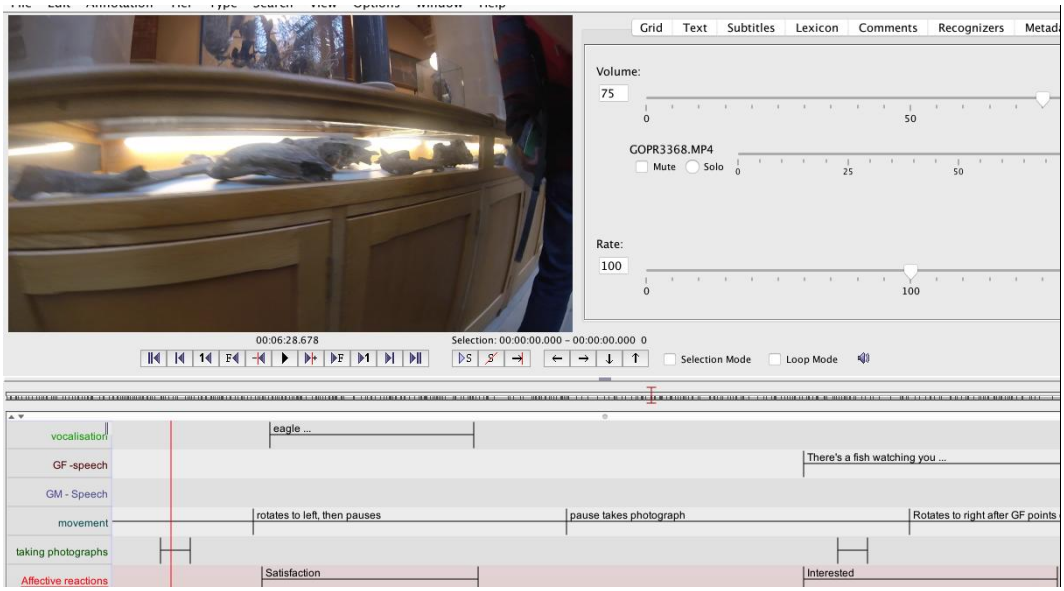


Figure 5.4.28 Noel naming an eagle

As is the case in this example further enquiry rarely followed an episode of naming. He also described objects. Most often this related to size, either in terms of objects being big, small or occasionally explicitly making comparisons or interpretations. For example, in F5.4.29 Noel described a spider crab as *'...mahoosive*' going on to underline his point by making the (exaggerated) comparative comment '*They're bigger than people*'. He also described a flat fish as a '*plate fish*' presumably because of its shape, and in interview a plesiosaur's jawbone as saying '*...hehehe'* (F5.4.1).

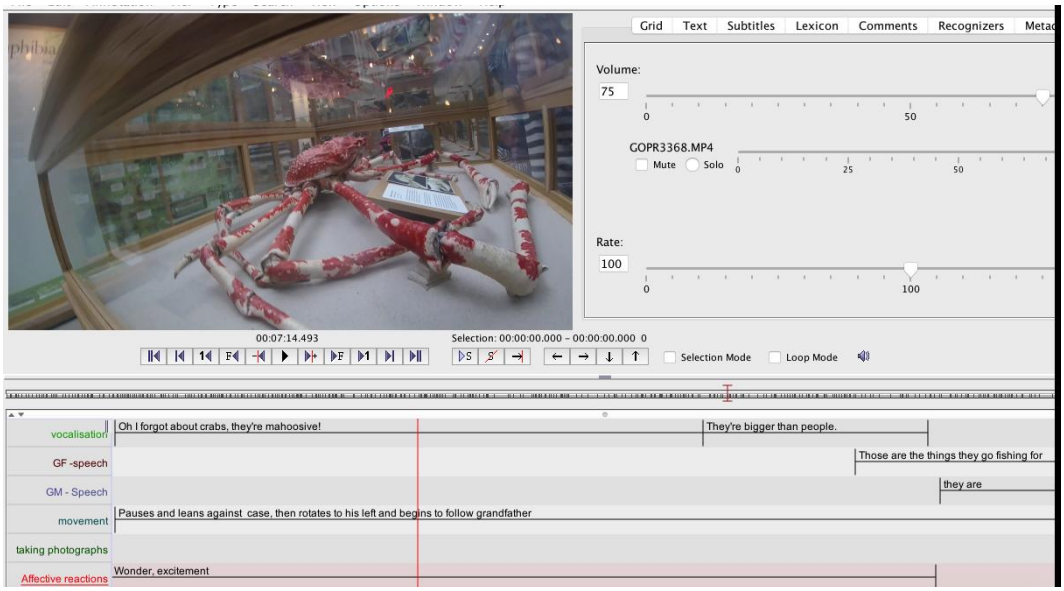


Figure 5.4.29 Noel describing the spider crab as ‘mahoosive’.

Noel showed particular enthusiasm for live or real objects (Dockett, Main and Kelly, 2011; Kelly *et al.*, 2006; Bunce, 2016). For example, in F5.4.30 (parts one and two) when he spotted a cockroach moving, he was, for a few seconds fixated. He then commented ‘*they’re actually alive*’. The fact that they were live specimens seemed to really capture his attention. The reason for this is perhaps the contrast between the few live specimens and the inanimate specimens that make up the majority of the museum’s collections. He showed similar enthusiasm when he spotted a salmon pink tarantula in a tank. He said, ‘*Is it actually real?*, *I think it’s actually real!*’.

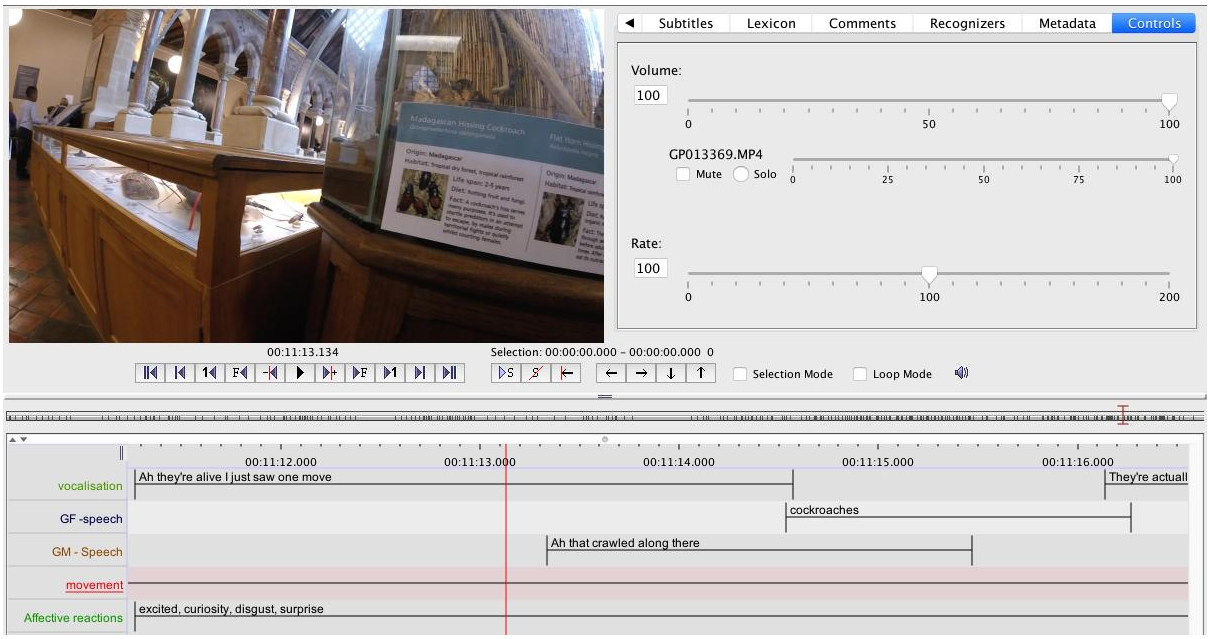


Figure 5.4.30 (part one): Noel's interest in the cockroaches

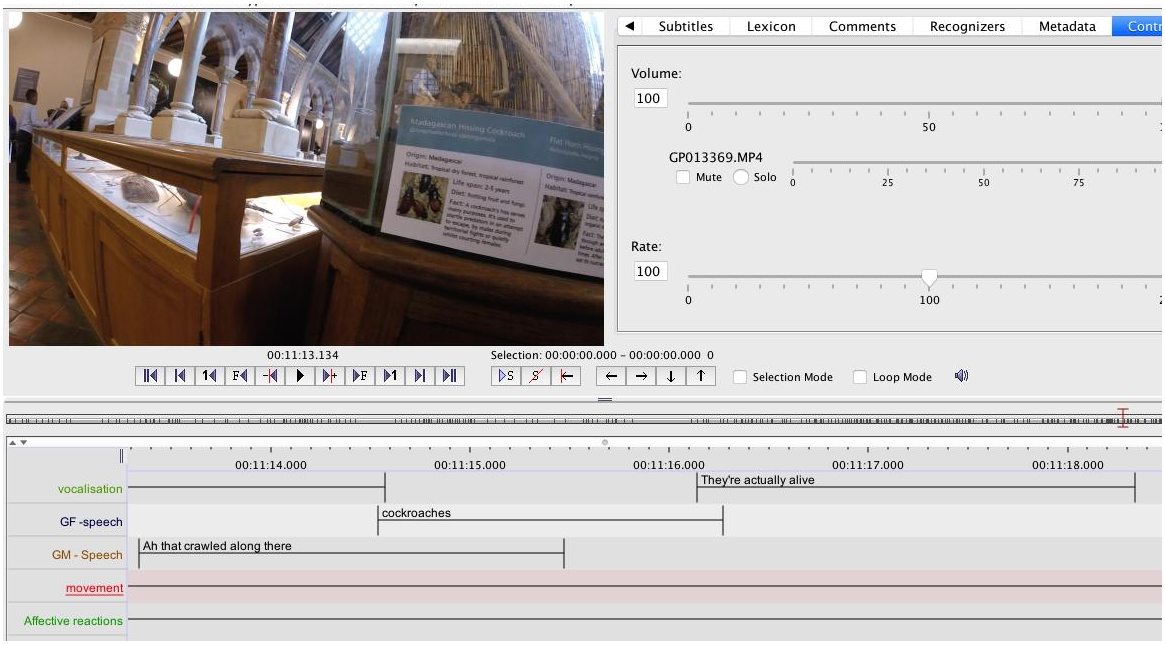


Figure 5.4.30 (part two): Noel's interest in the cockroaches

Noel also enjoyed finding things. Examples of this being when he was looking for the diamond, and scale models of the sun, earth and moon. He also enjoyed hunting for the well camouflaged peacock mantis in its tank as illustrated in F5.4.31.

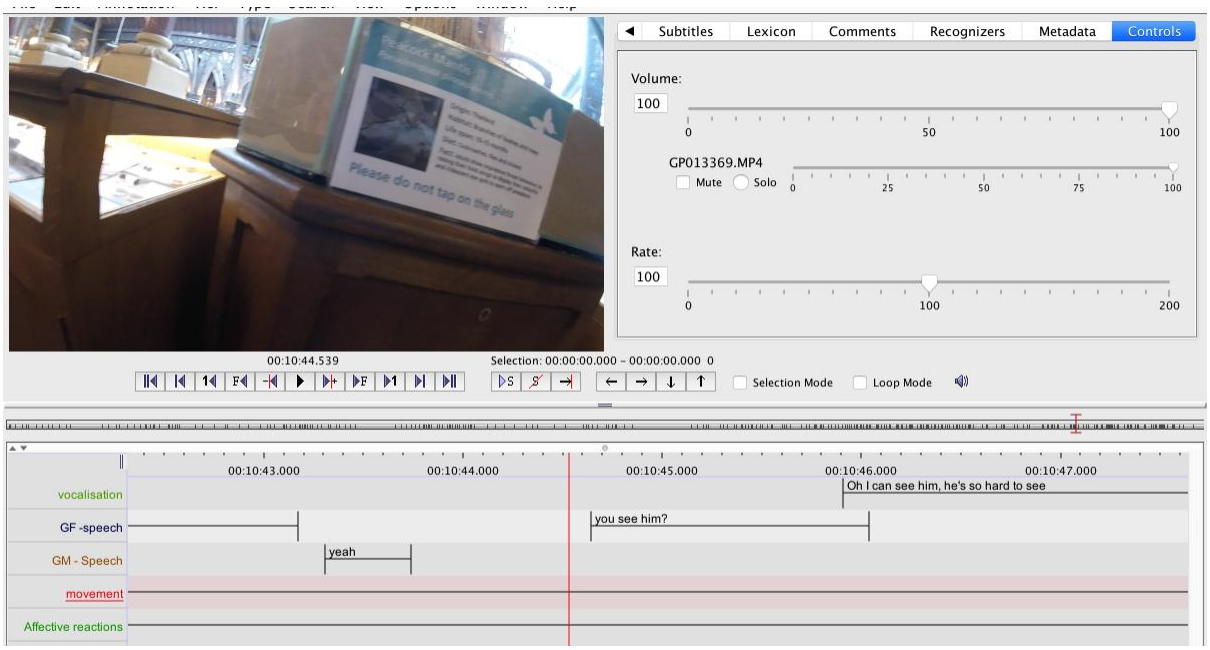


Figure 5.4.31: Noel spotting the Peacock Mantis

5.4.6 Summary

Like the other children, Noel's movement was exploratory throughout the visit. He moved in a stop-start manner, stopping when had his attention drawn to something or of his own accord and then quickly moving on. Noel was also conscious of his grandparents' whereabouts, for example not venturing through an archway when they were not close by. He also returned to objects in order to underline his interest in them (Hackett, 2014b). Noel's family interactions were warm and loving. His grandfather was didactic and dedicated in his approach to engaging Noel with the museum's collections and Noel found this frustrating at times. His grandmother was cannier, in particular tuning into his interest in objects that are either big or small and that he enjoyed showing off his knowledge. Although the museum visit was overall a very positive experience, his affective reactions were fluid. He exhibited a sense of

wonder and excitement periodically throughout the visit. He engaged with the exhibitions with humour, both when prompted by his grandparents and of his own volition. He was sometimes impatient when his exploratory instincts were curtailed. He also whined and moaned at times during the second half of his visit. Although during these times he said he wanted to leave, he always shortly afterwards began to enjoy himself. His patterns of attention were varied and idiosyncratic. However, they also conformed to well established patterns such as an interest in big objects and things that linked to his past experiences. He enjoyed playing with the camera. Noel named and described objects but rarely enquired further about them. Noel was also struck by real specimens and enjoyed finding games.

5.5 Bill's visit to museum B

'*I think it looked like a stick was hanging out and it looked like it was actually flying.*' (Bill in interview describing his interest in the photograph below)

Figure 5.5.1: Bill's photograph of a bird

5.5.1 Introduction

The museum was not crowded, but there was a steady bustle of visitors around the family during their visit. Their visit included a ten-minute lunch stop, and a visit to the shop. Although, perhaps joking, when asked in interview '*What did you find interesting about your visit?*', Bill's first response was '*I liked having lunch*'. It is clear, as the following section will outline, that he enjoyed more than just his lunch

during the visit. What this comment did communicate is that for Bill (like Sophia and Edward) the museum visit was not only about the collections but also about the wider museum experience that included the café and the shop (see section 5.5.3).

In contrast to Edward, Sophia and Noel, Bill made it clear he could read both during the visit (for example by reading the T-Rex label) and in interview, saying, '*I read that in the library'.*

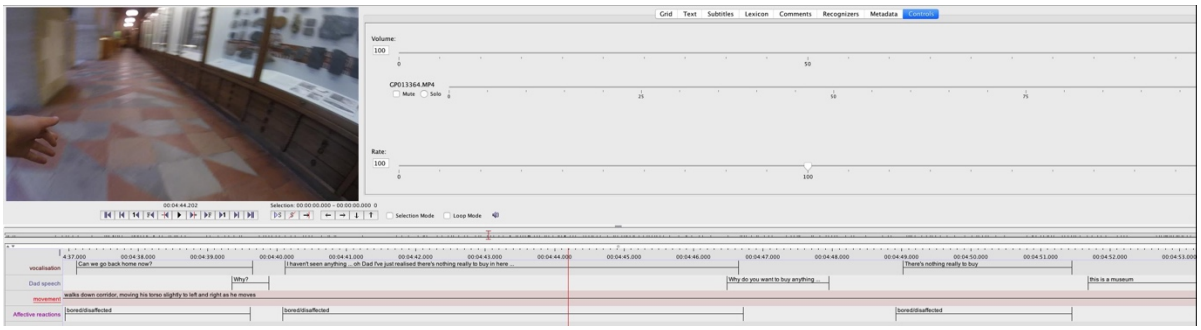


Figure 5.5.2: Bill (a bit bored) walking down a corridor

He was talkative in interview, even to the point of being a bit cheeky, which prompted his dad to say '*Come on, answer the questions nicely sweetheart. Like at school. All right? When you get asked a question.*' As Kirk (2014) speculated, his attitude in interview aligned with his exuberant character during the visit.

5.5.2 Movement

Bill's movement was energetic (more so than Noel) and exploratory (e.g. Weier and Piscitelli, 2003; Kirk, 2014). Bill's main route around the museum was controlled by his dad, however his movement was relatively independent in the immediate locality of his dad and sister's position. This point will be discussed further below.

The movement map (F5.5.3) is illustrative of his energetic movement. He ran from his dad and sisters who were gathered around an Edmontosaurus skeleton cast (point 1) towards the triceratops head cast (point 3), paused, and then dashed towards a large rectangular display case containing a fossil plesiosaur skeleton. He briefly looked back towards his dad and sisters (point 4) before circling the case three times (points 5 to 6). At the end of his last trip around the case he swung off to re-join his dad and sisters (point 6 to 7).

His movement was also varied (Hackett, 2016), for instance he walked, ran (F5.5.3, point 2), jiggled (F5.5.10), jumped (F5.5.14) leaned (F5.5.3, points 5 and 6 corresponding with F5.5.12), rotated (F5.5.2) and danced (F5.5.11). His sisters followed two trail sheets during the visit. In a similar way to Edward's experiences, his siblings' trail sheets loosely framed the family's route around the ground floor of the museum. Hackett (2014a) draws attention to the way in which trail sheets control and envisage families' routes around museum. Similarly, Bill's movement was

sometimes curtailed by the imposition of the museum educators' envisaged route into his own explorative tendencies.

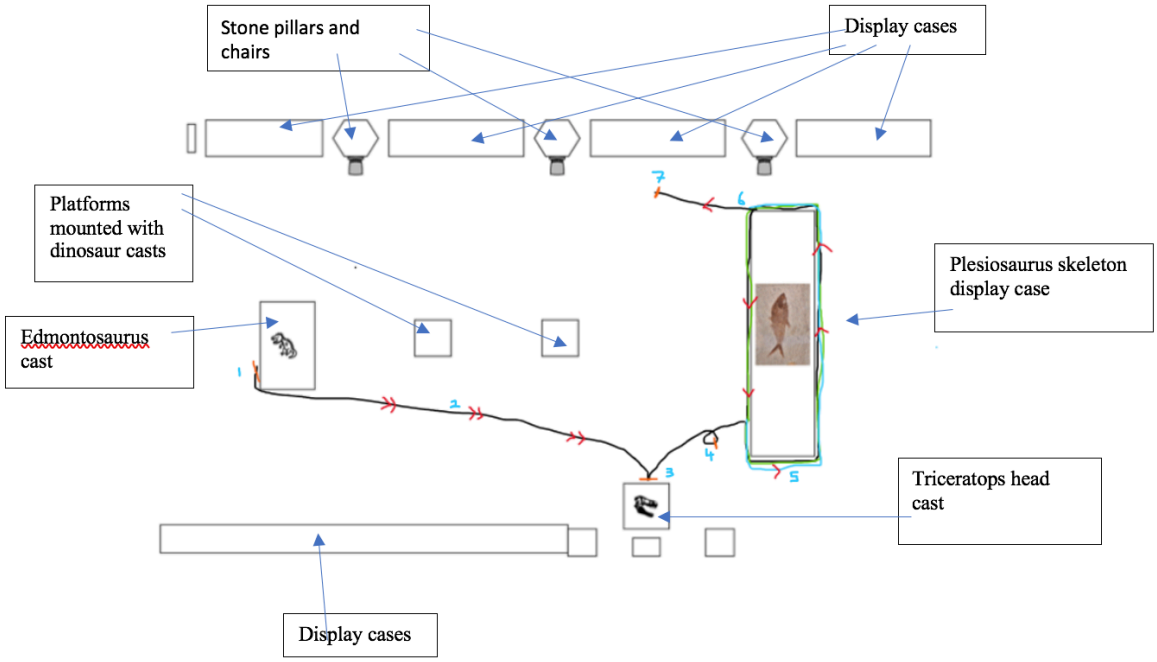


Figure 5.5.3: *A movement map showing Bill's energetic movement. Points 3 to 6 on this map correspond to Figure 5.5.12 (parts one and two). The black line illustrates a trace of his movement. For clarity his three rotations around the case are divided into a blue trace, a green trace and a black trace. The red chevrons are illustrative of speed and direction of movement. One chevron represents walking, two running.*

Like the others his exploratory movement involved trunk rotations both in locomotion (F5.5.2) and when paused. These were presumably accompanied by a shifting gaze that aided his exploration of the spaces he passed through. This together with moving closer to areas or things he was interested in, gave the impression of providing a surprisingly comprehensive coverage of the spaces he moved through. For example, in F5.5.4, Bill turned a corner, and then paused struck

by the sight of the imposing and large Iguanodon and T-Rex casts. He then turned briefly to check that his dad and sisters were close by before moving forwards. What is interesting about his movement is that although he is clearly struck with wonder at the sight of the dinosaurs, he is not fixated to the extent that he ignored other areas of the spaces he was in. Instead, he instinctively searched the space with his gaze and movement meaning that the peripheral environment is part of his place-making in addition to the main focus of his attention. This movement is illustrated in F5.5.4 (parts one to five). During this fragment Bill rotated his torso (his gaze inevitably following) whilst walking slowly forwards, at first slightly to his left (part three), and then slightly to his right (part four). This movement gave him the opportunity to scan the cases to his left and right for things of interest. He then regained his focus on the Iguanodon located straight in front of him. A few seconds later he took a photograph of the Iguanodon and T-Rex cast (F5.5.5). This exploratory approach communicated by this fragment of FPV, allowed Bill to comprehensively scan the area that he walked through for things of interest. Piscitelli, Everett and Weier (2003) make the point that children are combing the museum for things of interest. What Bill reveals here is that this act of 'combing' is remarkably comprehensive in terms of the spaces that were scanned even when he was focussed on something exciting.

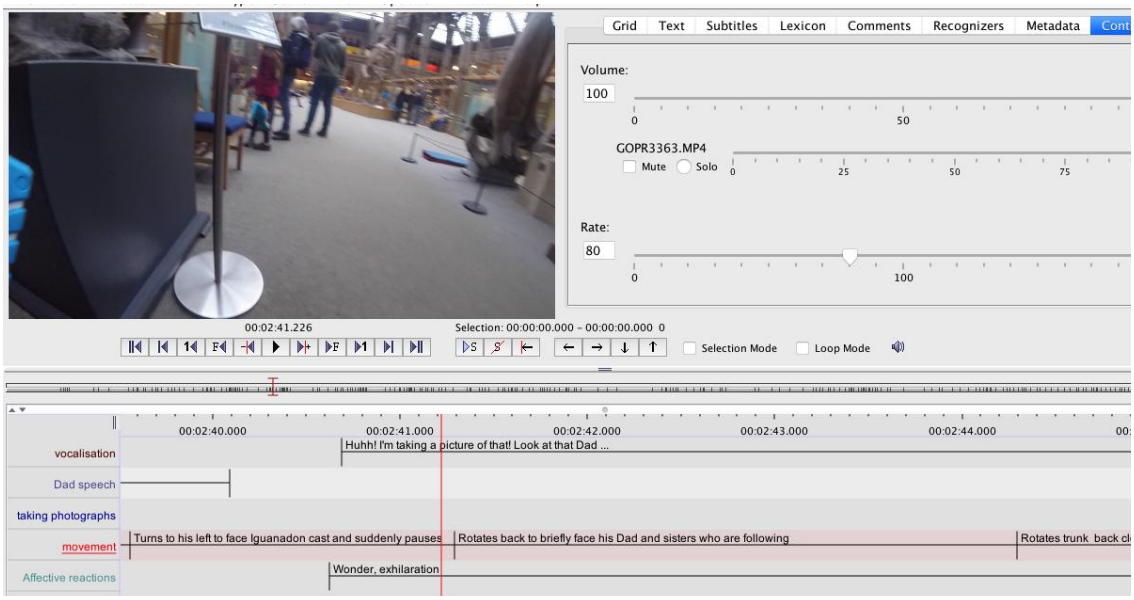
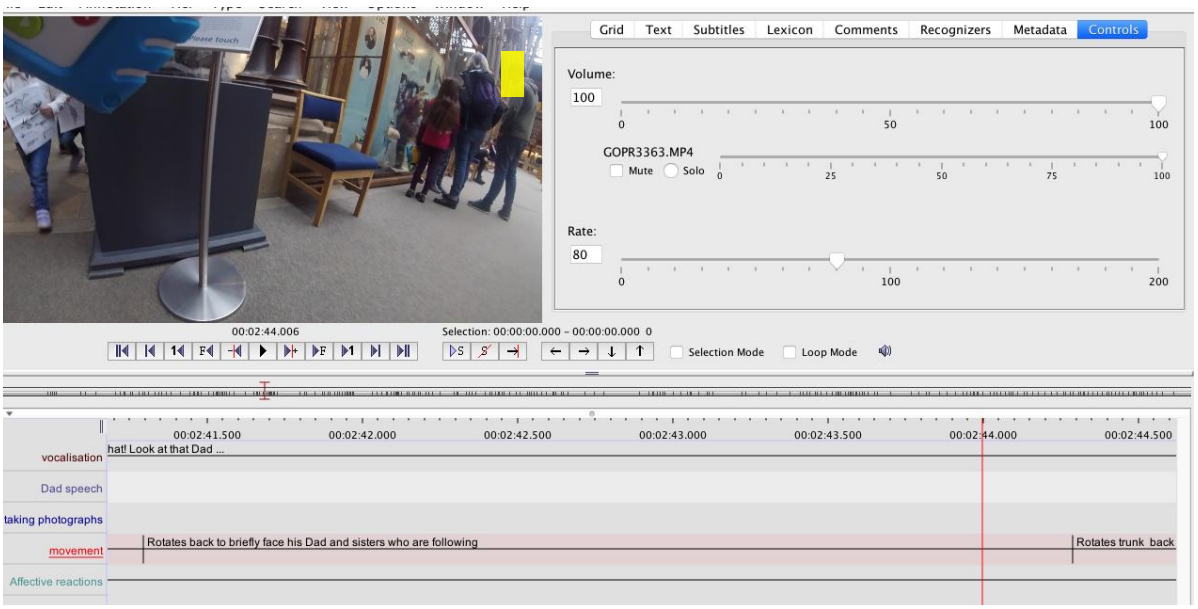
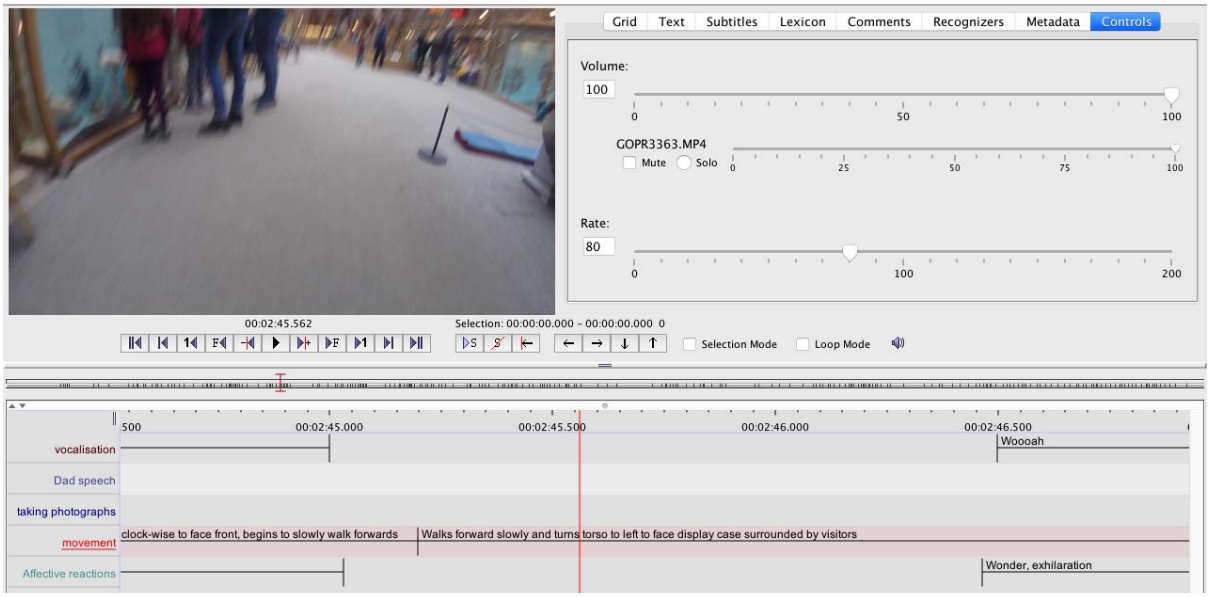


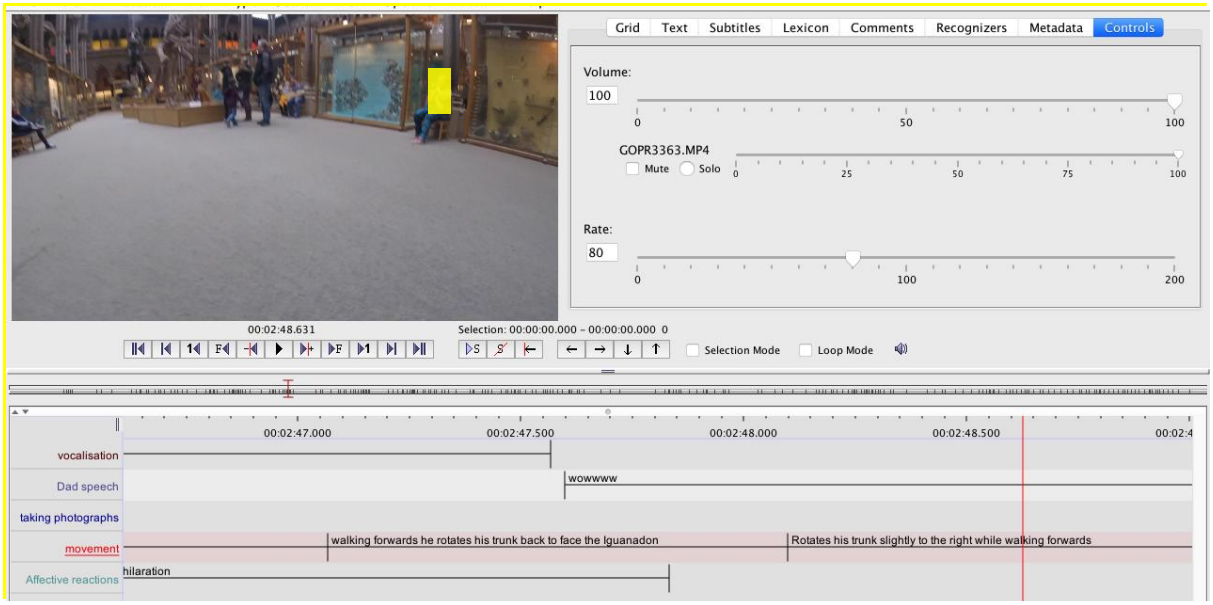
Figure 5.5.4 (part one): Bill comprehensively scanning the spaces as he moves



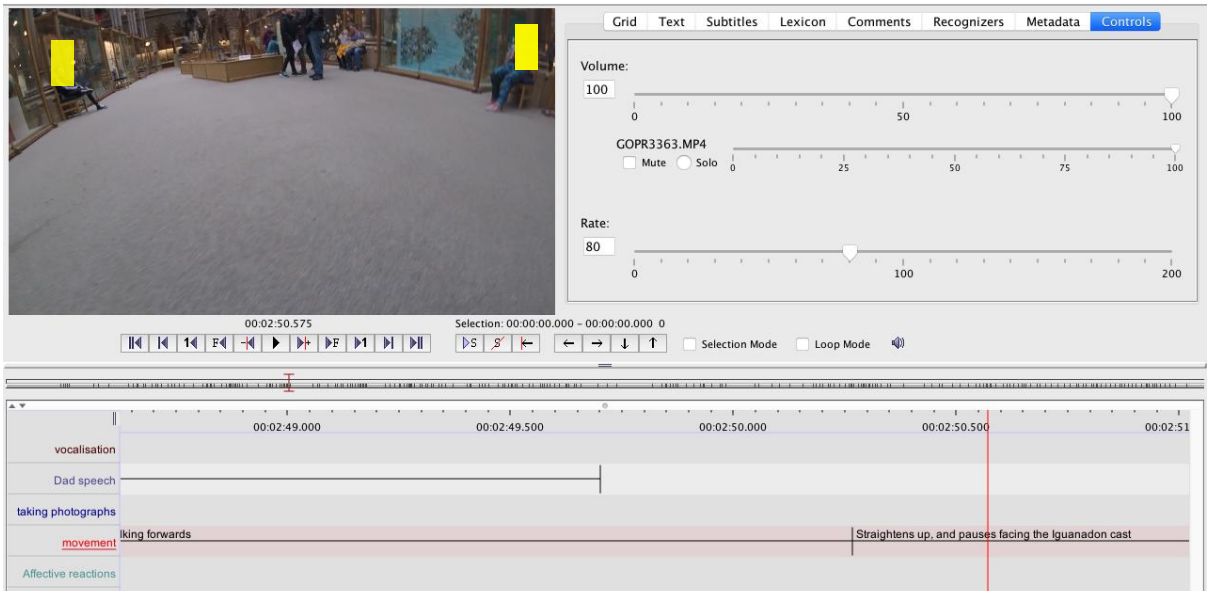
5.5.4 (part two): Bill glancing back to check his dad and sisters are following



5.5.4 (part three): Bill scanning the spaces as he moves



5.5.4 (part four): Bill scanning the spaces as he moves



5.5.4 (part five) Bill scanning the spaces as he moves

Figure 5.5.5: Bill's photograph of the Iguanodon cast and T-Rex

He also, like the others, often travelled in a stop-start motion (Piscitelli, Everett and Weier, 2003), flitting from one exhibit to the next. This pattern is illustrated in F5.5.6. In this fragment he walked down a corridor containing display cases full of taxidermy British birds. He paused in front of specimens he found of interest, before quickly moving onto the next one. Like the other children he returned to things that he was interested in. The implication of this movement is that he was underlining his interest (Hackett, 2014b). For example, in F5.5.6 (part three), he, shortly after he passed it the first time, turned and returned to a pheasant, eagerly asking his dad '*Dad, what's that Dad?*'.

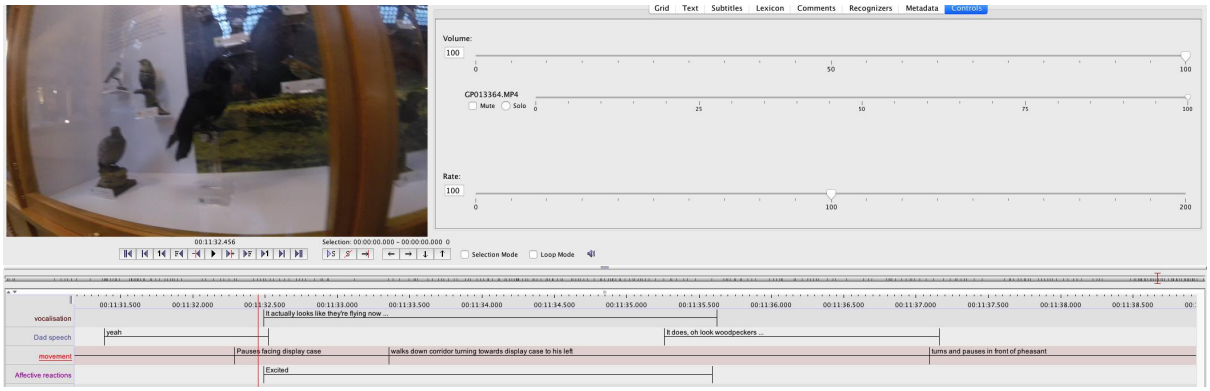


Figure 5.5.6 (part one): Bill begins his stop-start movement along a corridor containing common British birds

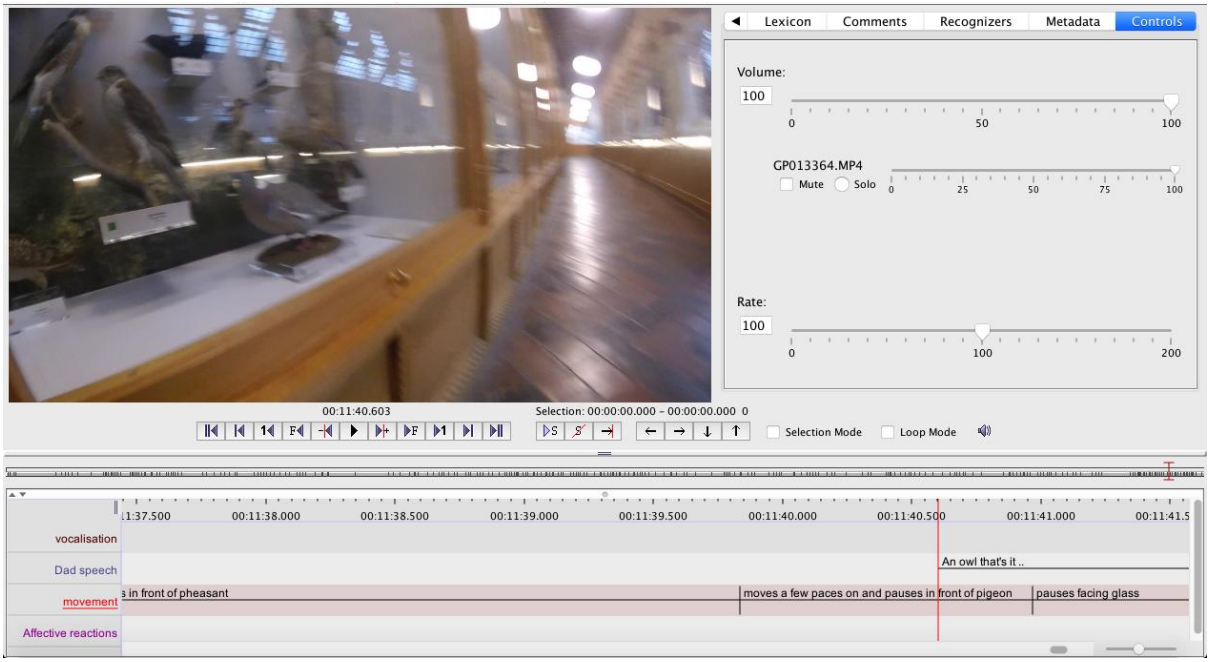


Figure 5.5.6 (part two): Bill pausing in front of a pigeon

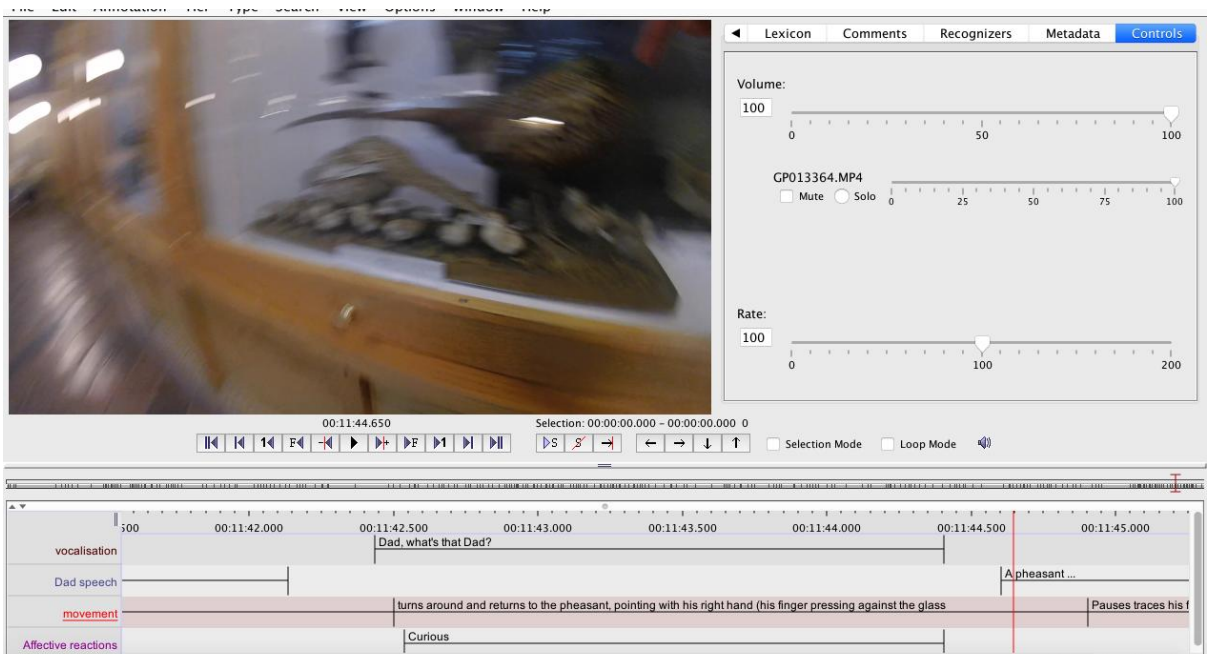


Figure 5.5.6 (part three): Bill returning to the pheasant

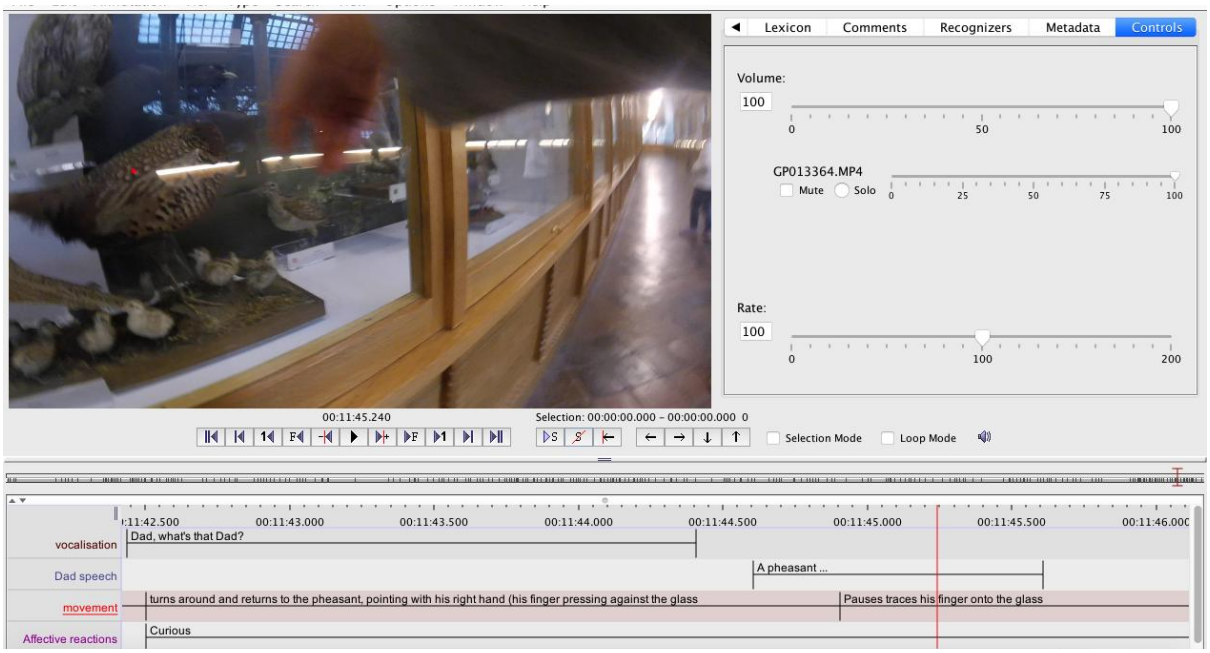


Figure 5.5.6 (part four): Bill tracing his finger on the glass

Bill's own exploratory movements were sometimes curtailed by his dad's efforts to point things out. For example, in F5.4.7 (part one), Bill walked away from his dad and sisters. His dad called him back, saying '*Do you know what this is?*', Bill turned and headed back towards his dad, asking '*what?*', obviously curious to see the large tuna skeleton. Once he found out that it was a tuna, he turned and resumed his explorative movement not seeking any further information. As this fragment illustrates Bill was independent in his movement within the vicinity of his family members but often had his attention drawn to things by his dad and occasionally his sisters. His dad also stopped his independent exploration when they were travelling from one part of the museum to the next. For example, in F5.4.8 Bill spotted and tried to enter a small entrance to a separate museum. His dad stopped this movement by brusquely saying '*No we'll go this side.*' This episode chimed with Anderson, Piscitelli and Everett's (2008) description of a clash in terms of an agenda of

mission: Bill wanted to explore whereas his dad wanted to reach a different area of the museum to complete a trail sheet.

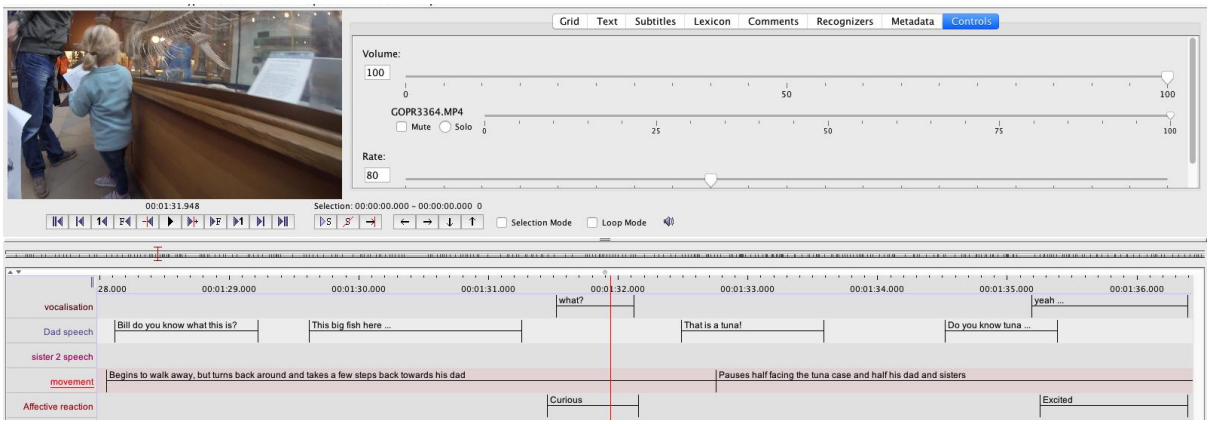


Figure 5.5.7 (part one): Bill's dad showing him the tuna

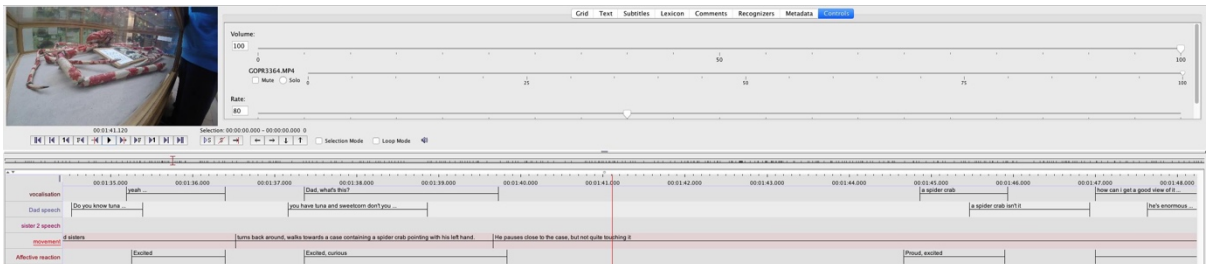


Figure 5.5.7 (part two): Bill spotting the spider crab

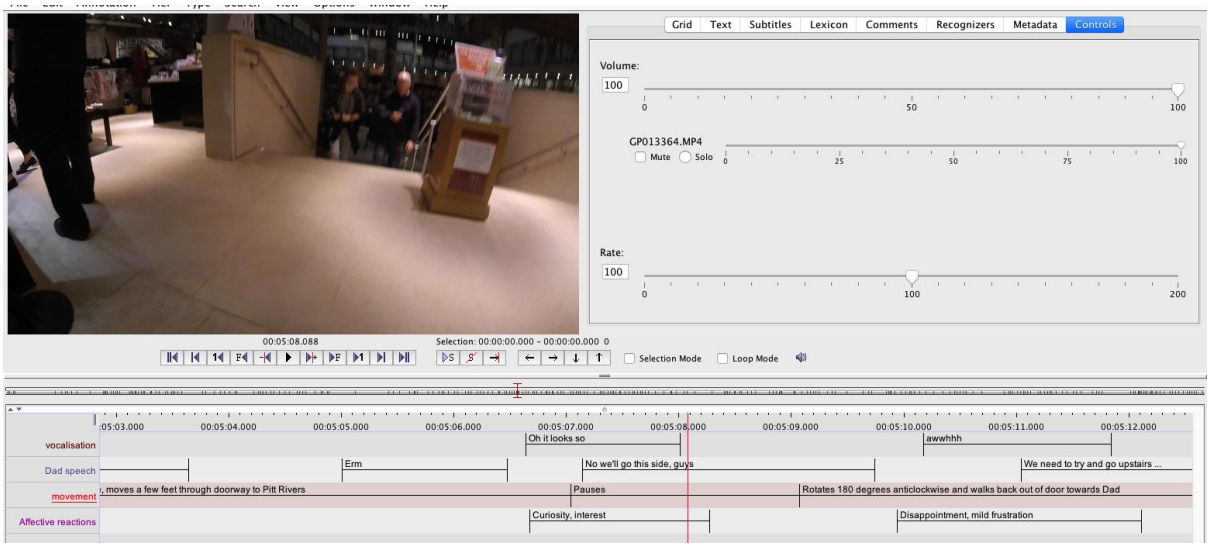


Figure 5.5.8: Bill being prevented from exploring a different part of the building

Like the others, Bill was surprisingly conscious of his own position in relation to his family's (particularly his dad's) whereabouts. Consistent with his exuberant character he was more confident in moving away from the family group than the other participants but was also concerned to make sure that he did not venture too far from them. This concern is communicated in a number of ways. For example, in F5.5.9 (part one), he was absorbed listening to some headphones and watching a programme on a monitor about the brain. His dad and sisters rounded the corner and moved out of sight. In contrast to Tolmie et al's (2014) observation that the prospect of losing a child is treated as a serious matter, Bill's dad does not seem concerned that he was out of his line of sight. This is perhaps due to the nature of the corridor that they were in making it unlikely that Bill could get lost. Bill on the other hand is concerned that his dad is out of sight. For example, he stretched out the headphone cable as far as he could from the monitor, peered around the corner and called out '*Wait for me dad, wait for me.*' (F5.5.9, part two). When he received no reply, he put the headphones back and ran down the corridor after his dad (F5.5.9, part three).

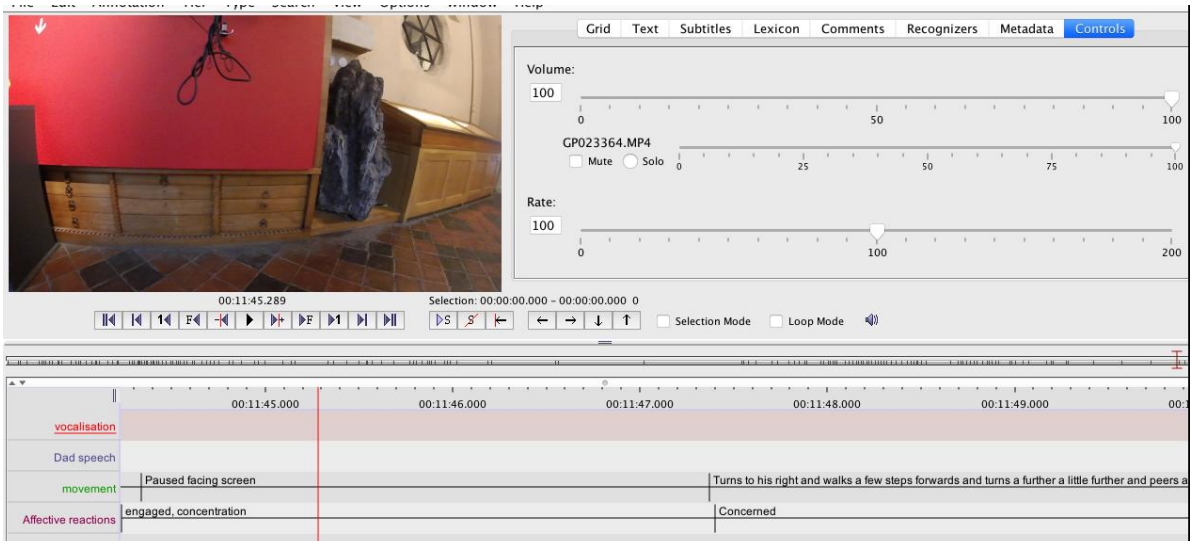


Figure 5.5.9 (part one): Bill asking his dad to wait

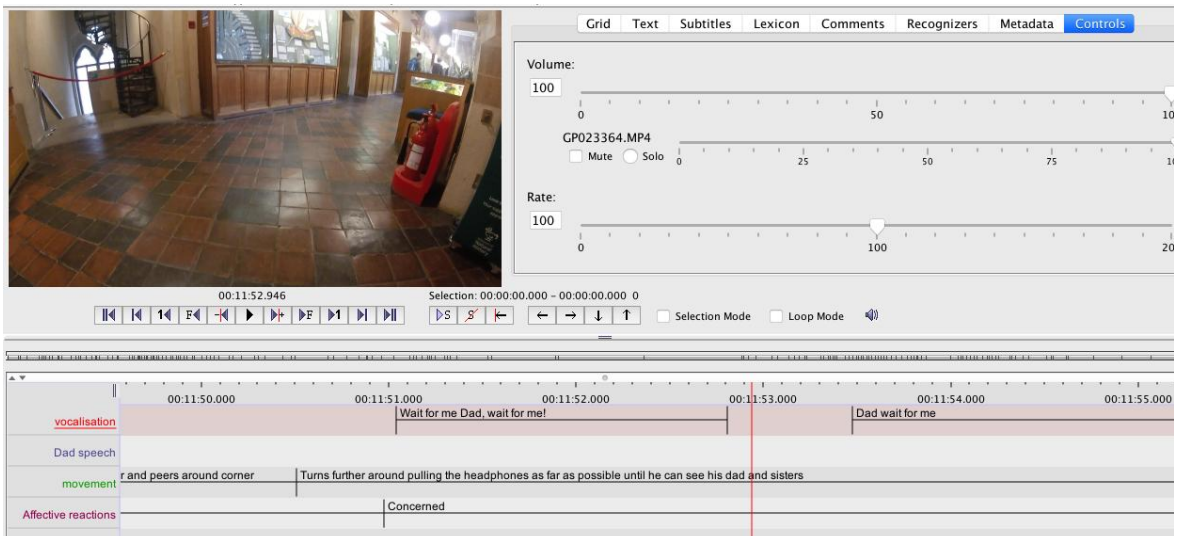


Figure 5.5.9 (part two): Bill peering around the corner to see his dad and sisters.

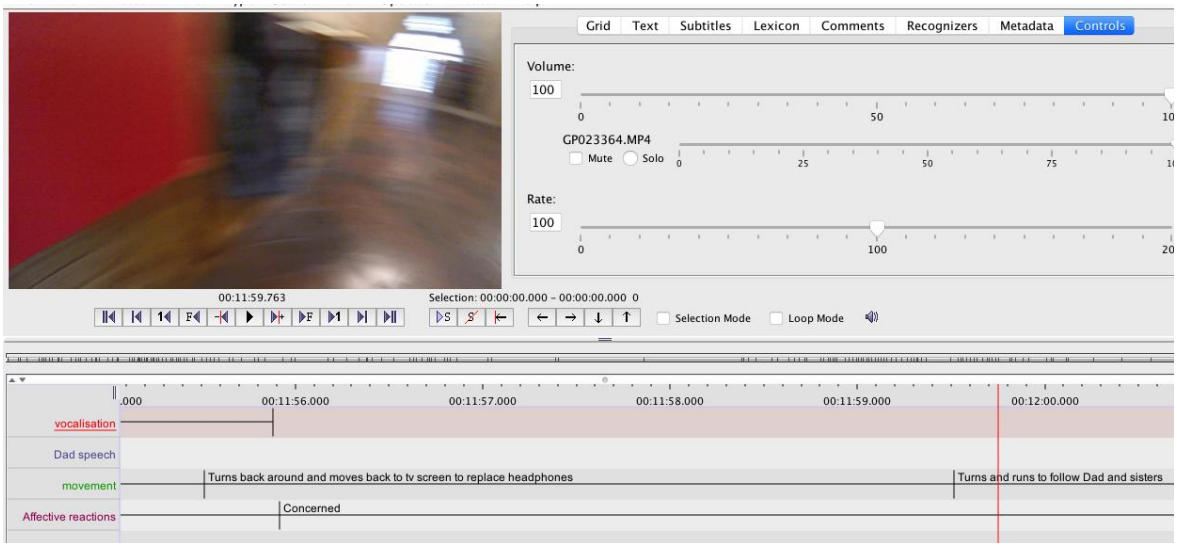


Figure 5.5.9 (part three): Bill setting off at a run to catch up with his dad and sisters.

Bill also kept a subtler eye on his family's whereabouts with quick backwards glances to make sure they were close by. For example, in F5.5.4 (part two), after turning a corner he glanced back to check that his sisters and dad were following before he moved forward into the large aisle in front of him. He also, like the other children, stopped in doorways (or just on the other side) before either waiting for support to move forwards or returning to his dad. In F5.5.10 (parts one to three) Bill's exploration through the doorway is more confident than the other children's (with the possible exception of second time visitor Una) as he did not just hover on the threshold but actually moved a few feet into the new space. This is even after his dad provided warning that they were moving in a different direction. Shortly afterwards a concern for his family's whereabouts prompted him to quickly retrace his steps and catch up with his dad.

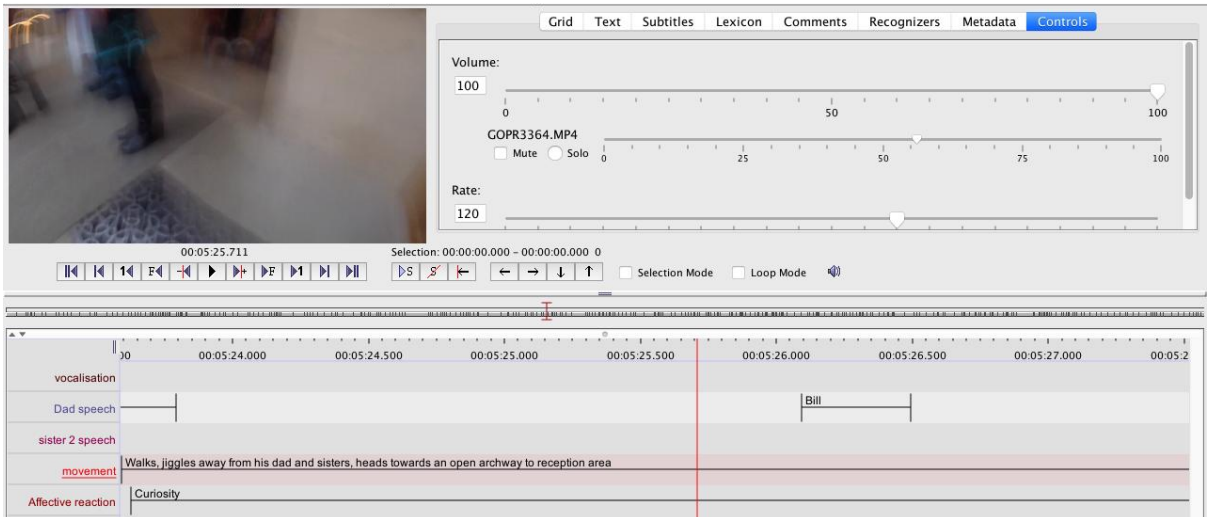


Figure 5.5.10 (part one): Bill exploring the archway

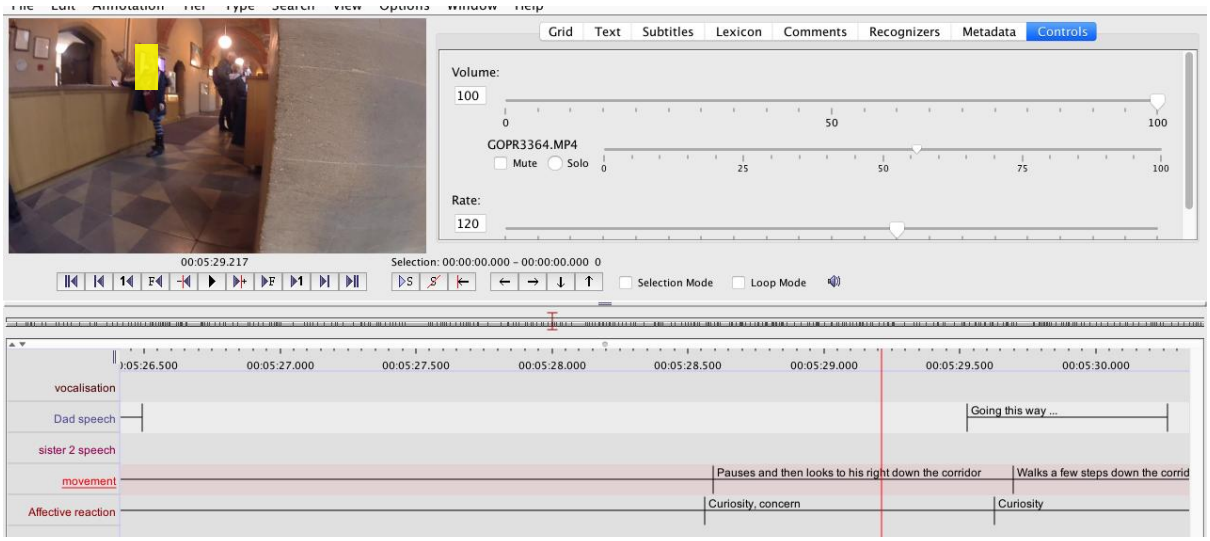


Figure 5.5.10 (part two): Bill taking a few steps into the new space.

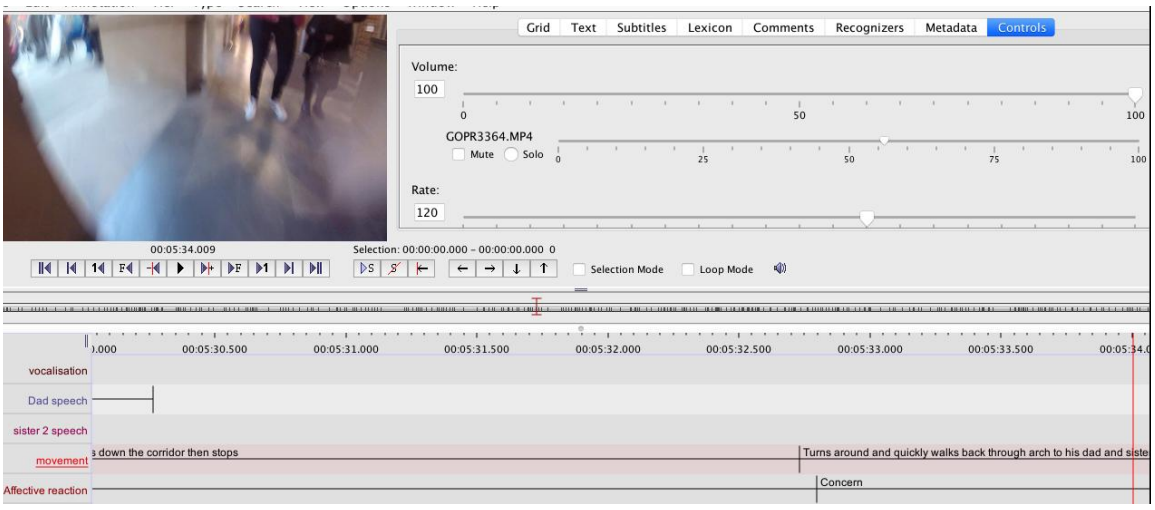


Figure 5.5.10 (part three): Bill hurrying back to his dad and sisters

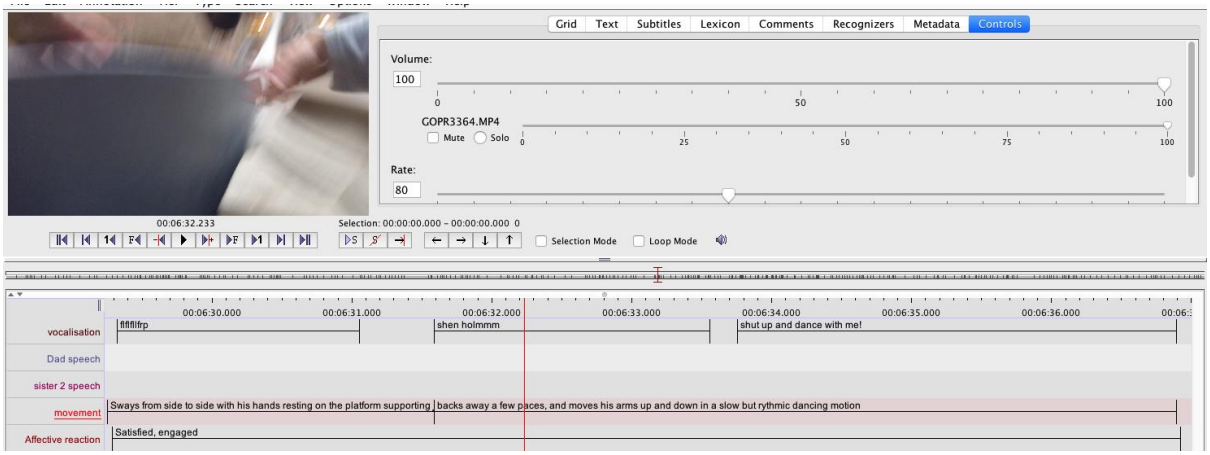


Figure 5.5.11: Bill dancing and singing

Bill on a number of occasions synchronised his movement and vocalisations. For example, on the movement map F5.5.3 (numbers 3 to 5), he approached and circled a large rectangular wood framed, glass display case. He leaned into the case, placed his hands on the wooden frame and moved slowly around the case continuously singing in approximate time to his steps. He did three complete circles and towards his last lap his singing and movement speeded up until he catapulted himself off to re-join his dad and sisters (numbers 6 and 7). The fragment illustrated by F5.5.12 (parts one and two) correspond to numbers 3 to 5 on F5.5.3. During this time, he exuded a sense of absorption and satisfied engagement with his movement and singing. It is not possible to accurately discern if this was his intent, but this circling also provided him with a number of opportunities to survey the surrounding area. Another example of Bill synchronising his movement and vocalisations is illustrated in F5.5.14 when Bill excitedly jumped and hummed.

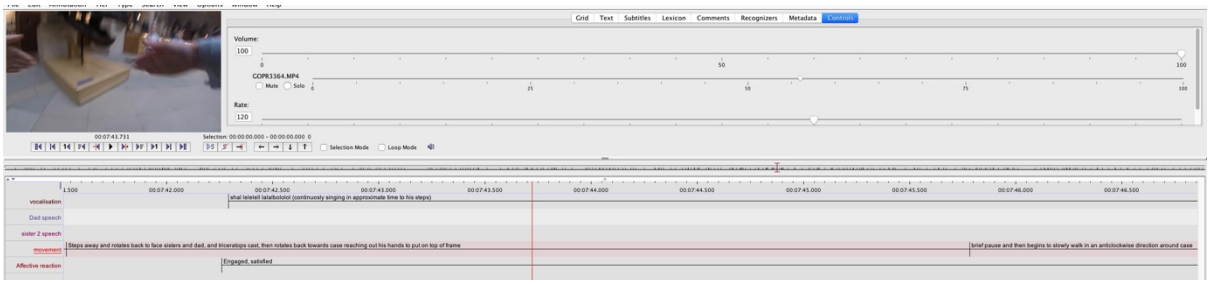


Figure 5.5.12 (part one): Bill walking and singing in synchronisation

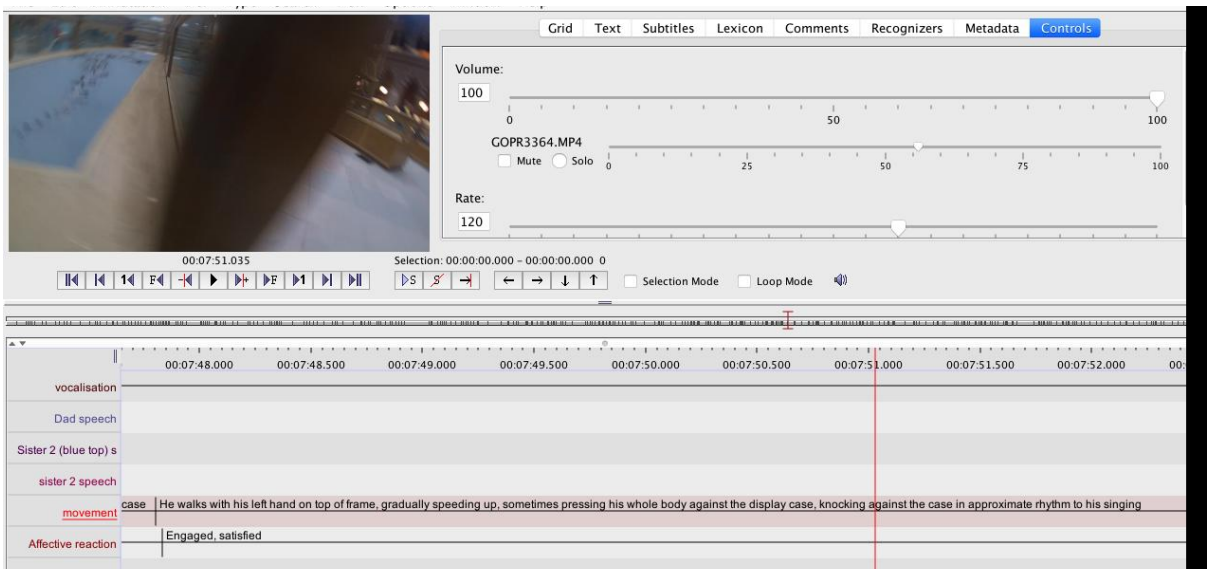


Figure 5.5.12 (part two): Bill walking and singing in synchronisation

5.5.3 Family interactions

Bill enjoyed a good humoured and warm relationship with his dad. He often enjoyed his dad's jokes that were often geared around the exhibitions. For example, in F5.5.13 they both laughed together at a photograph that his dad had taken of Bill with a crocodile.

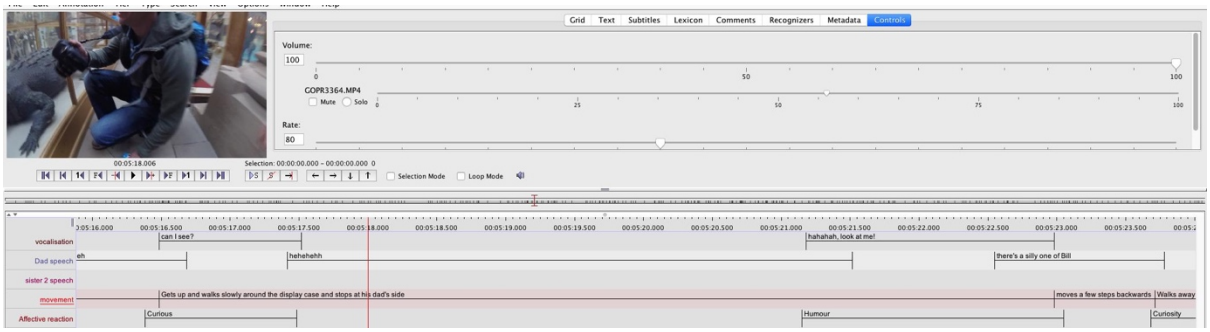


Figure 5.5.13: Bill laughing with his dad at his dad's photograph of him with the crocodile

Bill's exploratory behaviour was sometimes at odds with his dad's interpretation of the museum rules. For example, In F5.5.14 he moved towards his dad and sisters. He then reached out to touch a dinosaur cast. His dad immediately called out, '*uh, no don't touch … Bill don't touch please*'. Bill then asked his dad '*why not?*', to which his dad replied, '*Look at the sign*'. This standoff briefly disappointed Bill, before he moved onto the next thing.

Bill's evident desire to touch (and to challenge his dad's rules about touching) chimed with a point made by Adams and Luke (2005) that adults are more cautious than children when it comes to their engagement with exhibits. Short-lived conflicts like this were commonplace between Bill and his dad. Other examples included Bill becoming impatient and being told to wait his turn and Bill being told to be sensible in interview. These low-level conflicts are similar to those that Kirk called micro-conflicts (2014; Kirk and Buckingham, 2018). To extend this point, it appeared that the root of the vast majority of conflicts experienced by Bill was when his exploratory agenda was at odds with his dad's desire to visit different areas of the museum or discuss objects on display with him.

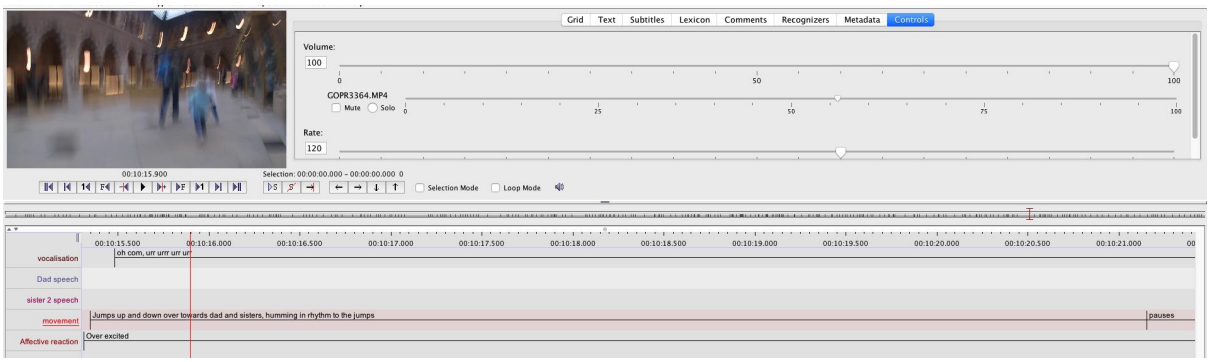


Figure 5.5.14 (part one): Bill over excited, jumping and humming over to his dad

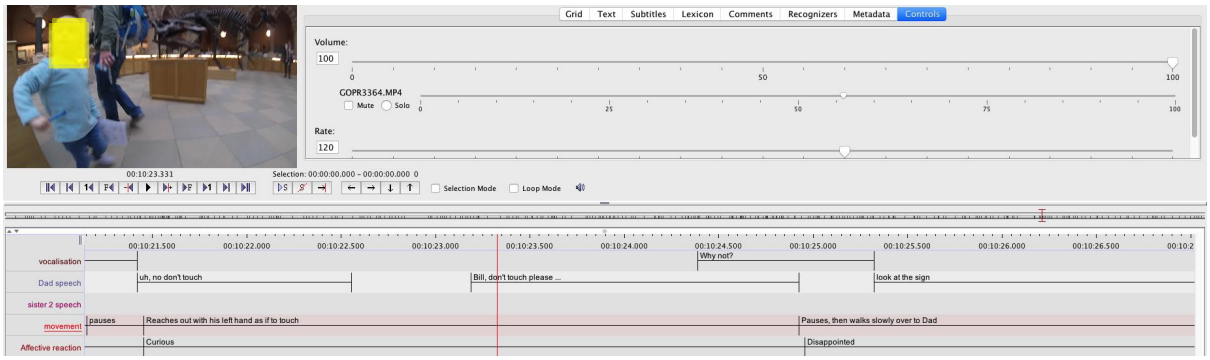


Figure 5.5.14 (part two): Bill being told not to touch

Bill's dad was very keen to engage Bill with the exhibitions. He encouraged him to look at objects, asked him what things were, drew attention to the way in which exhibits might relate to his wider experiences, and provided him with facts about the objects that appeared to come from his own knowledge. In F5.5.7 (part two), in order to link to his children's wider experience, he referred to the children eating tuna and sweetcorn after drawing Bill's attention to the tuna skeleton. Bill was rather nonchalant about this particular episode, being more interested in looking at a spider crab, but as will be discussed in section 5.5.4 this approach chimed with Bill's more general engagement with exhibits.

Bill often responded excitedly to his dad's attention. For example, in F5.5.16 (parts one to three) he is eager and enthusiastic to answer his dad's question. Bill's dad also gave him some physical assistance at times. For example, lifting him up to look at the beehive (F5.5.26) and the hanging whale bones (F5.5.15).

However, he could become petulant or irritable at times when he thought his dad did not pay him sufficient attention. For example, in F5.5.15, Bill was eager to see some whale bones that his dad had drawn his attention to. He could not see because of their position and needed help. As his dad was helping his sisters, he had to wait. This frustrated Bill and he tried to jump up to see, in reaction his dad assertively said '*Bill, Bill, Bill, Bill*'.

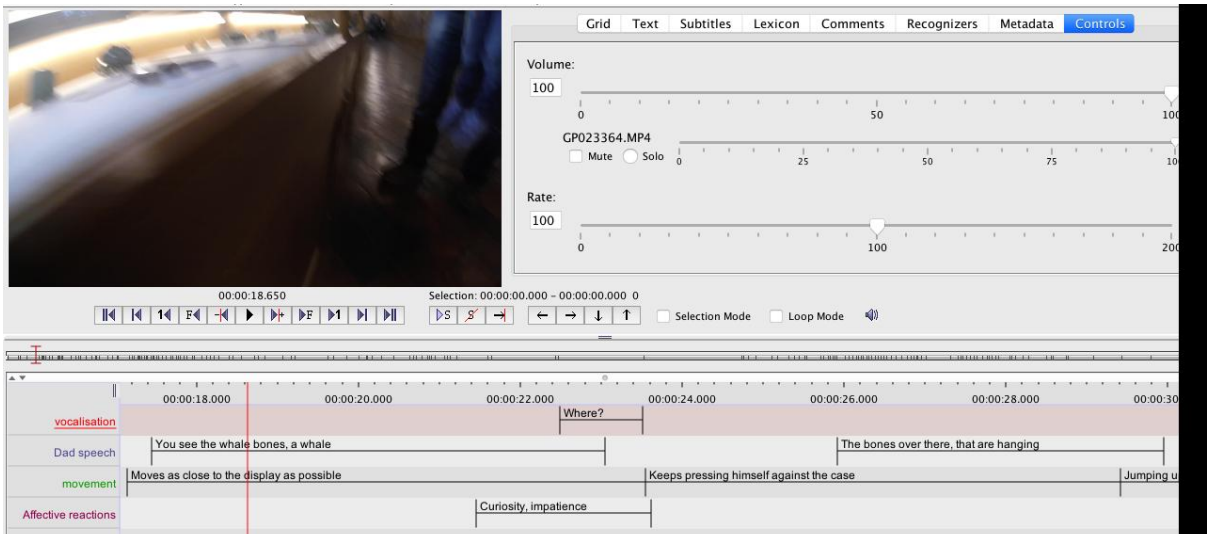


Figure 5.5.15 (part one): Bill's impatient to see the whale bones

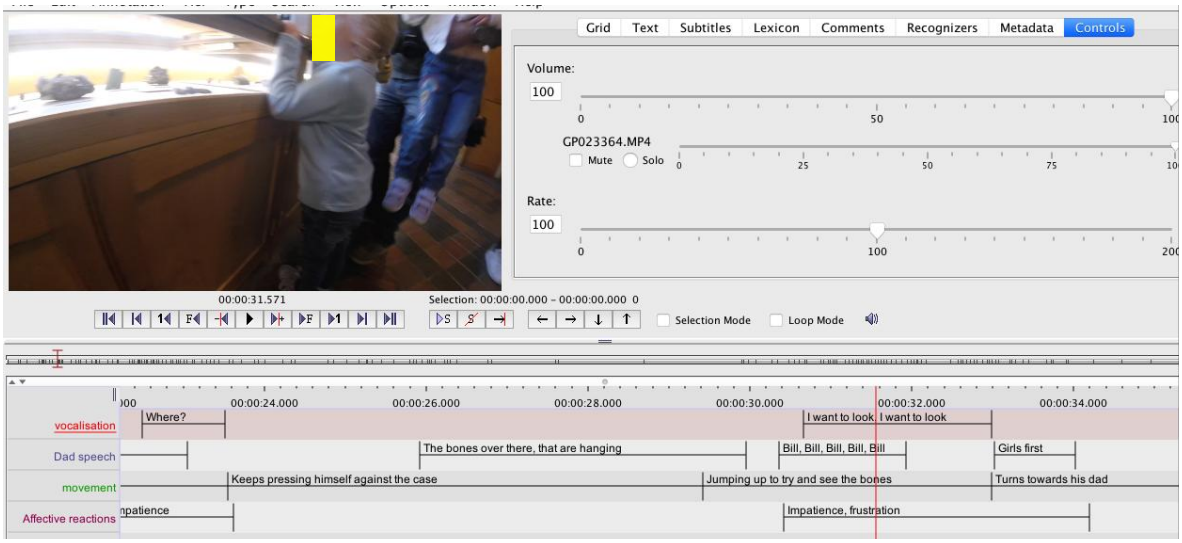


Figure 5.5.15 (part two): Bill's frustration at not being able to see the whale bones

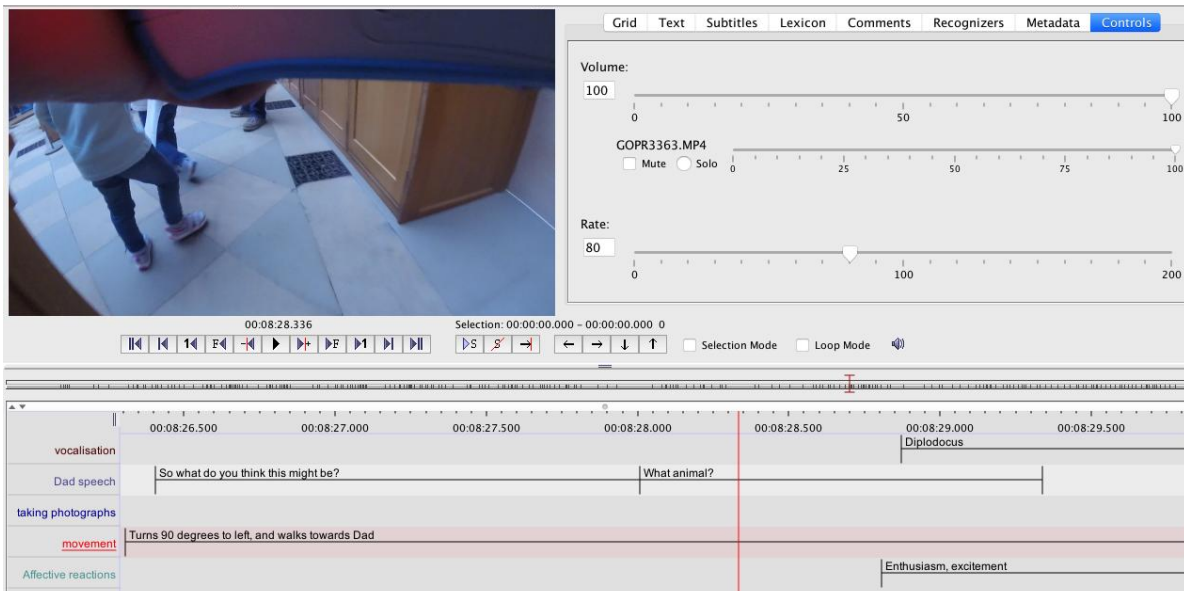


Figure 5.5.16 (part one): Bill enjoying answering his dad's question

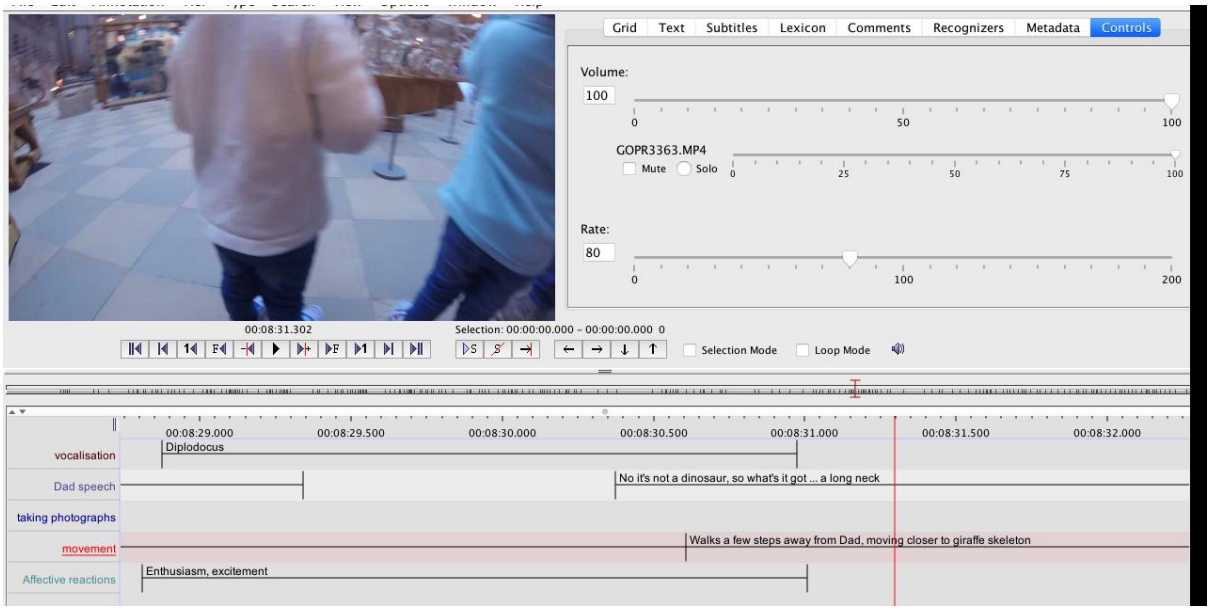


Figure 5.5.16 (part two): Bill enjoying answering his dad's question

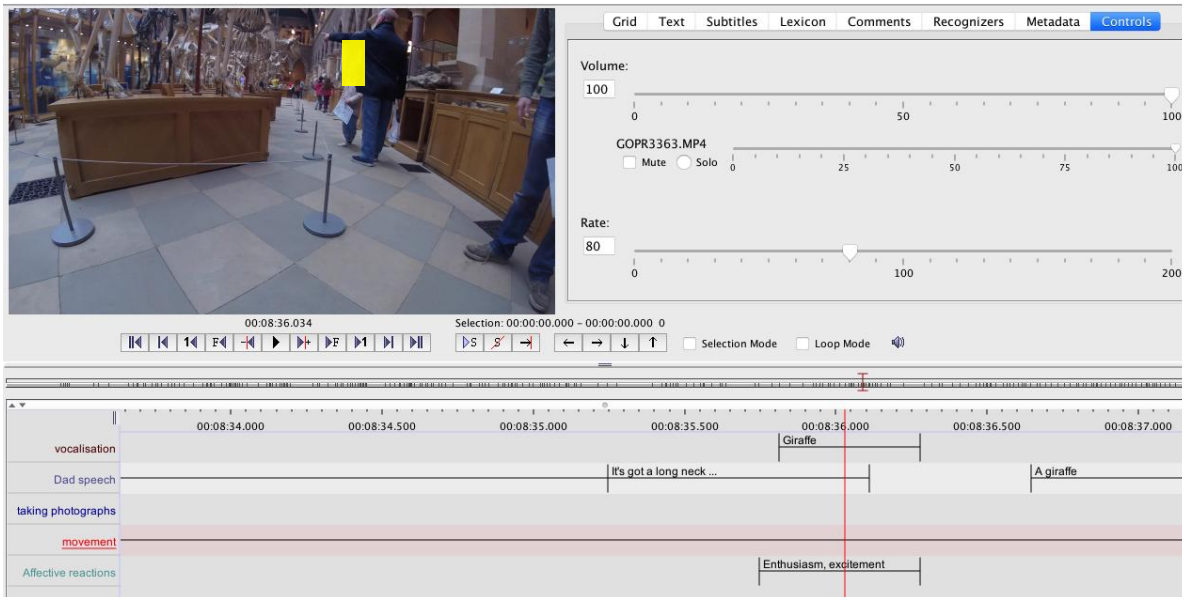


Figure 5.5.16 (part three): Bill enjoying answering his dad's question

The most common question that Bill asked his dad, other than querying his dad's rules, was '*what is this?*' (see F5.5.7, part two). When he received an answer he rarely pressed for more information, seemingly satisfied enough with knowing the name of something. Kirk (2014; 2018) found that children's interest in objects was

centred around the two questions ‘what is it?’ and ‘what is it like?’. Although he was interested in what things were like as illustrated by his desire to touch and his own descriptions of things, it was unusual for Bill’s questions to his dad to extend to this point unless he noticed something unusual. For example, when seeing a skeleton of a camel, he asked (noting its absence), ‘*Where’s the hump on its back?*’. Or when he encountered the T-Rex cast’s mouth and found he could not touch its tongue, he asked, ‘*Is the tongue slimy?*’. There was only one occasion that Bill’s questioning spontaneously extended beyond the level of description. This was when he encountered some real skulls that were mounted underneath some photographs of people of varying ethnicities. He paused, looked at them and said, ‘*Dad he dies*’ (F5.5.17, part one), and then ‘*Dad, why are there photos there?*’. When his dad explained that they were to illustrate that different people of different ethnicities are all very similar underneath (part two), he in a relieved tone said, ‘*I thought it was that one with the yellow and red paint in the middle died to that skeleton.*’. He then said sadly ‘*It would have been sad if that baby died*’. His dad replied ‘*Yeah*’ and then walked off. The skull and the conceptual link that he was looking at the baby in the photograph’s skull clearly had enough of an impact on Bill to prompt him to question his dad.

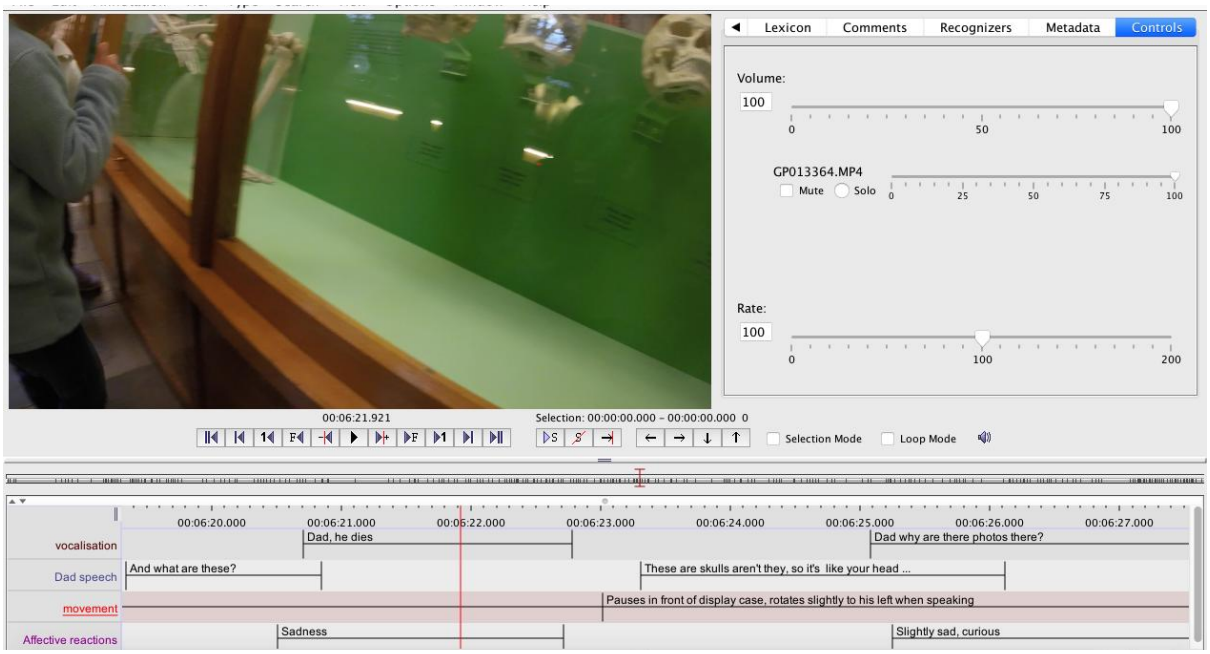


Figure 5.5.17 (part one): Bill's conversation about skulls

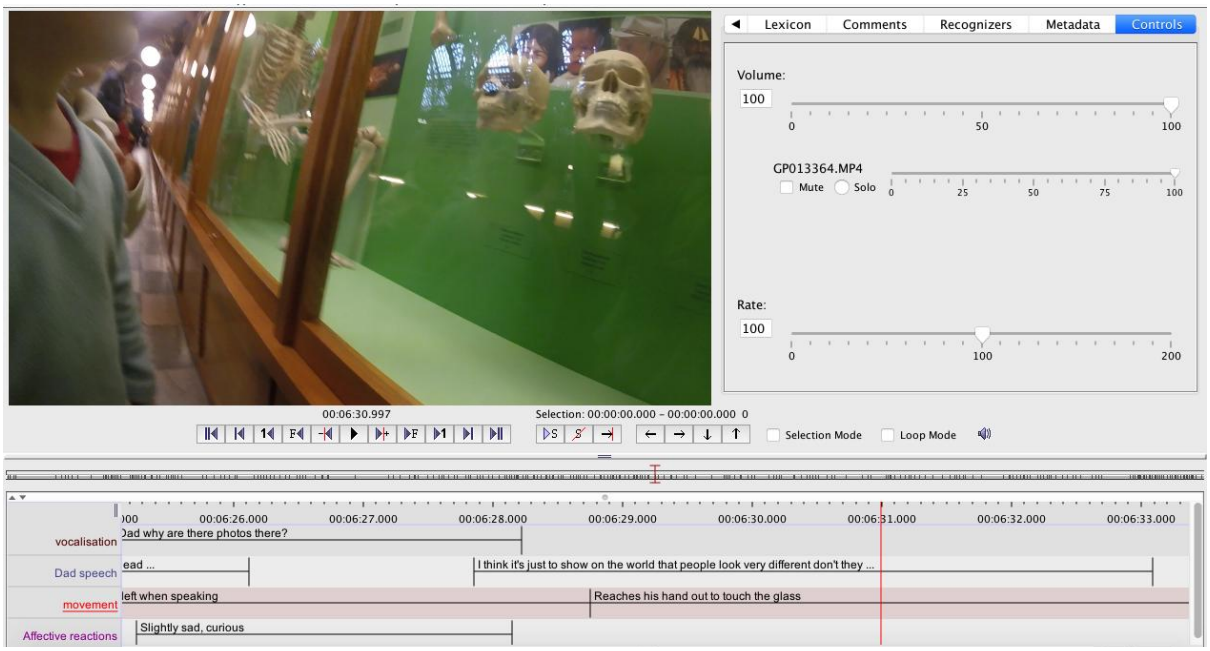


Figure 5.5.17 (part two): Bill's conversation about skulls

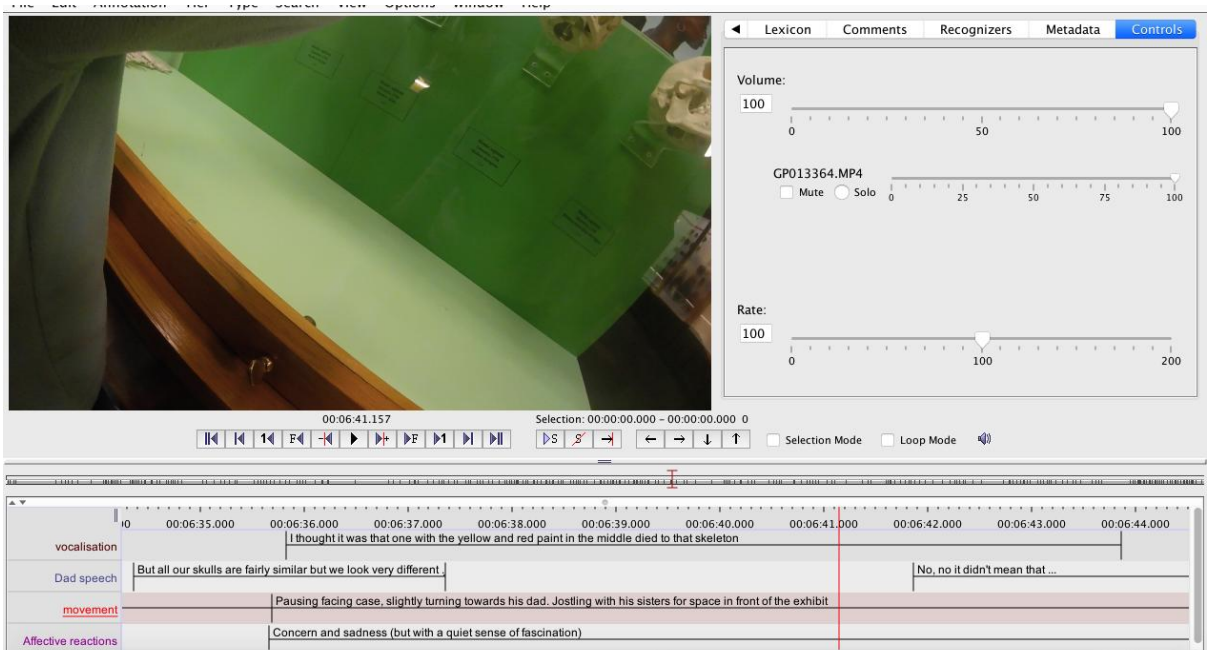


Figure 5.5.17 (part three): Bill's conversation about skulls

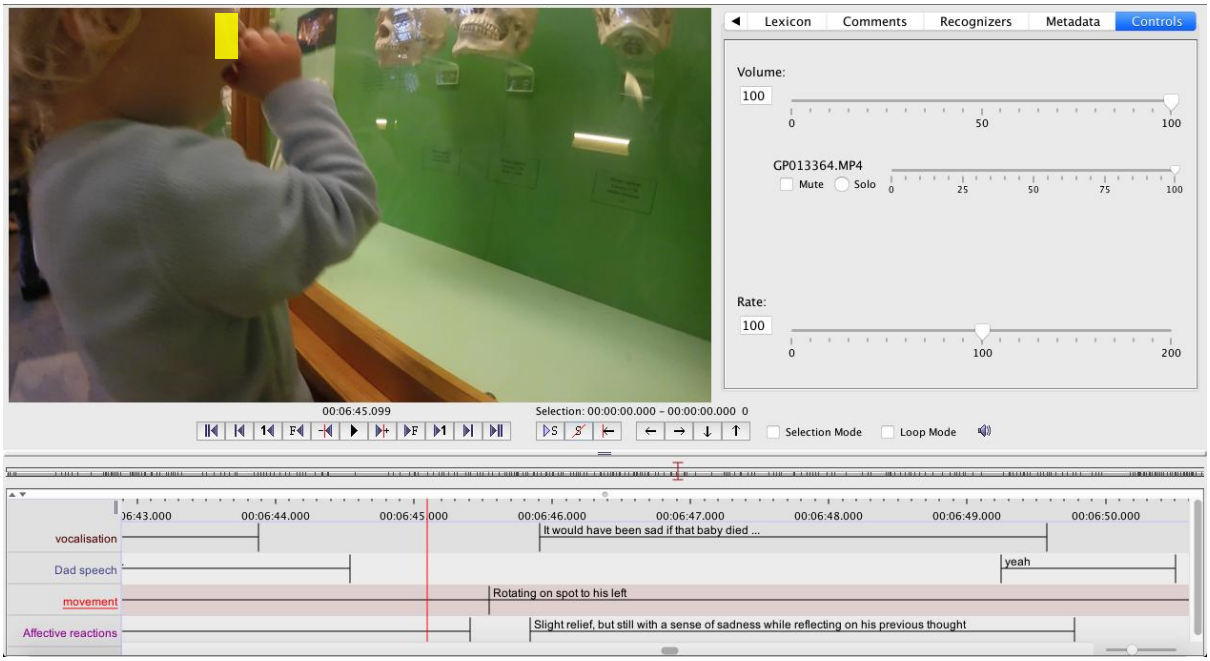


Figure 5.5.17 (part four): Bill's conversation about skulls

Unlike the other children his dad's questions did serve as a prompt for him to investigate, extend his thinking, connect things in the museum to more abstract concepts. For example, in F5.5.24 (part one) Bill is asked by his dad, '*So what do*

you think that one ate?'. He replied '*fish*' and then paused in front of the pterosaur. The question clearly got him thinking and imagining the pterosaur and its potential prey. A few seconds later he piped '*But crabs might crawl on their tongue out*'. When his dad suggested it would eat it regardless, he replied '*But what about the pincers?*'. His Dad then closed down the conversation saying, '*Oh yes like that big crab we saw*' before walking off leaving Bill to his thoughts. This episode is illustrative of Bill beginning to interpret the exhibit using his own experiences and imagination. He is connecting his imaginary crab to the crab that he saw earlier and imagining how it would behave if it were real. He is investigating, hypothesising and beginning to form a narrative account of what might happen. Although not a diorama in this case, this is something that has been associated with children's interactions with dioramas (Tunnicliffe and Scheersoi, 2010; Reiss and Tunnicliffe, 2011; Tunnicliffe, 2007).

Bill's relationship with his younger sisters was friendly but also sometimes dismissive. For example, there were a few occasions when they approached him to show him something and he turned away to look at something different. This is in contrast to Edward who looked up to and paid attention to his older sister's actions. There were times when Edward's attention was drawn to objects by one or the other of his sister's actions. For example, in F5.5.18, when his sister spotted a flying fish she exclaims '*Oh the flying fish!*'. This attracted Bill's attention and he moved closer to the fish and a few seconds later took a photograph (F5.5.19).

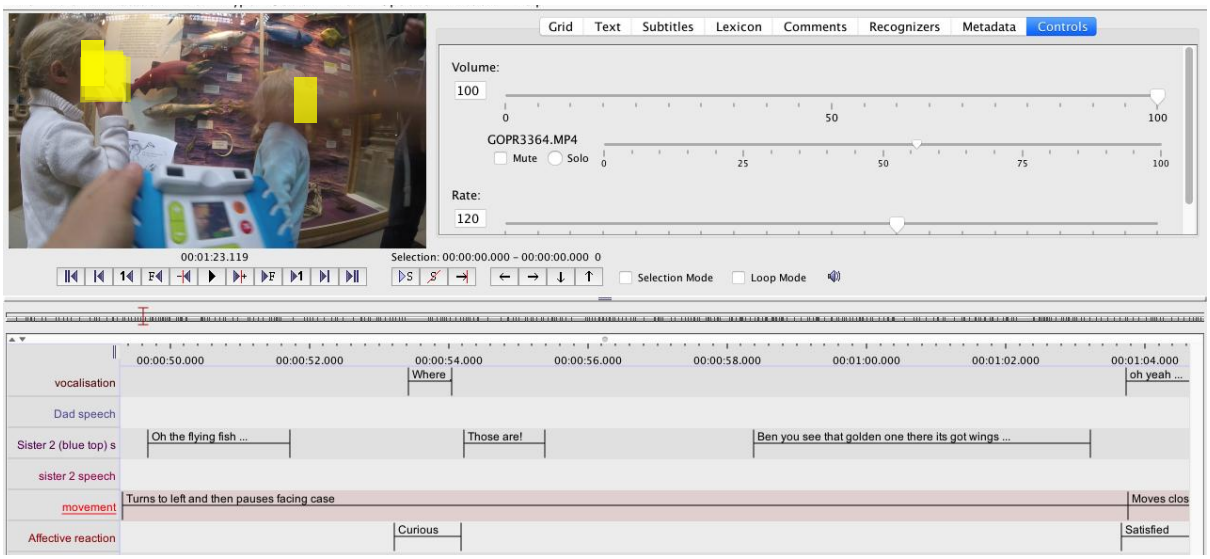


Figure 5.5.18 (part one): Bill's sister drawing his attention to the flying fish

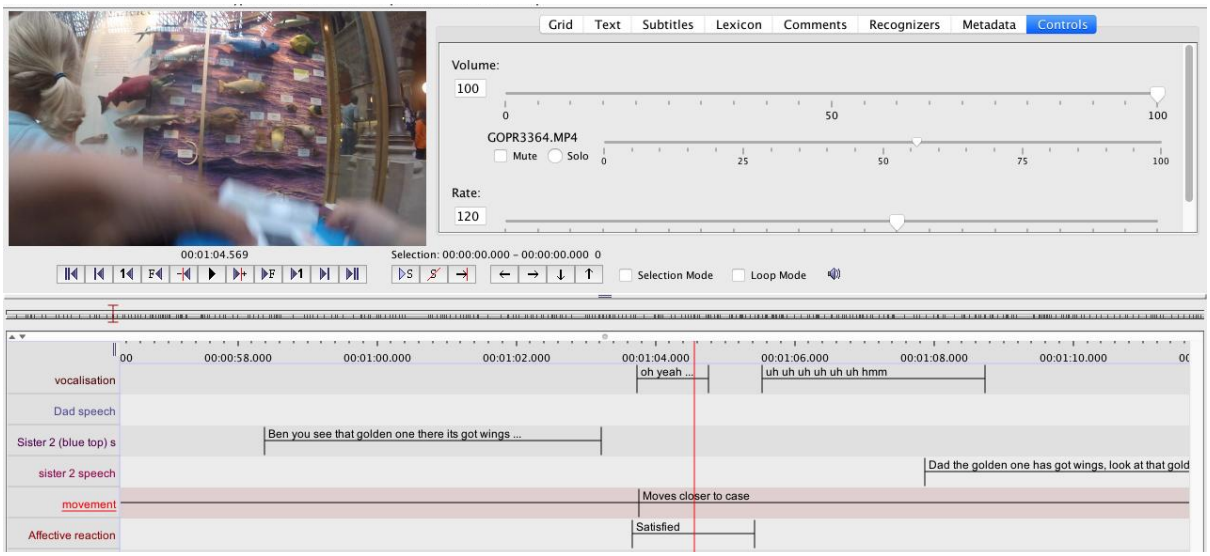


Figure 5.5.18 (part two): Bill moving closer to the fish case

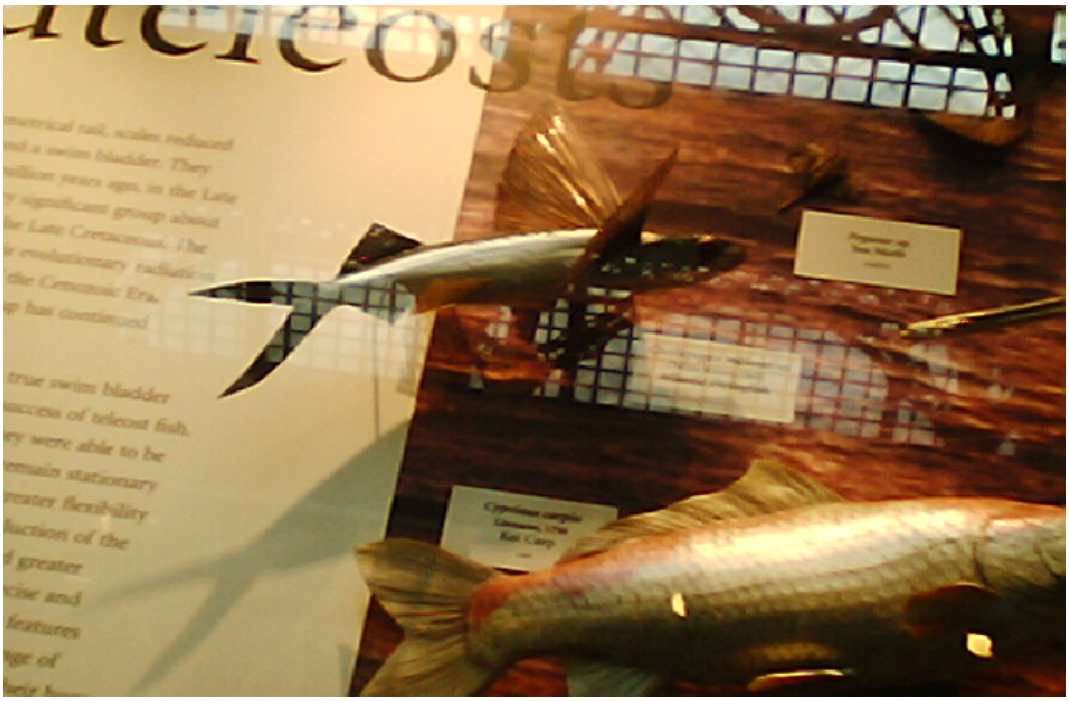


Figure 5.5.19: Bill's photograph of a flying fish

His understanding of a museum environment is not necessarily the same as an adult's. This point is illustrated in F5.5.2 when he said to his dad (before he encountered the shop) in a disillusioned tone *'... oh dad I've just realised there's nothing really to buy in here*'. This exchange is ended when his dad, in reply, sharply pointed out '*It's a museum*'. Bill's viewpoint clearly surprised (and diverged from) his dad and illustrated that his perceptions of what a museum actually is, was not necessarily a view that might be expected. Zapri (2007) noted that Greek museum visitors' pre and post visit responses illustrated several affordances that young children attached to museum environments. These included keeping objects safe, being with people and learning about things. A museum as somewhere to buy things differs from these more traditional assumptions perhaps reflecting elements of the British retail culture that Bill is growing up in. None of the other children commented so explicitly about buying things in a museum, but both Sophia and Noel

were keen to visit the shops they encountered. However, in keeping with his comments above, he did show a concern to visit the museum shop on a number of occasions, saying his favourite thing (other than lunch) in the museum was '*Trying to find something for 2 pounds*' (in the shop).

Bill had some help from his dad early in the visit with the camera. This mainly came in the form of 'technical' advice as Bill was keen to experiment and operate the camera himself. For example, in F5.5.20 Bill, concerned, asked his dad about the disparity he noticed between the colour shown in the camera's viewfinder and the crocodile. After fifteen minutes, much to Bill's consternation, his dad confiscated the camera, only giving it back when Bill specifically asked for it. His reasoning being '*... because you can look at the things instead*'

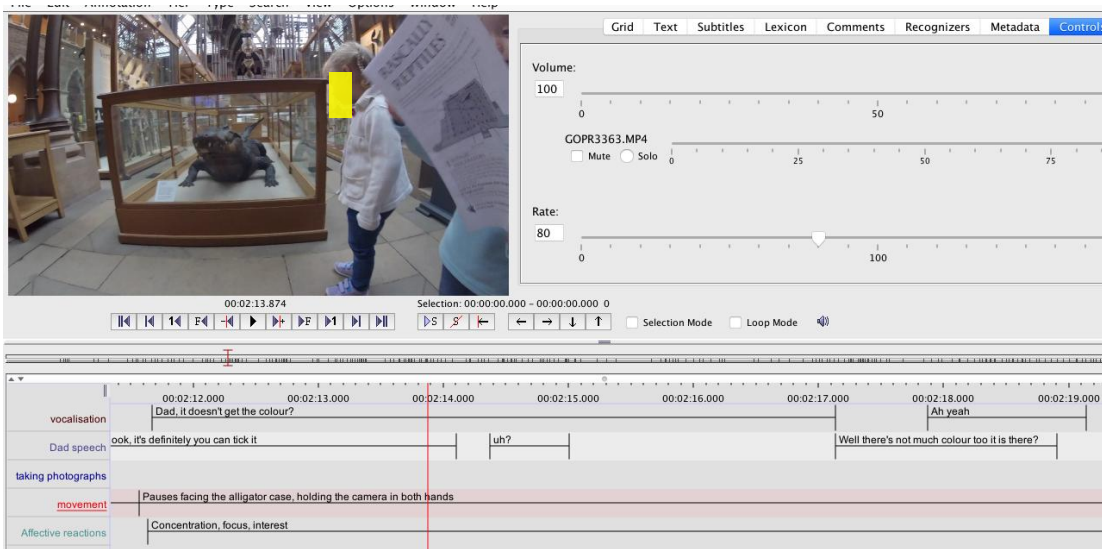


Figure 5.5.20: Bill experimenting with the camera and asking for dad's help

5.5.4 Affective reactions

Like the other children, Bill's affective reactions were varied and fluctuated throughout his visit. However his visit was mostly happy (Kirk, 2014) as illustrated by his frequent laughter and excitement. Commonly he was struck by wonder and excitement. His wonder sometimes preceded him taking a photograph, naming, describing or touching an object. Wonder did not prompt any further enquiry beyond description or a cursory examination through touch. Except for the example described in the previous section the act of wondering, naming and describing seemed satisfying enough for Bill in itself. For example, in F5.5.21 below, he excitedly exclaimed '*huuh, woahhhhhhhhhh*' when he first saw a giant tortoise.

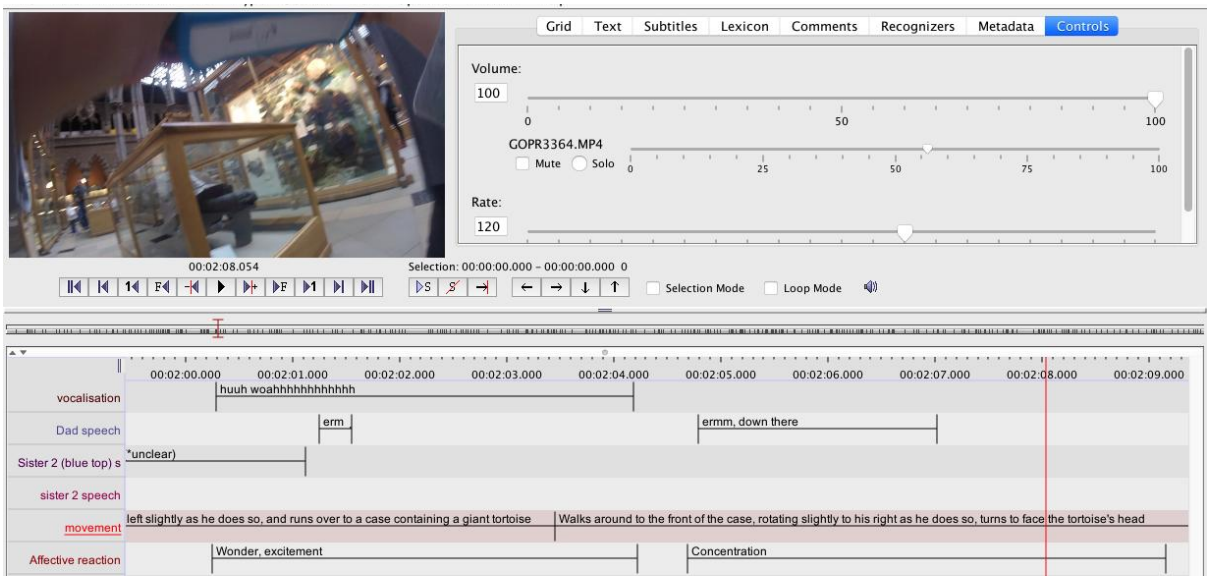


Figure 5.5.21: Bill's wonder at seeing a giant tortoise

On occasion Bill was exhilarated by what he saw and experienced. For example, when he first saw the large dinosaur casts as illustrated in F5.5.4 and when he first entered the dark UV booth (F5.5.22). Neither of these experiences could be described as fear or terror, a reaction that has been noted in young children by others (Kirk, 2014; Hackett, 2014a). Instead, more reminiscent of Fidler, Bunney and Craven (2011) appraisal of children's fear in museums as not necessarily being negative, his exhilaration was a positive reaction to the space or objects that induced interest.

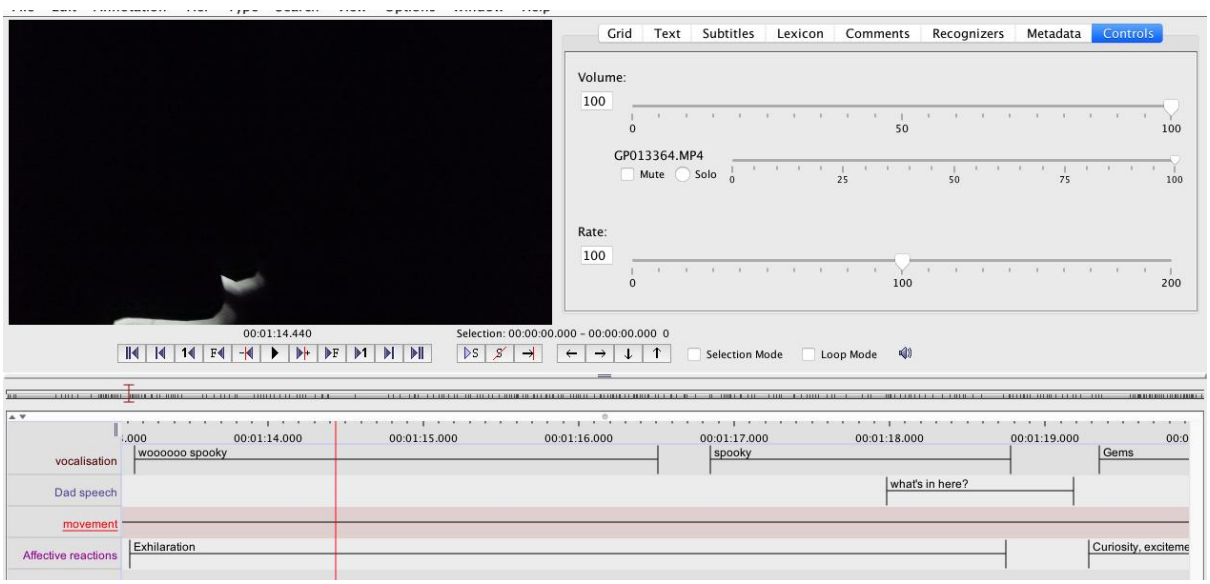


Figure 5.5.22 Bill investigating the UV booth.

He also enjoyed humorous encounters with the museum's exhibits (Dockett, Main and Kelly, 2011), sometimes initiated by his dad (see F5.5.13), and sometimes spontaneously of his own accord. Some of these humorous moments proved to be his most memorable. For example, when his dad lifted him up and pretended to put him into the T-Rex's mouth he found the experience in part exhilarating, and in part funny. He referred affectionately to this experience in interview. Using his

photograph of the T-Rex head as a prompt, he said '*I think I liked that one because my dad put my head inside it.*'

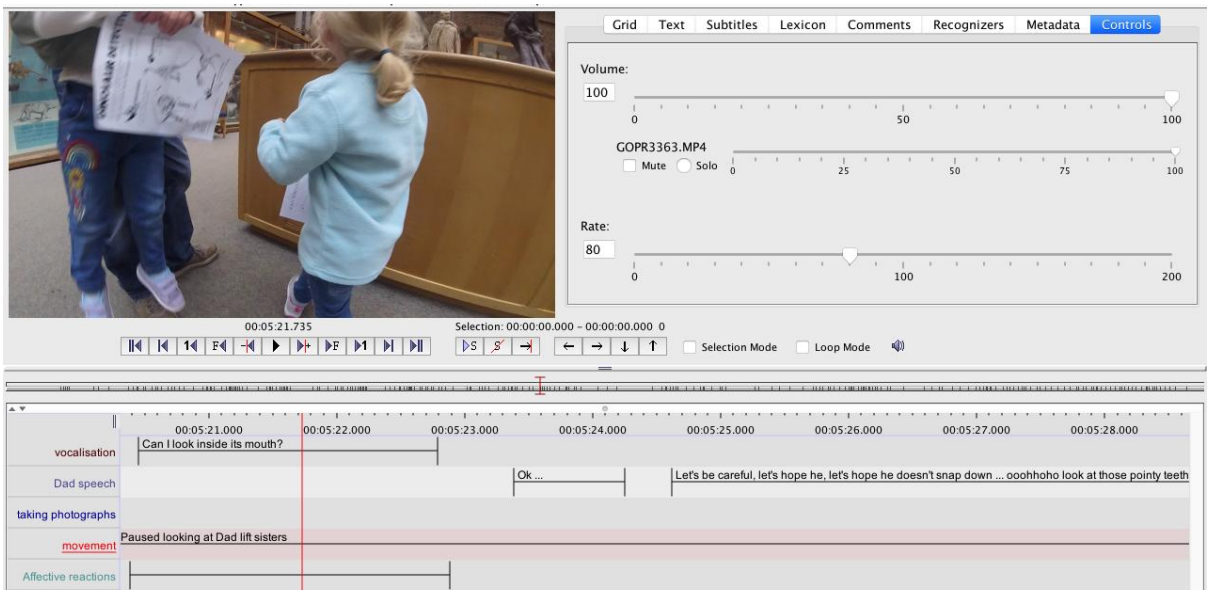


Figure 5.5.23 (part one): Bill asking to look inside the T-Rex cast's mouth

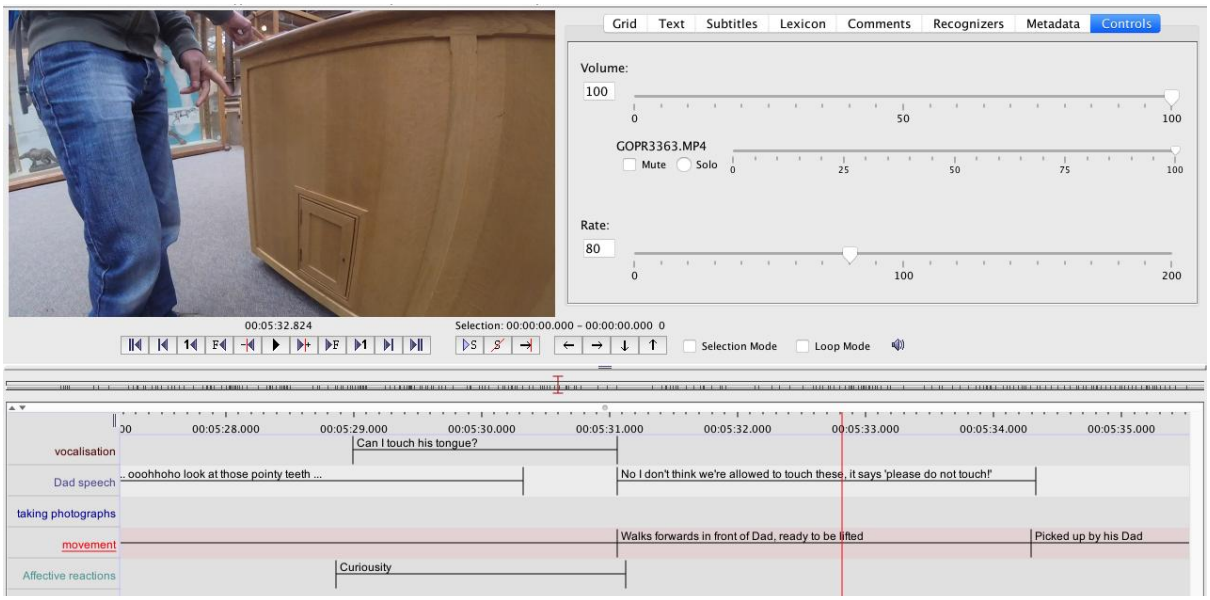


Figure 5.5.23 (part two): Bill looking inside the T-Rex cast's mouth

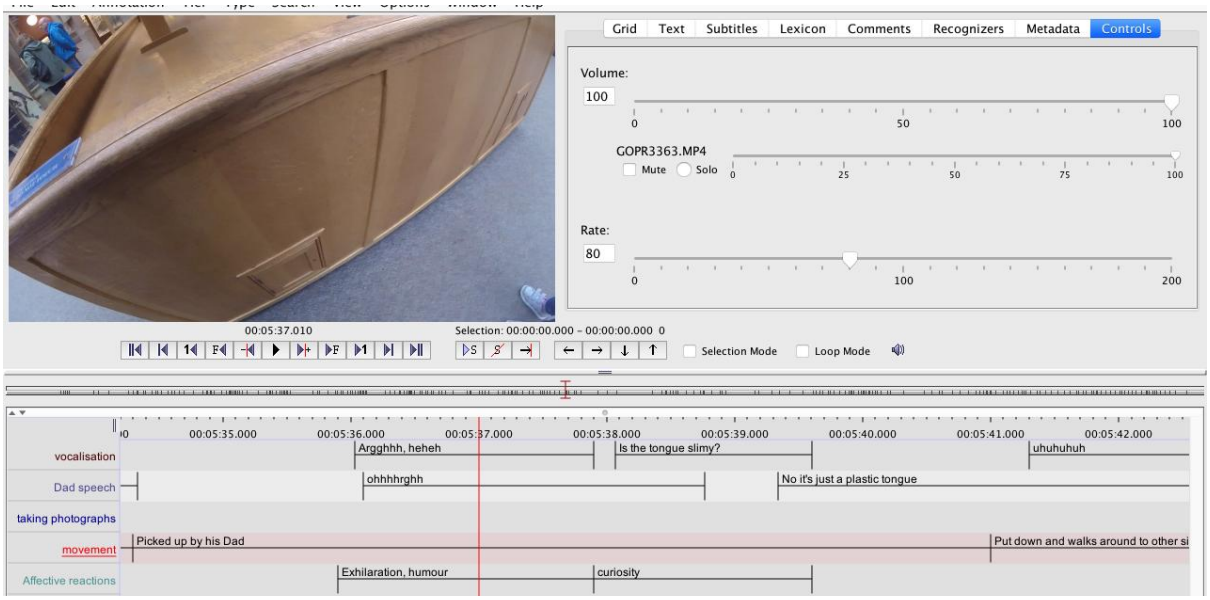


Figure 5.5.23 (part three): Bill finding the experience both exhilarating and funny.

Bill's curiosity tended to be expressed in terms of exploration of the spaces via his movement, gaze and touch.

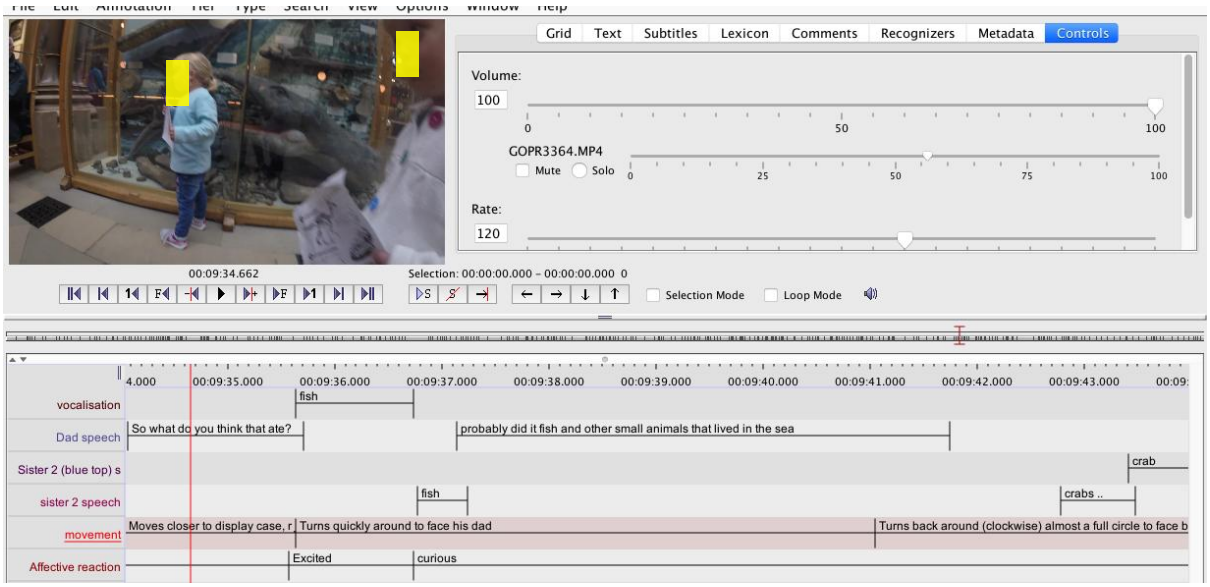


Figure 5.5.24 (part one): Bill being prompted by his dad

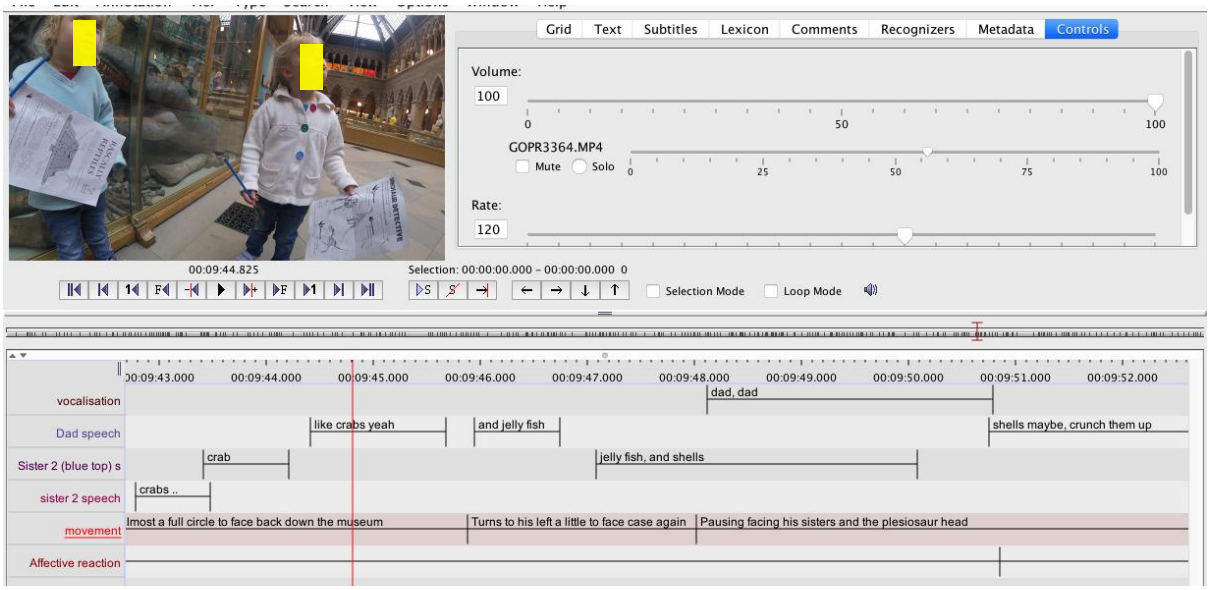


Figure 5.5.24 (part two): Bill's thinking being prompted by his dad

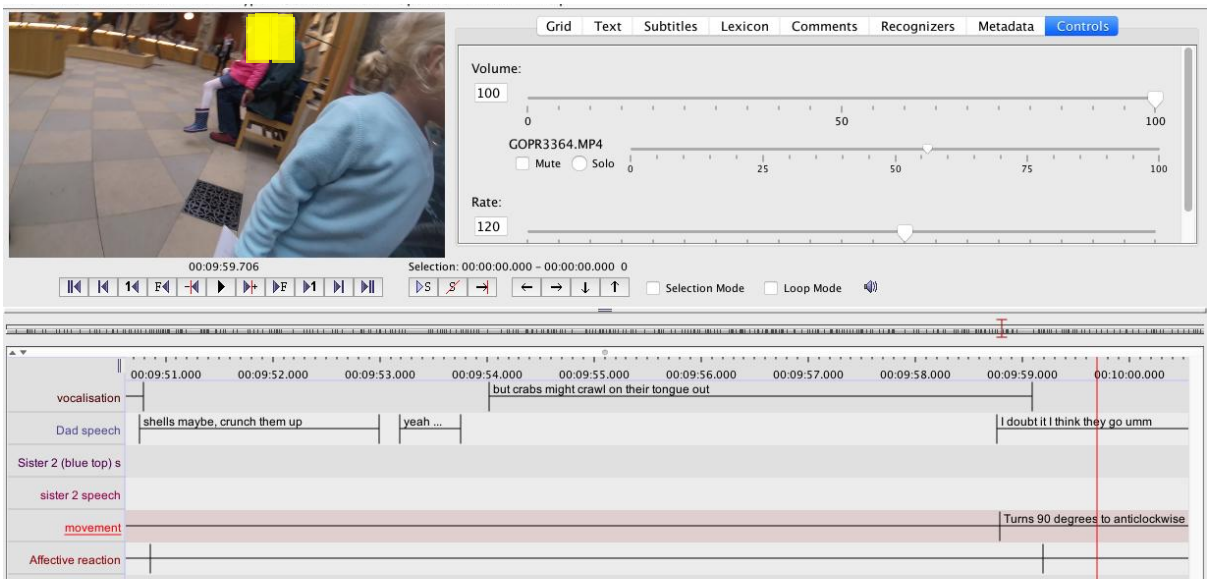


Figure 5.5.24 (part three): Bill's thinking being prompted by his dad.

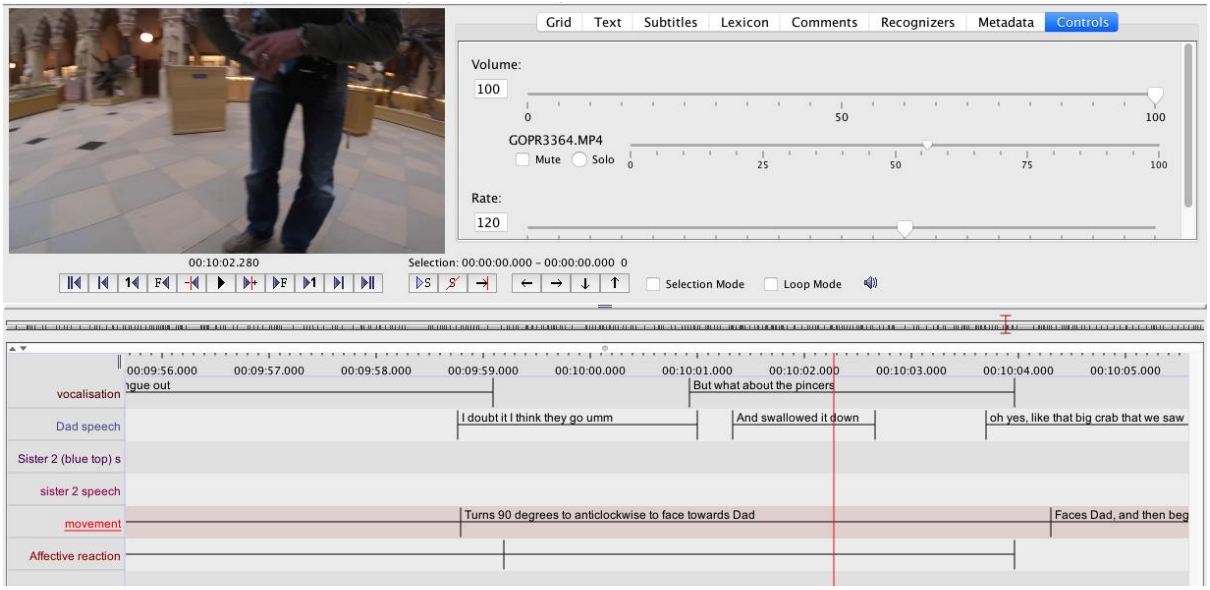


Figure 5.5.24 (part four): Bill imagining the pterosaur eating the crab

On occasion Bill experienced negative emotions, particularly towards the end of his visit, however they were quickly forgotten. For example, he became impatient and frustrated at times. During these times his focus was on resolving the source of his frustration rather than focussing on the museum's collections. For example, in F5.5.14 he began fruitlessly to jump up and down to try and see the whale skeleton, earning himself a telling off from his dad. On other occasions he seemed bored, this was especially so when he had to wait for his dad and sisters. In F5.5.25 his boredom and impatience to move on is expressed in his rather sarcastic chant combined with a march up and down the corridor. Rather like Sophia, in this instance, his frustration is expressed in a combination of absorbed movement and sound.

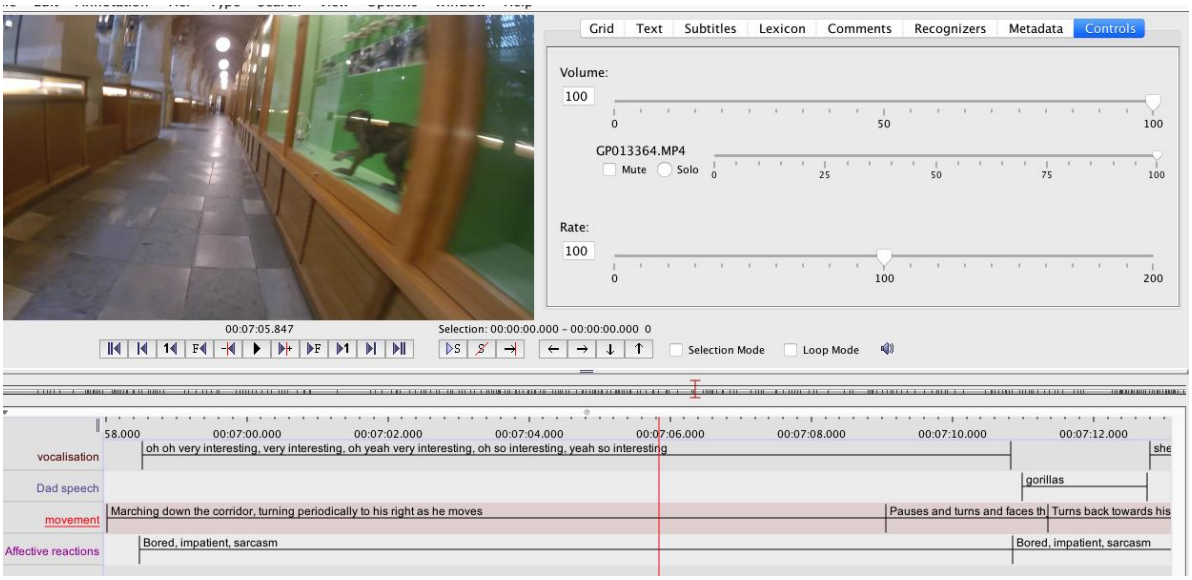


Figure 5.5.25 (part one): Bill bored, chanting and moving

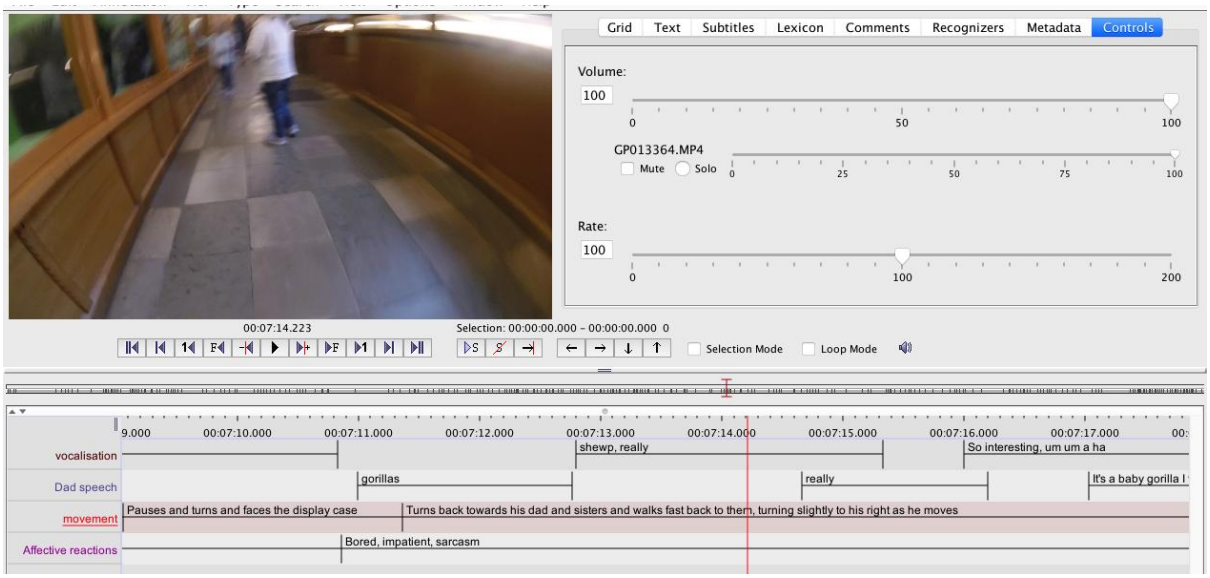


Figure 5.5.25 (part two): Bill bored and chanting and moving

Bill also seemed disappointed when he was stopped from doing things. For example, when his dad confiscated his camera or stopped him touching something (F5.5.23).

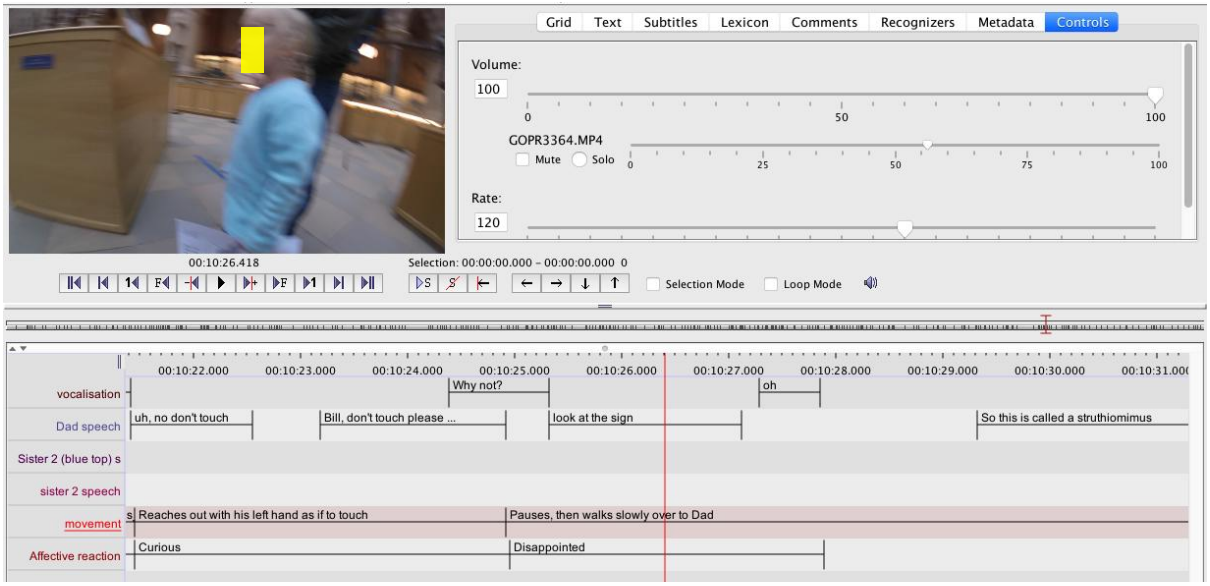


Figure 5.5.26: Bill not allowed to touch

5.5.5 Patterns of attention

Like the other children Bill's patterns of attention were varied and idiosyncratic (Kirk, 2014). This varied focus also conformed to established patterns. For example, he was interested in large objects (e.g. F5.5.5), small objects (F5.5.31), things that were sparkly or bright (e.g. UV minerals), animals (F5.5.21), dinosaurs (F5.5.5) and real objects such as a queen bee F5.5.34 (Kirk, 2014; Dockett, Main and Kelly, 2011). He was also interested in things that linked to his past knowledge and experiences (Kirk, 2014, Anderson *et al.,* 2002), for example he commented that one of the reasons that he pointed out that an Iguanodon has *'... big pointy thumbs*' is because '*... I read it in a book'* (F5.5.27).

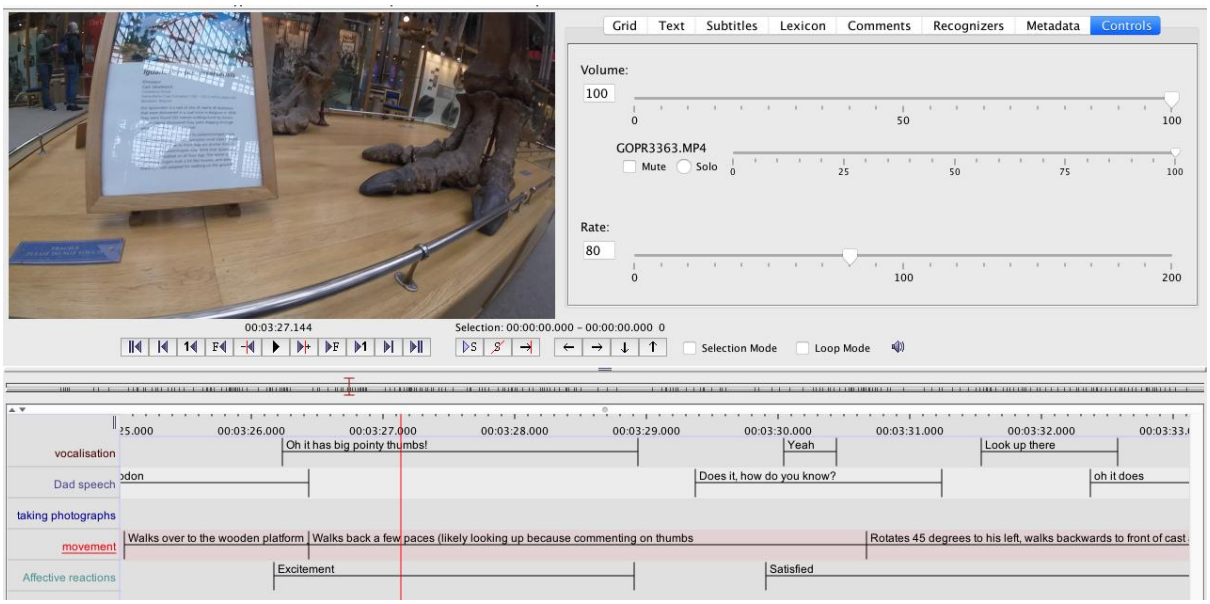


Figure 5.5.27 (part one): Bill describing the Iguanodon's thumbs

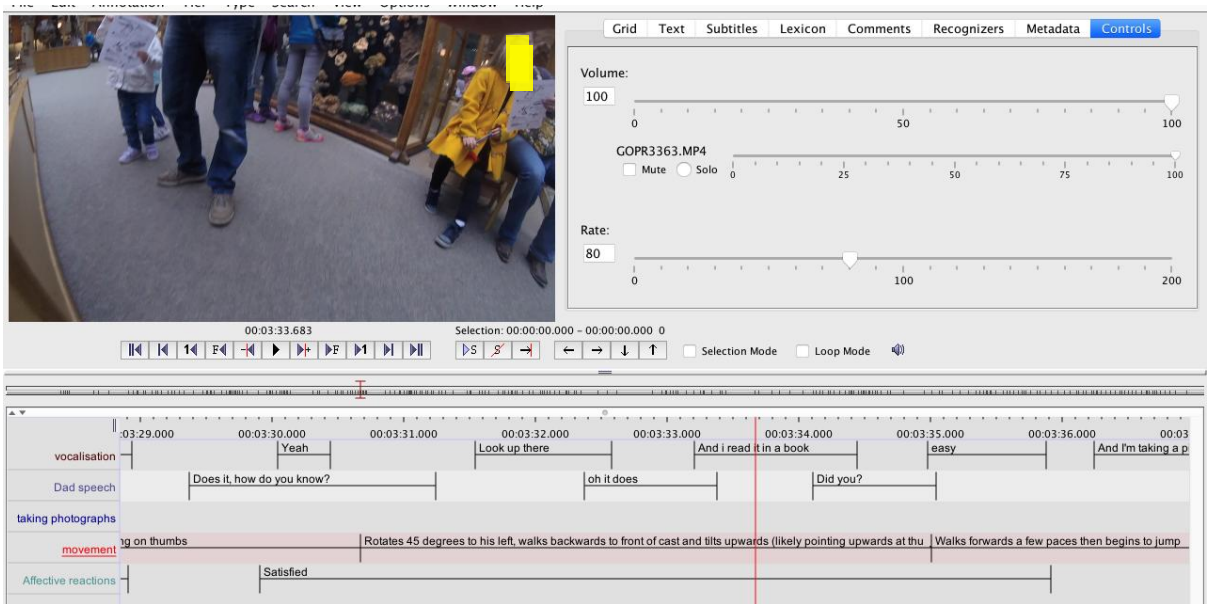


Figure 5.5.27 (part two): Bill describing the Iguanodon's thumbs

He also showed interest in things that were not part of the exhibitions such as parts of the building. For example, he climbed on the base of a stone pillar and clambered onto a wooden bench (Hackett, Procter and Kummerfeld, 2018).

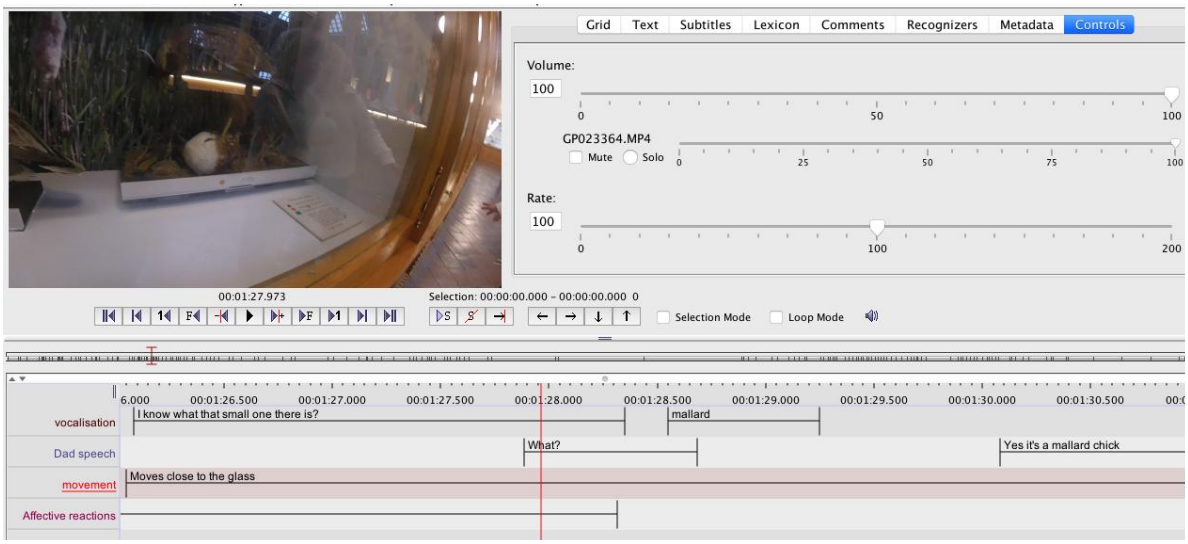


Figure 5.5.28 (part one): Bill naming a ‘small’ mallard

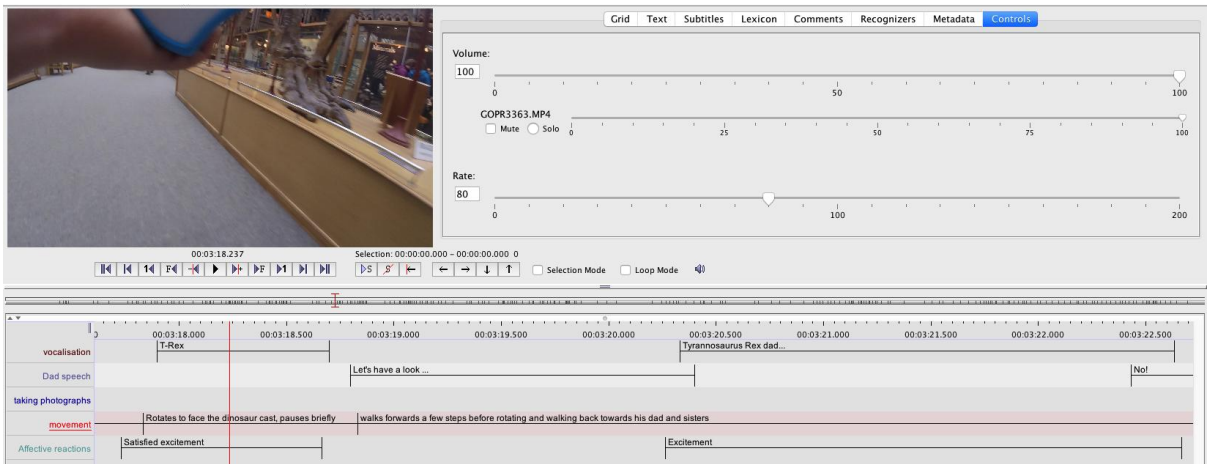


Figure 5.5.28 (part two) Bill mistakenly naming the Iguanodon cast as a ‘T-Rex’

Although Bill’s engagement will be multi-sensory, he overtly engaged using a combination of gaze, movement and touch. His touch sometimes included his whole body, for example when he leaned into the display case as illustrated in F5.5.12. It was clear he valued engaging with objects using touch, although he only occasionally showed a desire to engage like this (Kirk, 2014). These occasions tended to be when he was either really captivated by something or if he wanted to explore an object’s surface features. His desire to touch is illustrated by his

disappointment when he was not allowed to touch (see F5.5.14) and his enjoyment when he could (F5.5.29). For example, in F5.5.29 Bill enjoyed answering his own question about whether or not the black bear's claws were sharp by reaching out to touch the claws. Bill did not comment on touching things in interview, other than to say that he had touched something when prompted by his dad. This could be due to his clash with dad concerning the rules of touching and Bill not wanting to say the wrong thing. Bill also reached out as if to touch objects through the glass of display cases (F5.5.6, part four) (Hackett, Procter and Kummerfeld, 2018).

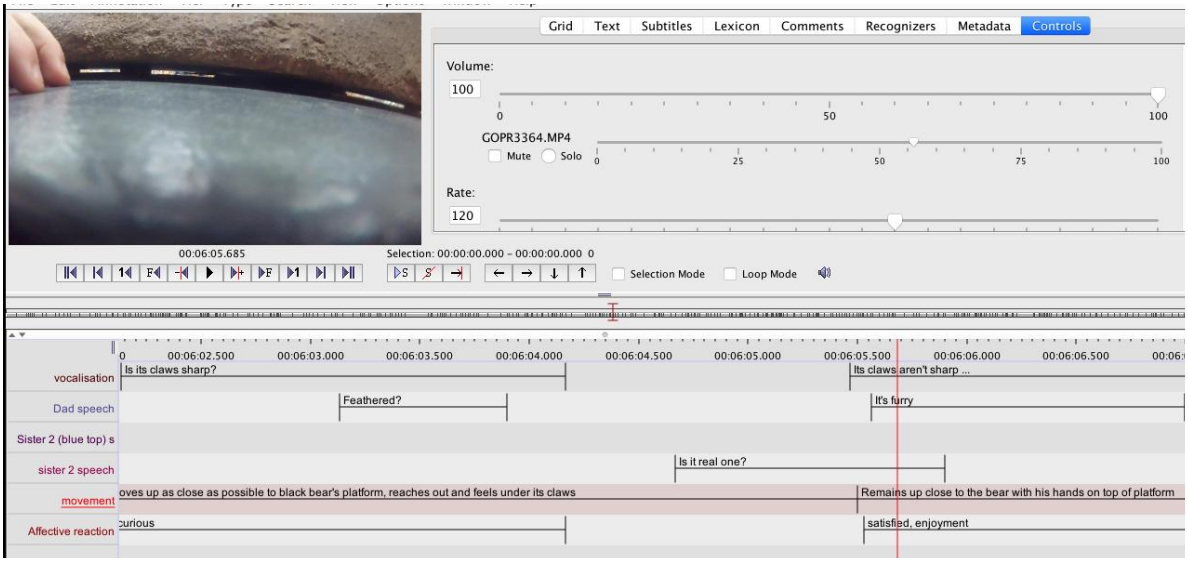


Figure 5.5.29. Bill exploring the black bear via touch

Like Noel, Bill spontaneously named objects (see F5.5.28, parts one and two), however not as ubiquitously as his counterpart in the natural history museum Noel. His younger sisters named things too, often getting in first with their suggestions, so this might account for Bill's reticence at times. For example, when approaching the (actual) T-Rex he says, '*I think it's a tyrannosaurus rex*'. Bill sometimes asked his

dad if he did not know the name of something (see F5.4.6, part four). He also occasionally read labels in order to inform himself F5.5.30).

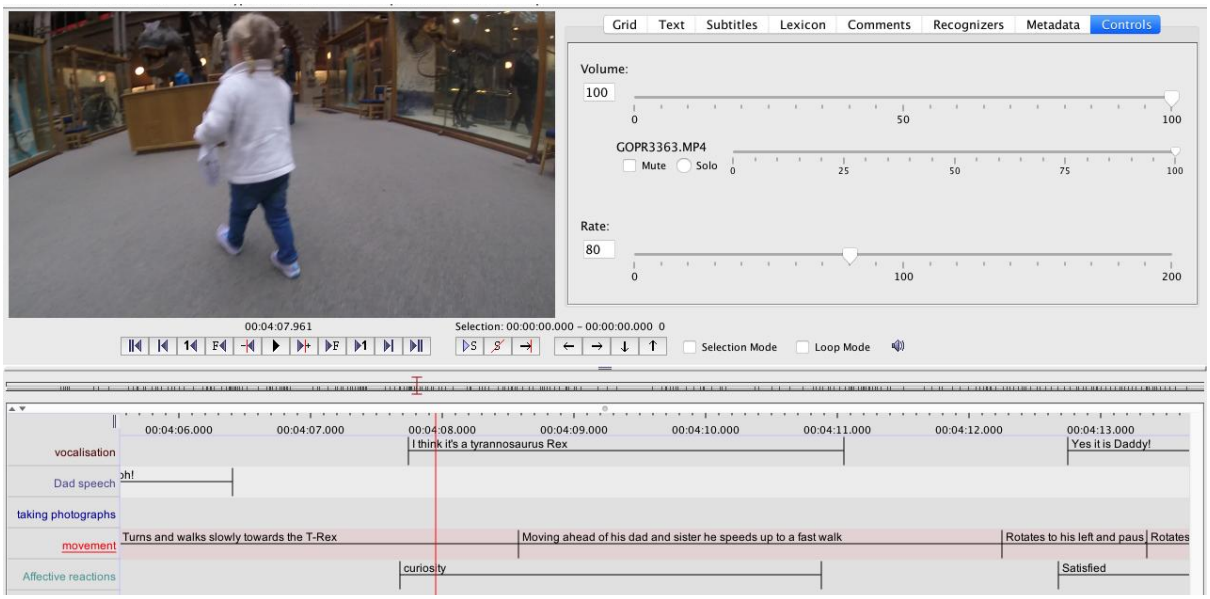


Figure 5.5.30. Bill naming and reading the label to confirm that it is a T-Rex

Bill often described things. This was often in terms of an object's surface features, for example describing the black bear's claws as '*sharp*', or in interview the queen bee as '… *having a yellow back on'*. His descriptions sometimes involved linking objects to his past knowledge and experiences. For example, he rather accurately described the stance of a small struthiomimus skeleton by saying '*It looks like she's doing a ballet*' (F5.5.31). As already discussed in section 5.5.3 it was rare for Bill's attention and curiosity to develop into anything beyond naming and description.

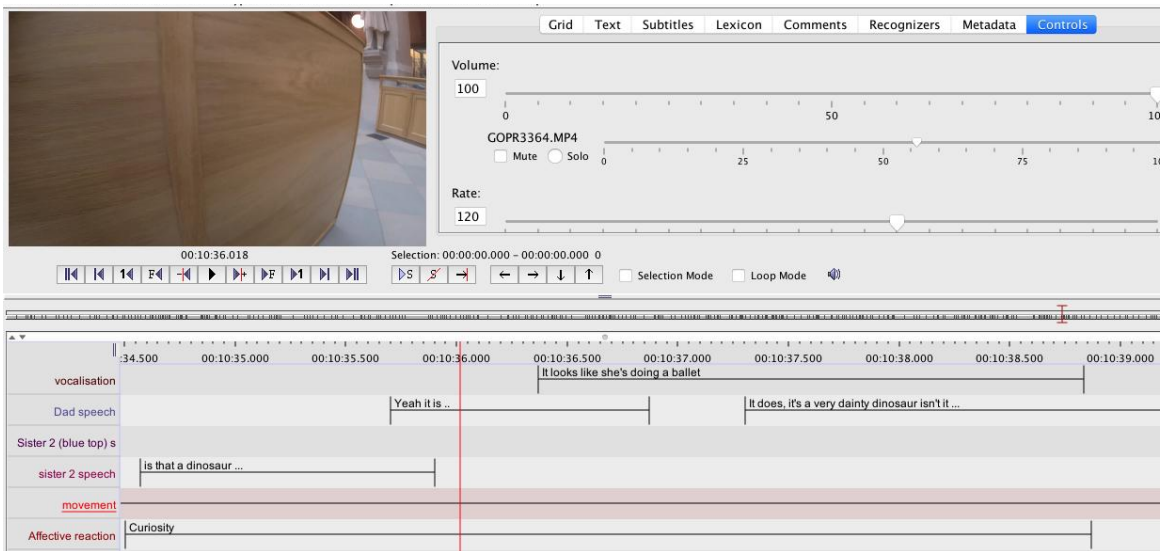


Figure 5.5.31. Bill describing a struthiomimus skeleton

As illustrated by his enjoyment in F5.5.32 he was very interested in screens. For example, he avidly watched, listened and touched several screens in an exhibition focussed on the human brain. He returned several times to repeat the experience.

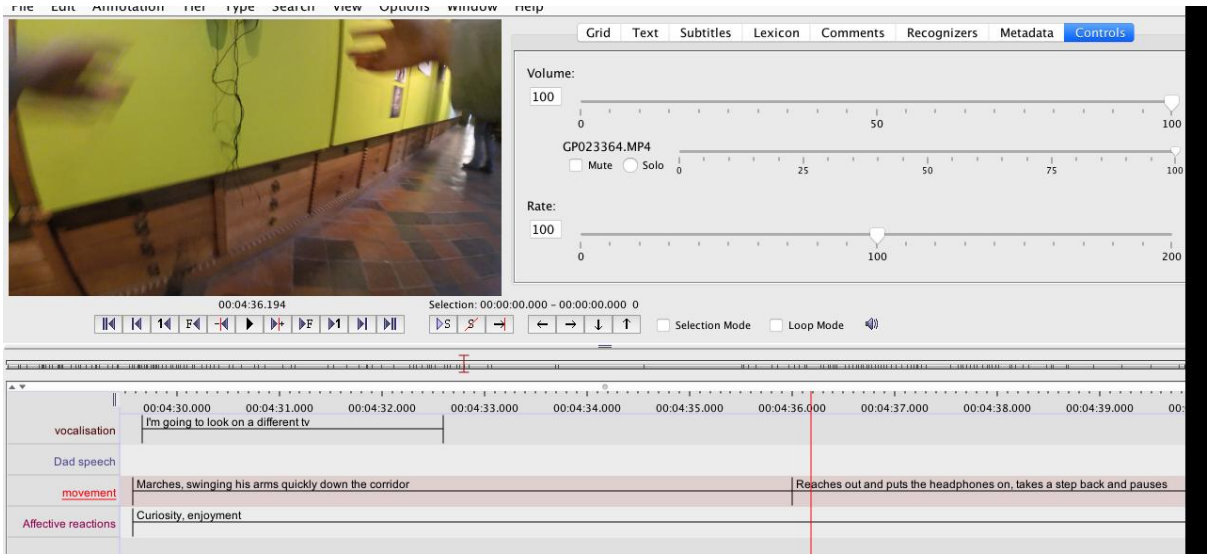


Figure 5.5.32: Bill marching enthusiastically towards the television

Bill very much enjoyed playing with the camera (Kirk, 2014; Dockett, Main and Kelly, 2011). He enjoyed both the act of taking photographs (see F5.5.4, part one and F5.5.5) and discussing the technicalities of the photography (F5.5.20). In interview he summed his photography up, saying '*I found it interesting and I thought how do you put it together or do you just bang it* (take a photograph)*'*. He also gave the impression of feeling rather grown up having a camera like his dad's, proudly commenting '*And I've got my camera out'* when his dad stops to get his out (F5.5.33). In essence Bill was playing at being a photographer like his dad.

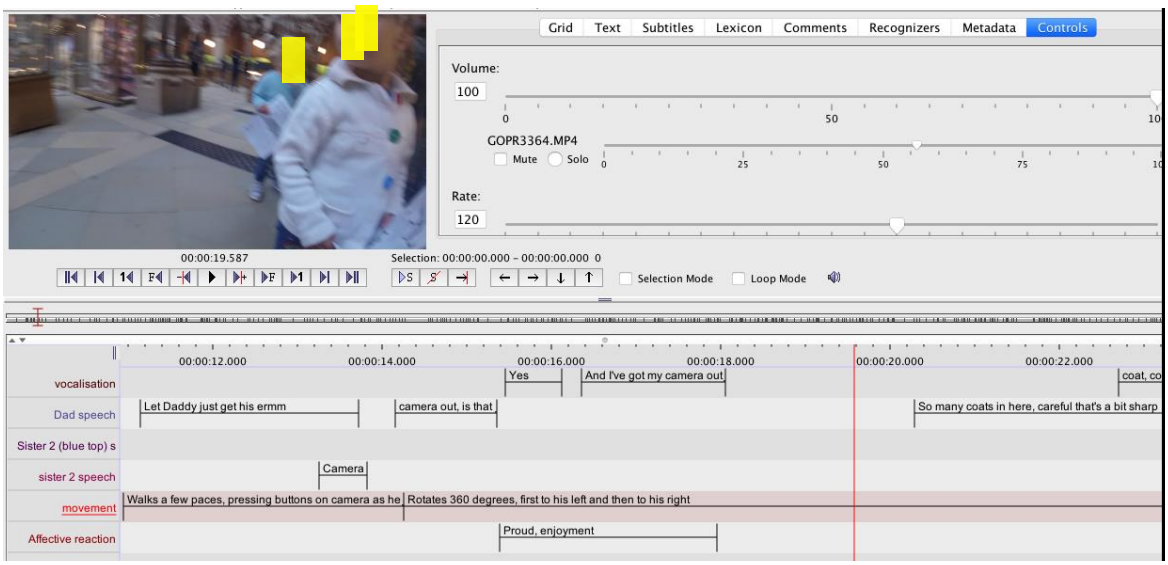


Figure 5.5.33: Bill proud that he has a camera

Bill also particularly enjoyed finding things in the museum. One particular favourite being finding the queen bee and following it in the live beehive exhibit. In interview when asked '*what was your favourite thing*?' he replied, '*Following the queen bee*'. Like the other children Bill's exploratory instincts appeared temporarily sated by the act of finding something. In F5.5.34 (part one), he can be seen initiating the search himself, asking '*Where is the queen bee?*'. He finds it with some help from a lady

visitor, then for several seconds remains still, quietly fascinated, following the queen bee through the glass of the hive (part three).

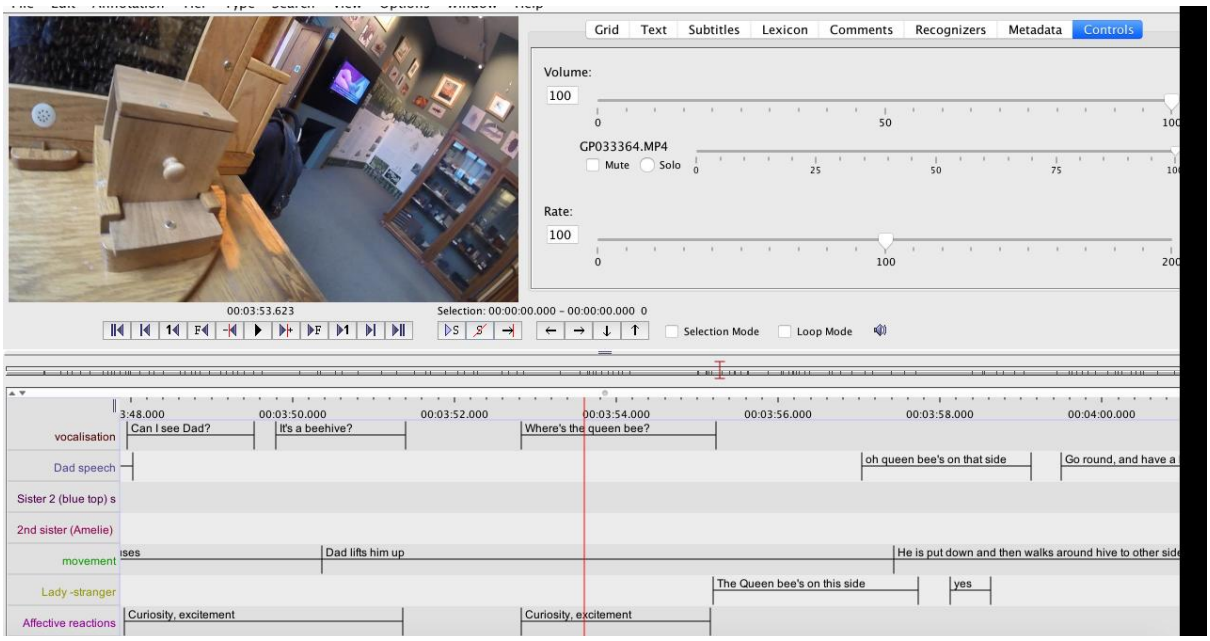


Figure 5.5.34 (part one): Bill finding the queen bee

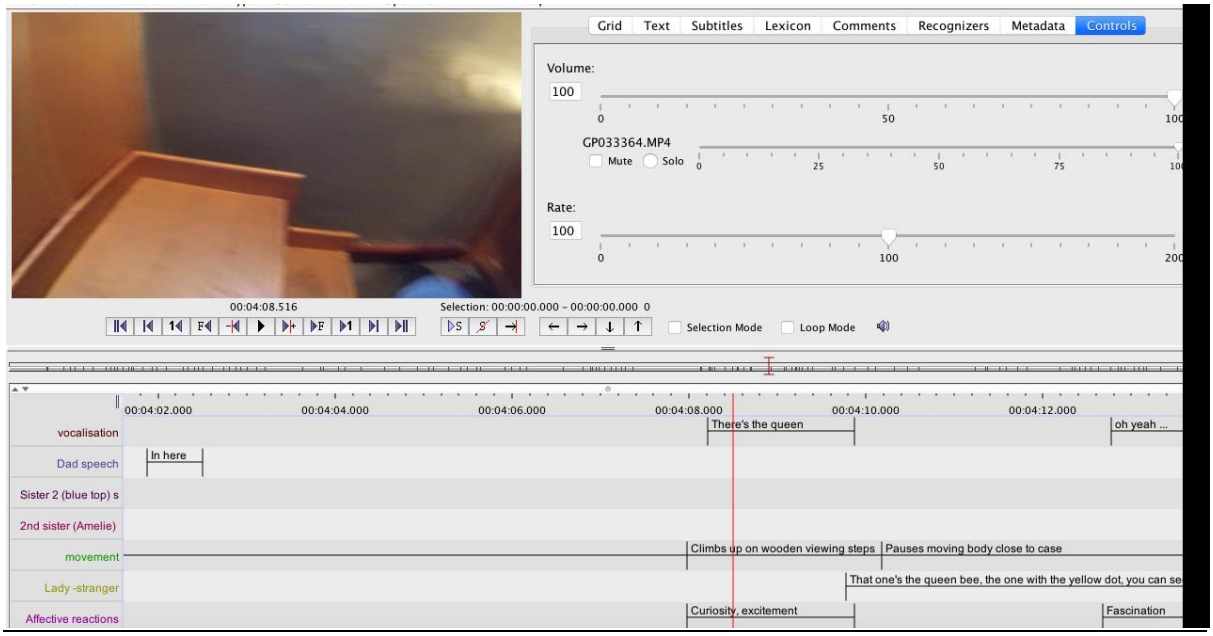


Figure 5.5.34 (part two): Bill finding the queen bee

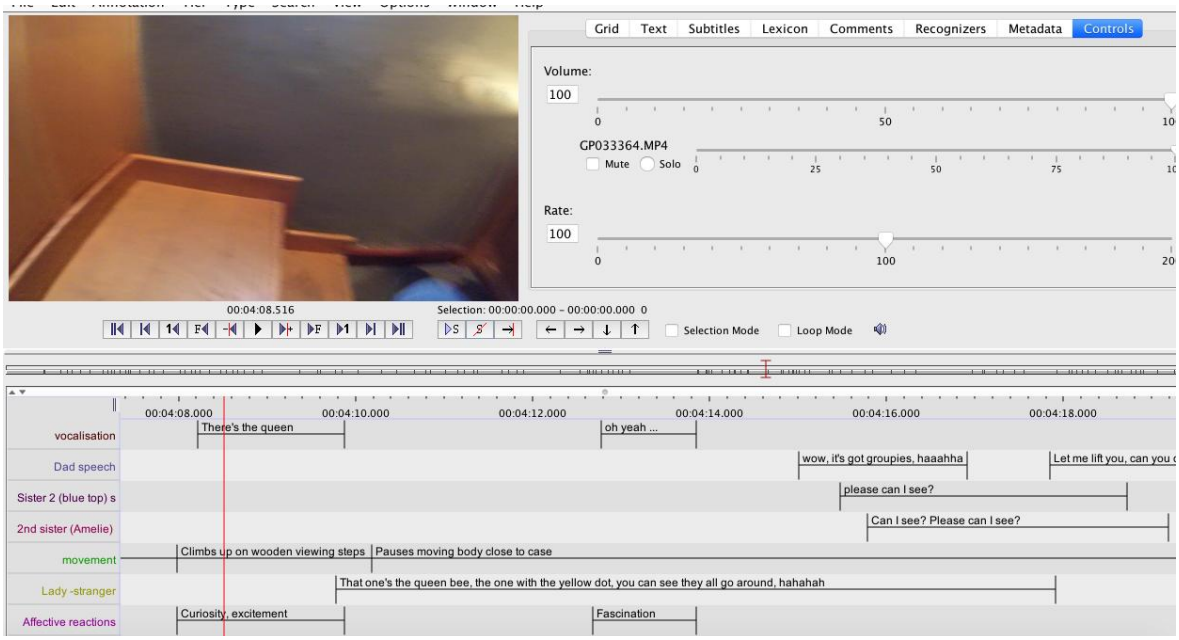


Figure 5.5.34 (part three): Bill finding the queen bee.

5.5.6 Summary

Bill's movement was exploratory. He moved around the exhibitions in a stop start manner. His attention was either captured by his dad's or sisters' comments, or his own spontaneous interest in things he encountered. His exploration of the museum's spaces was more comprehensive than might be expected. He used torso rotations, gaze and touch to scan his surroundings. Although he explored within the vicinity of his family, he was clearly conscious to keep an eye on their whereabouts. For example, he was reluctant to move into new spaces (through doorways) without the support of his dad's presence. Bill returned to objects of interest, such as screens, underlining his interest in them. Bill also combined his movement and vocalisations. He was absorbed when doing this, although they were sometimes a reaction to being bored. Bill enjoyed a warm and good-humoured relationship with his dad but was rather dismissive of his sisters. He mostly enjoyed his dad's attempts to engage him

in the exhibits although there were times when he became a little bored. His questions were mostly focussed on what something is. When he enquired about what something is like, he tended to answer (or want to answer) his own questions by using touch to explore the object. His enquiry rarely progressed to linking more abstract ideas, such as animal behaviour, to the exhibits without help from his dad. He was frustrated by the museum rules such as not touching and his dad's enforcement of them. This led to moments of minor conflict between him and his dad. His affective reactions were varied, ranged from positive to negative and fluctuated throughout the visit. He enjoyed moments of humour and exhilaration when engaging with the exhibits. His patterns of attention were varied and conformed to well established patterns such as large, small and brightly coloured objects. objects. He named objects and described them mostly in terms of their surface features but sometimes in relation to his wider knowledge and experience. He particularly enjoyed finding things such as the real queen bee, screens and playing with the camera.

5.6 Una's visit to Museum C

'*In here, there's lots in here!*' (Ursula on first entering the Time for Bed exhibit)

Figure 5.6.1: Una's photograph of a huge bed in the Time for Bed exhibition.

5.6.1 Introduction

Una visited with the largest family group out of all the participants. She was accompanied by her mum, dad, baby sister, uncle, aunt, fourteen-year-old female cousin and nine-year-old male cousin. She had visited the museum once before. She

did not attempt to read any of the exhibit materials during her visit. Although the museum was not crowded, there was a steady stream of visitors in the galleries. Una was reticent during interview, mostly giving brief or one-word answers. Her father rather took over, which, unlike the other children's interview experiences, was not an accurate reflection of her character or their relationship during the visit. The reason for this was likely that Una was shy and/or tired by the time the interview took place.

5.6.2 Movement

Like the others, Una's movement was predominantly exploratory in nature. That exploration is important to Una is underlined by comments during the visit such as '*Dad, is there anywhere else I haven't been.*' Like the other children her exploration is more comprehensive than might be expected. This will be expanded on later in the section.

She, similarly to Hackett's (2014a) observations of slightly younger children, returned to favoured areas when visiting a second time. This might be when she indicated she particularly enjoyed an activity, for example, returning to open and close some cupboards in the Time for Bed exhibit (F5.6.24). Or an exhibit that she explicitly made clear she remembered from a previous visit (e.g. Shadow Cats exhibit that she was disappointed that it was closed, F5.6.2). For example, F5.6.2 shows Una pointing to an exhibit doorway and saying, '*Go in here'.* Her dad comments, '*Oh you like this'* indicating that she is returning and has enjoyed this area before. Her tone was markedly disappointed when she finds out the exhibit is 'out of order'. On another occasion she decided to direct her dad to an exhibit with a

'talking throne' as its centrepiece shown in F5.6.8. Una remembering places from her previous visit, indicates that she had developed a cognitive map of the museum (Worthington and Paull, 1987; Kirk, 2014). Her memories were not crystal clear as indicated by her asking her dad '*Where is it? Where is it?'* in F5.6.8. They did, however, provide the motivation (on occasions) to revisit things she remembered enjoying during her previous visit.

Like the other children, one way that Una explored is flitting through exhibitions in a stop start manner (Piscitelli, Everett and Weier, 2003), pausing when her attention is attracted, or drawn to something by others. She often rotated her torso as she moved (and on the spot), indicating that she is correspondingly turning her head to use gaze to observe what is around her. She also moved closely and sometimes repeatedly to objects, indicating that she is particularly interested (Hackett, 2014b). One example is her returning to a tablet computer (F5.6.19)

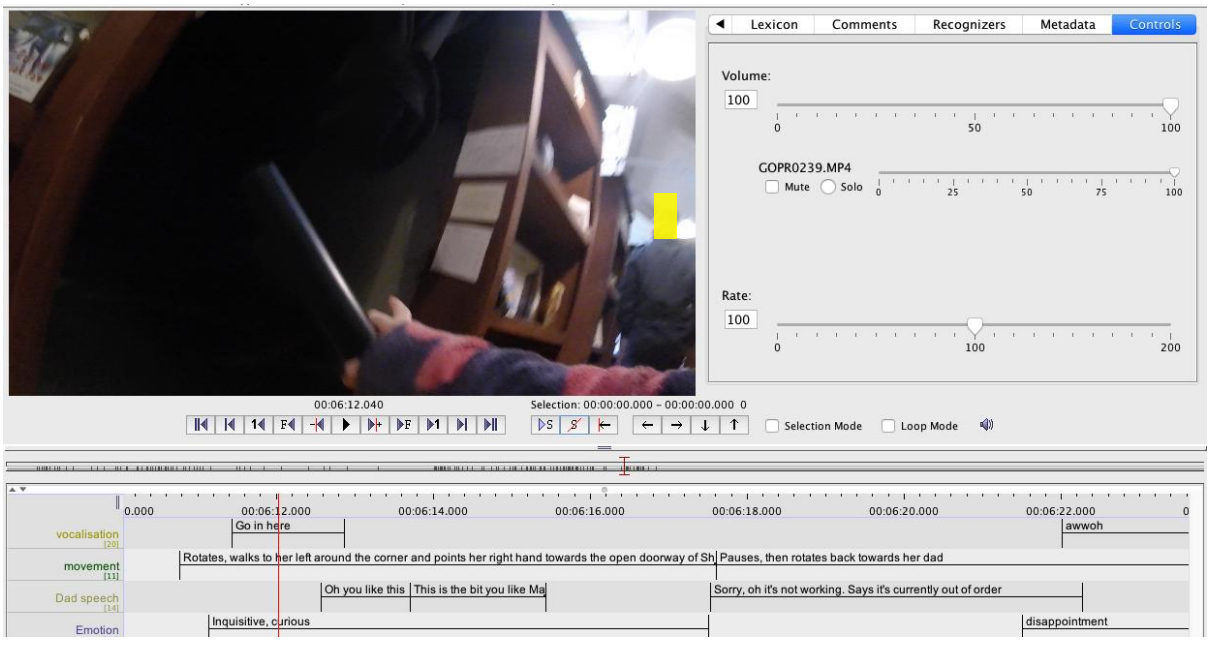


Figure 5.6.2: Una pointing to Shadow Cats exhibition

Although she predominantly walked around the museum, her movement was varied (e.g. Hackett, 2014b). For example, she ran (F5.6.5), hurried (F5.6.9), rotated (F5.6.2), and even on one occasion cartwheeled. Right from the beginning of her visit Una was confident to take the lead, although as will be made clear she remained conscious of her parents' whereabouts. The reason for this is likely that she was familiar with the space and that she is actively encouraged to do this by her dad who, like Sophia's dad, asked questions such as '*where now?*' or '*what have you seen?'* (F5.6.3, part six).

Throughout the visit, and like the other children, Una was keen to keep her dad or mum in close proximity. Their proximity provided her with the confidence to explore new spaces. To this end she could be demanding and impatient. When ahead of family members she consistently paused in doorways, waiting for family members for support before she moved forwards. The movement map (F5.6.4) is illustrative of a period of time when Una exhibited these tendencies. The movement map corresponds to F5.6.3 (parts one to seven). Aware that her dad was close behind she initially showed confidence in moving forwards to explore ahead of her dad (F5.6.4, nos. 5 and 6 and F5.6.3, part four). Una only stayed out of sight of her dad (F5.6.4, nos 6 to 8 and F5.6.3, part four) for a few seconds when she turned a corner and paused in an open doorway (which marked the junction between two exhibitions) and rotating left and right scanned what was in front of her. She then quickly retraced her steps and impatiently beckoned her dad (F5.6.4, 7 to 8 and F5.6.3, part six), confidently moving forwards through the door into the new exhibition spaces when she knew he was following (F5.6.3, part seven).

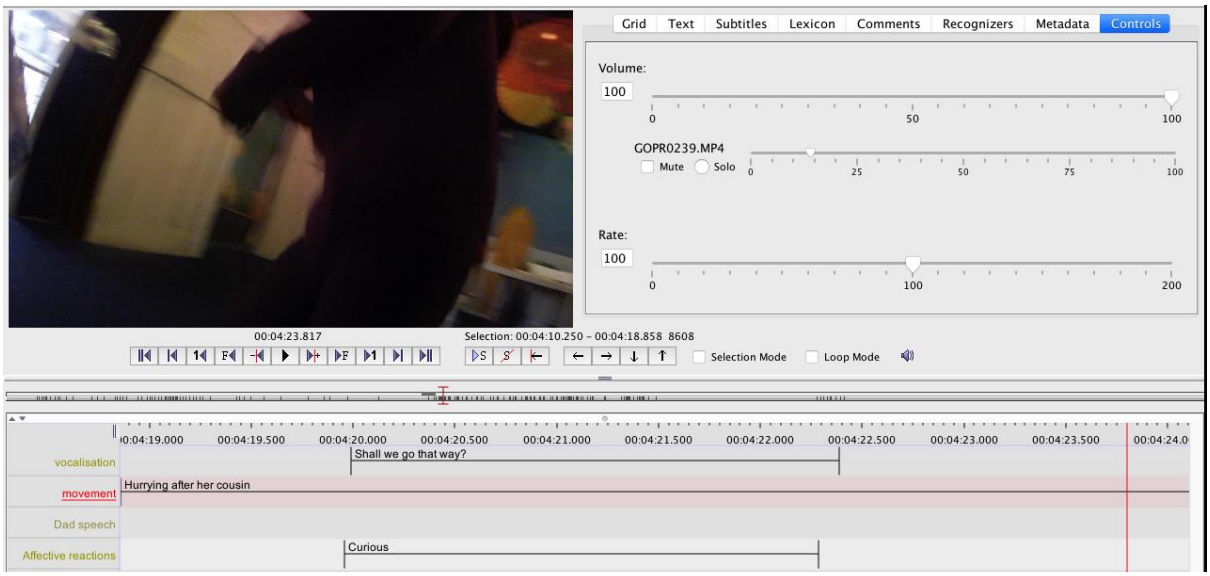


Figure 5.6.3 (part one): Una hurrying after her cousin

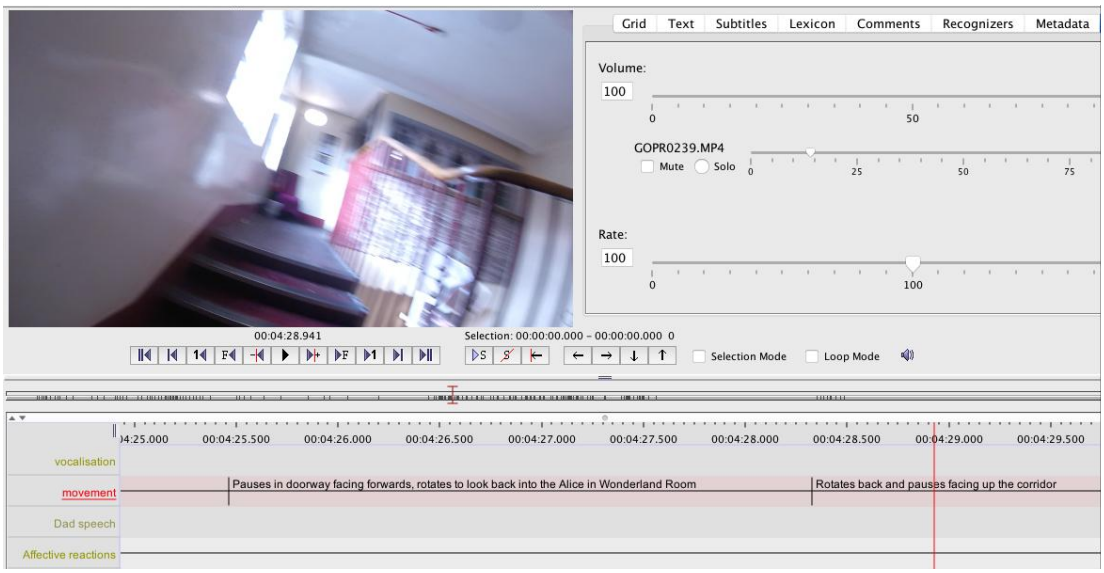


Figure 5.6.3 (part two): Una pauses in doorway waiting for support before moving forwards

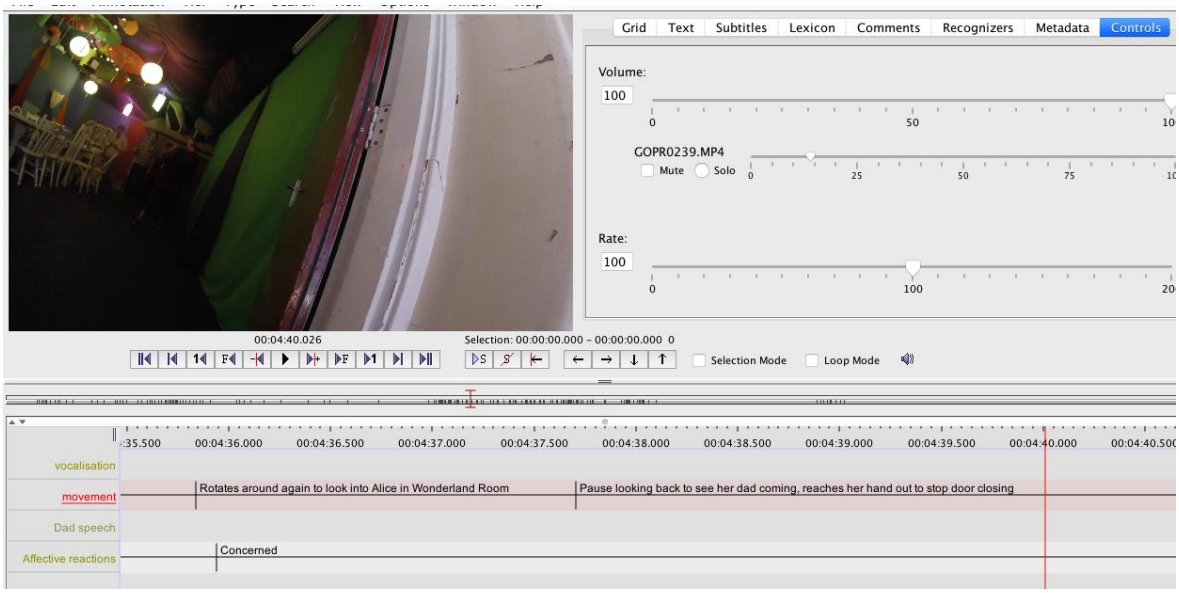


Figure 5.6.3 (part three): Una turns back and spots her dad coming up behind her

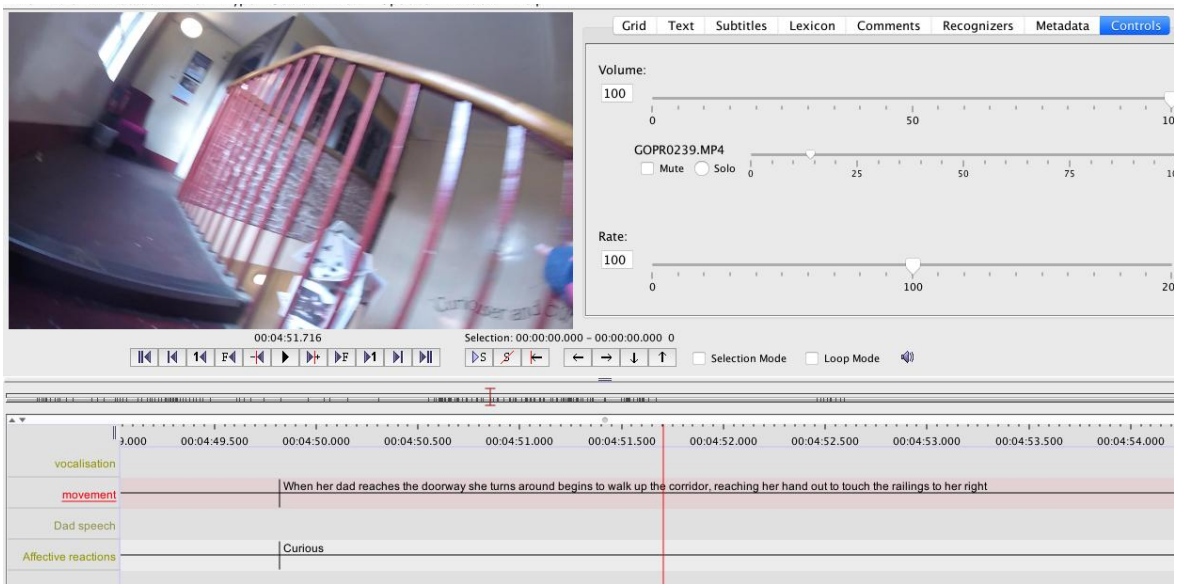


Figure 5.6.3 (part four): Una conscious that her dad is right behind her moves up the corridor

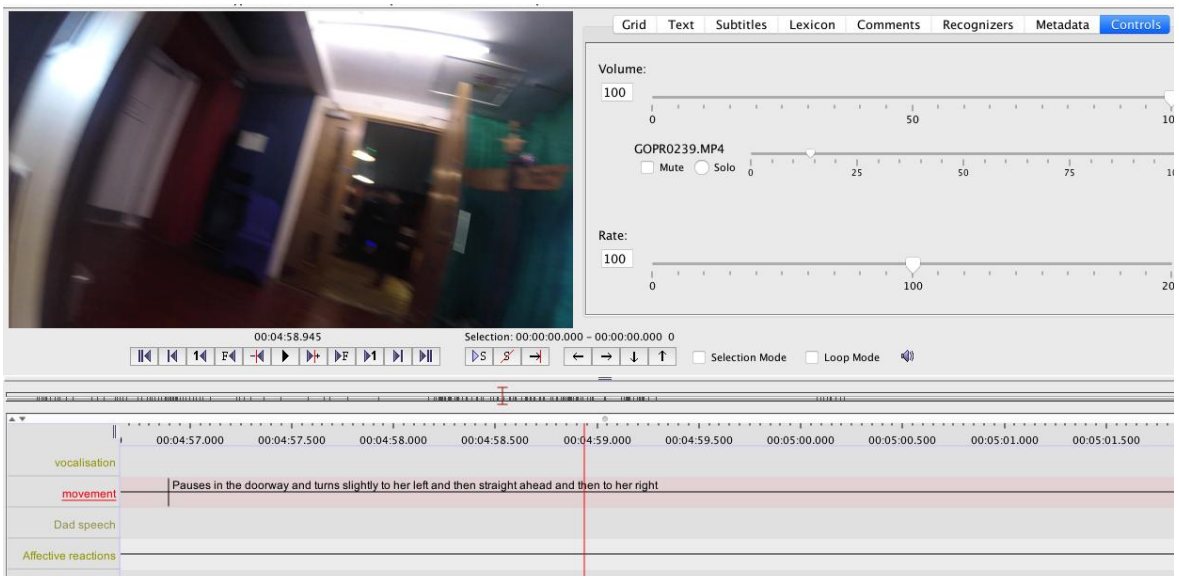


Figure 5.6.3 (part five): Una pauses in doorway and looks around

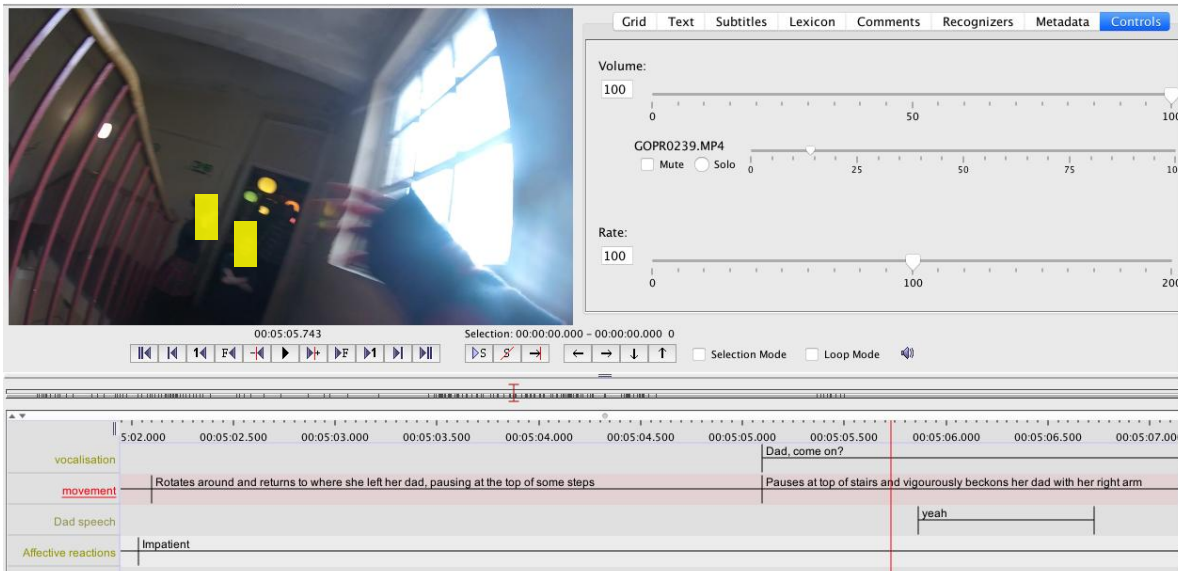


Figure 5.6.3 (part six): Una returns to impatiently beckon her dad to follow

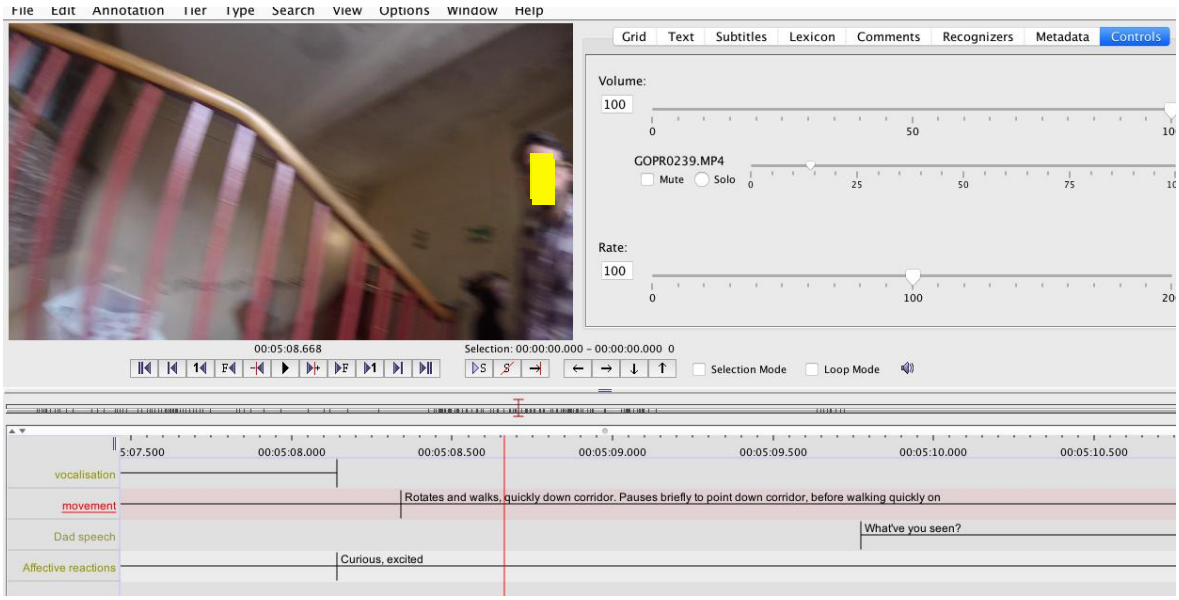


Figure 5.6.3 (part seven): Una turning and moving forwards confidently now she is accompanied by her dad

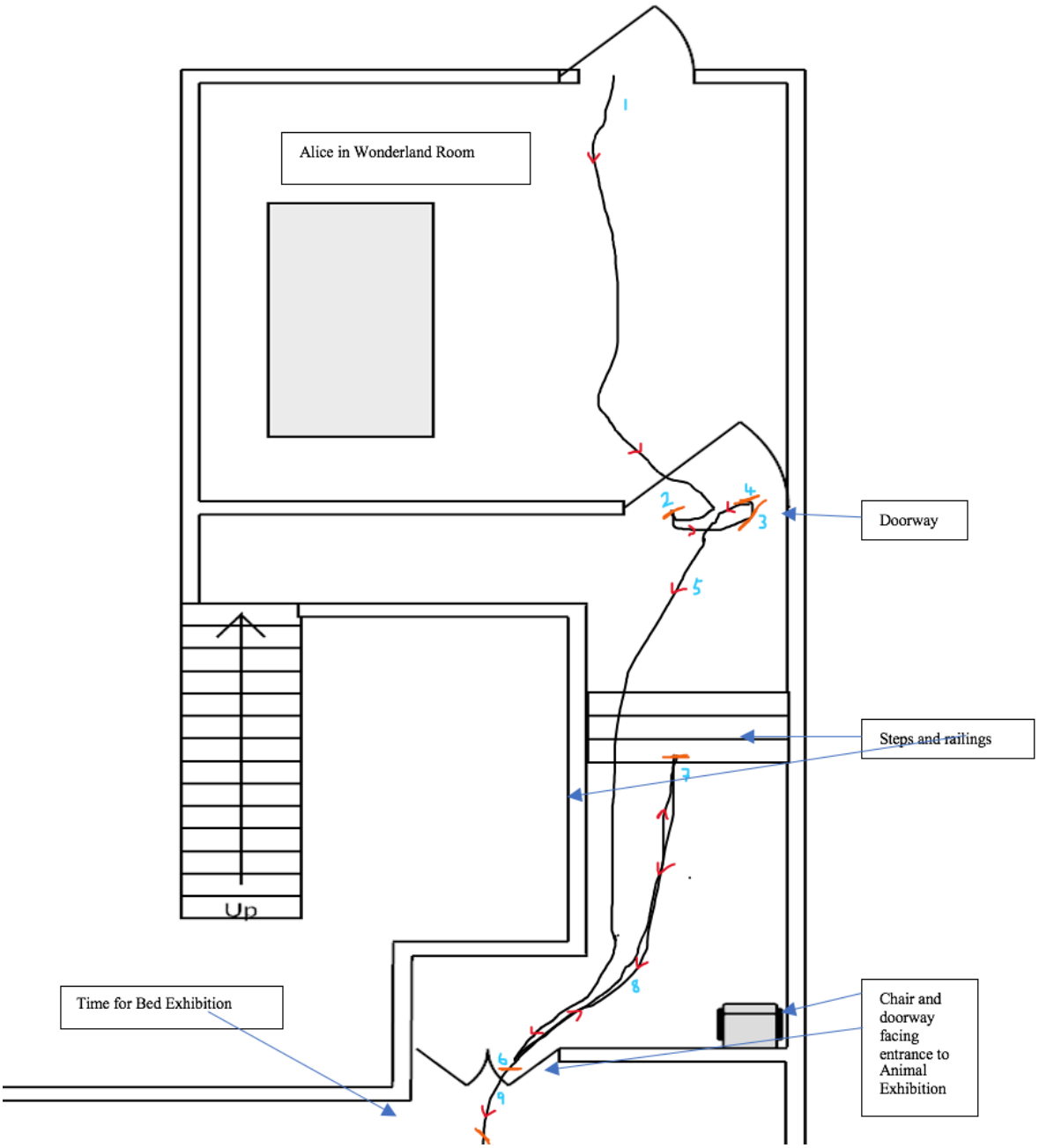


Figure 5.6.4: Movement map showing Una's trip to investigate the exhibitions and then return to dad for support

Movement map (3) showing U's route from the Alice in Wonderland room, through a corridor to a doorway leading to a crossroads between the Time for Bed exhibit to the right or Animal exhibition straight on. An orange dash represents a pause, the red chevrons indicate direction of movement and the blue numbers are referred to in the text above.

In another example of Una exploring the Time for Bed exhibition, her awareness of her dad's whereabouts translated into a slightly different dynamic. In this instance Una left her dad (with her baby sister) sitting in the back of the room. She ventured around a corner alone, clearly aware where her dad was and secure that he was close by and could not leave without passing her. Her dad on the other hand was unsure about where Una was and hurried after her. This is reminiscent of Tolmie et al's (2014) point that young children going missing is considered a serious matter. Interestingly Una seemed to feel the same about her dad going missing.

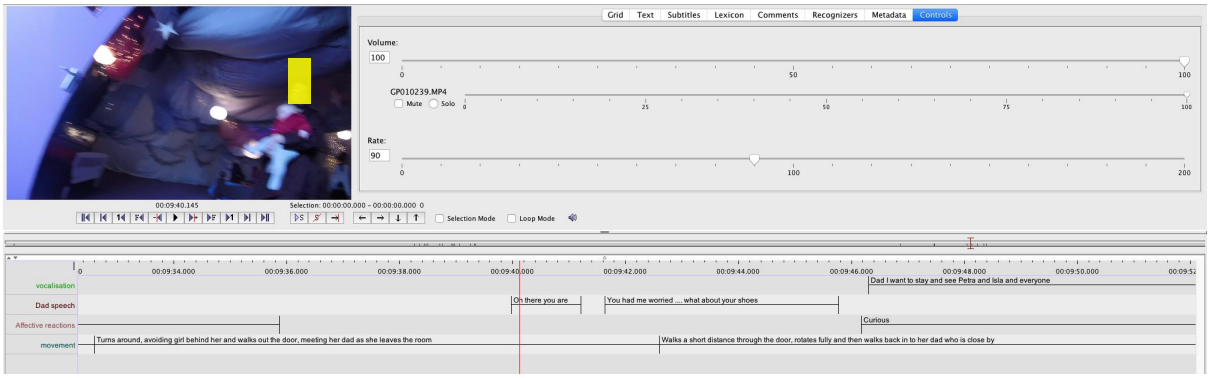


Figure 5.6.5: Una's dad worried

It has been noted before that the introduction of friends can encourage a more frenetic pace in young children (Burbank, McGregor and Wild, 2018). This exaggerated or speeded up movement (coupled with excitement) emerged when she was in close vicinity to her cousins. The frame of mind she was in when she engaged in this way meant that a comprehensive visual exploration of the spaces was not a priority. F5.6.3 (part one) and F5.6.6 illustrate two of these times. In F5.6.3 Una ran up the stairs and followed her cousins. She paused at the top for a short moment before they collaboratively established which way to go. As she moved through the

Alice in Wonderland Room, she faced forwards, her attention fixed on her cousins. She did not make any torso rotations during this time. This was unusual and conveyed that she was not paying much attention to the space around her. Instead, she was more focussed on her cousins who were directing the group's movement from the front. Another example of this dynamic is shown in F5.6.6 (part two) where her cousin can be seen calling '*Narnia...Narnia is this way*'. The dynamic created by interacting with peers or older relatives, was, I suggest, more resonant of the rushing described by Worthington and Paull (1987) during school visits or in other studies when visiting with peers (Hackett, 2014a; Marcus, Burke and Dobel-Ober, 2009; Rennie and McClafferty, 1995).

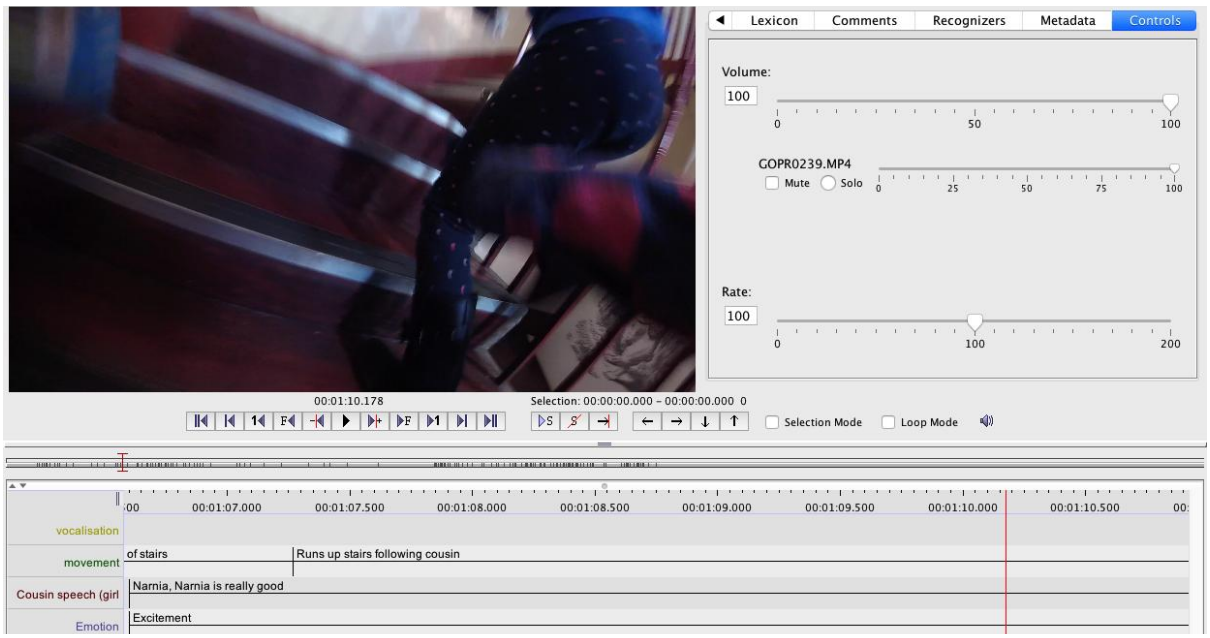


Figure 5.6.6 (part one): Una running upstairs behind her cousin

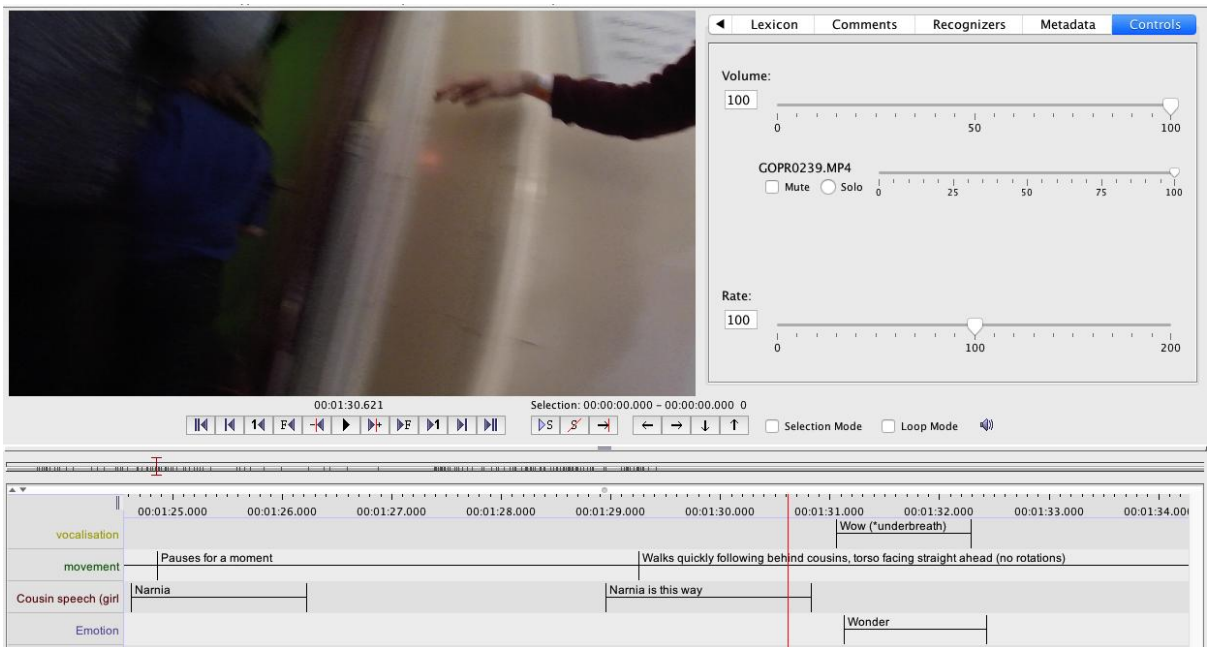


Figure 5.6.6 (part two): Una following cousins and not being as observant as usual

Like the other children, Una also, on occasions, combined her vocalisations with movement. For example (F5.6.7), she synchronised walking and reaching out her arm to touch several dressing gowns that lined the right side of a corridor. She synchronised her chant '*Or that one, or that one, or that one …'* with her arm movements.

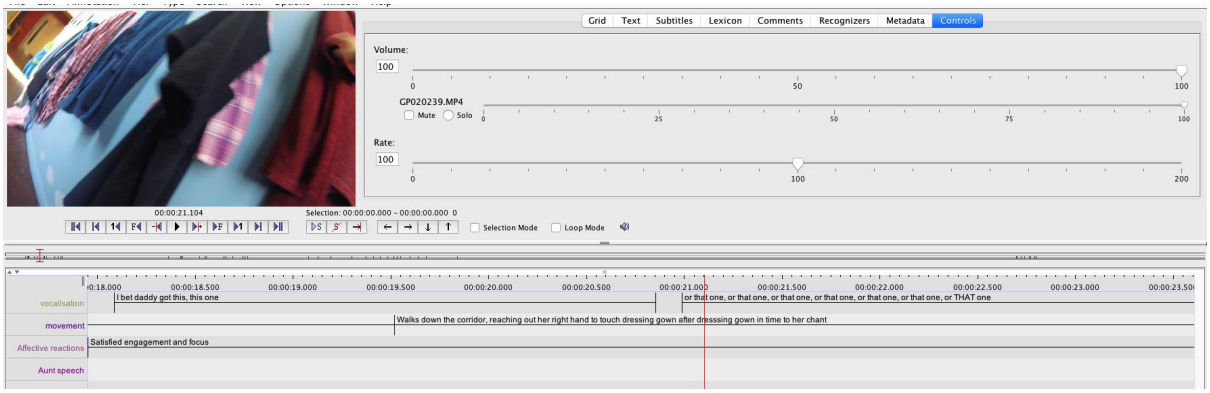


Figure 5.6.7: Una chanting as she walks and reaches out to touch the dressing gowns

During this episode she appeared absorbed, satisfied and temporarily at one with herself and the material spaces surrounding her.

5.6.3 Family interactions

Although she interacted with all the family members, Una's dad was her main caregiver. They spent a considerable amount of time alone together while mum predominantly looked after her baby sister. This fostered an undercurrent of jealousy during the visit that manifested itself in her actively seeking her father's company alone. This is a dynamic that is not uncommon in families with a new arrival (Burbank, McGregor and Wild, 2018). As illustrated by F5.6.3 Una found visiting with her cousins exciting to the point that it temporarily stifled her exploratory tendencies. In interview there was a sense of her enjoying the social aspect of visiting with wider family illustrated by her reply '*bring your cousins*' to her Dad's question '*would you like to bring your cousins again, or just on your own?*'. This sense of enjoyment was echoed during the visits themselves.

Una and her dad had a warm, good-humoured and often playful relationship. Like Wilbur and in contrast to the other children, Una rarely asked her family questions other than 'where' things were. For example, in F5.6.8 she asked her dad where a particular room was located, saying '…w*here is it? Where is it?'.*

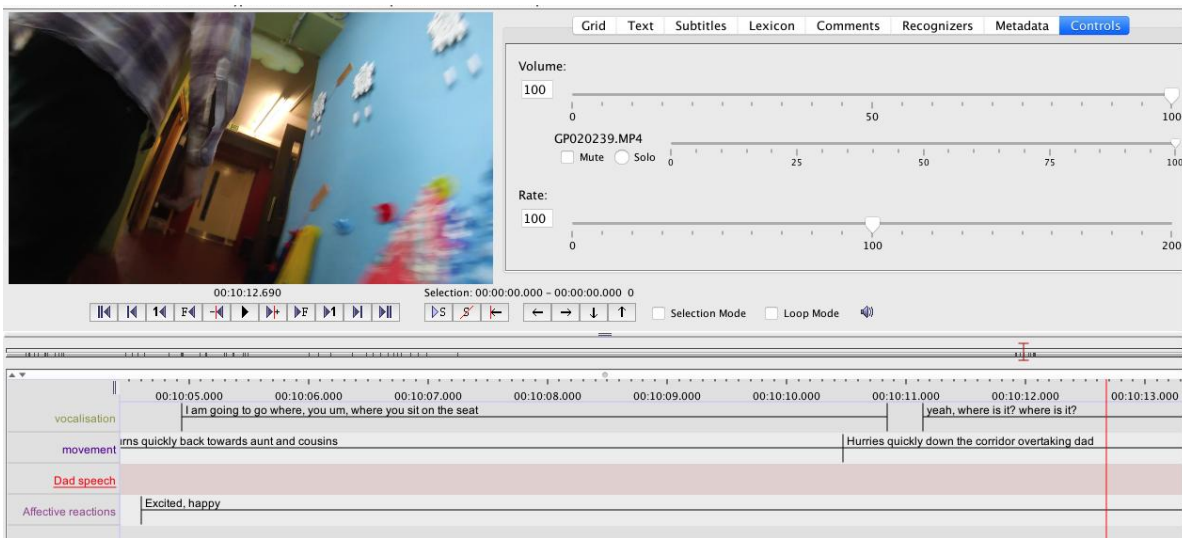


Figure 5.6.8: Una asking her dad a 'where' question

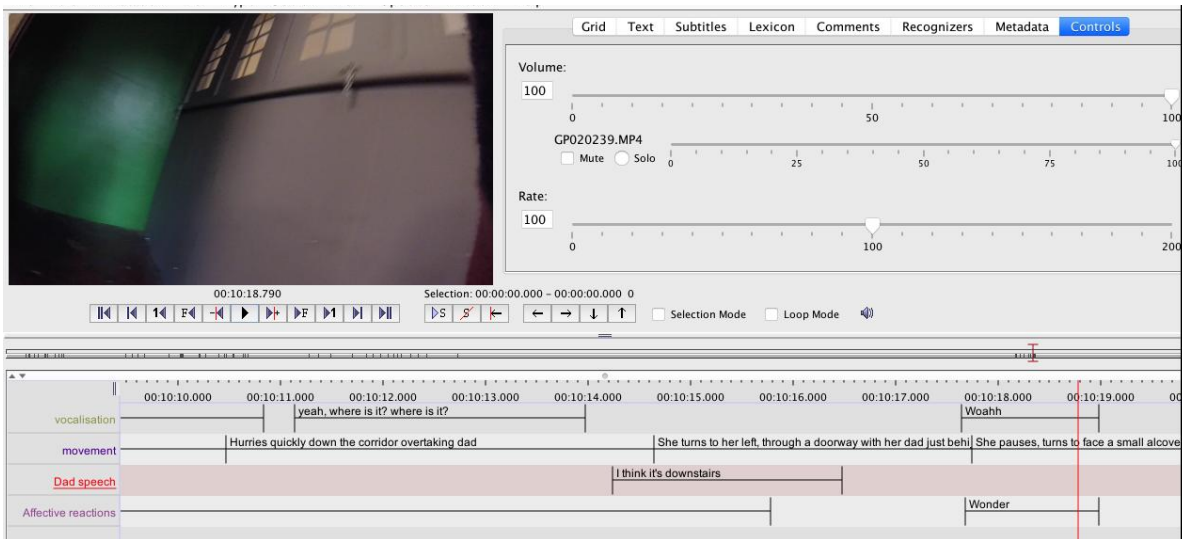


Figure 5.6.9: Una wondering at the 'dead end' alcove.

It appears she was too busy exploring or playing to engage in further enquiry. There were a few sporadic times that she asked different questions. For example, when she saw a typewriter that she had previously been touching and asked her older cousin '*What is this?*' to which he answered, '*A typewriter'*, another occurred when she asked her dad about a 'talking' throne '*But where does it come from the noise?*' to which her dad (not wanting to spoil the mystery) replied, '*I don't know it's clever*'

(see F5.6.10) thus ending the conversation. On another occasion she asked her dad '*Why are there stars up there?*' to which he replied again fostering a sense of make believe, '*Because it's bedtime*'. On these rare occasions, Una seemed to be interested in the practical, more concrete aspects of the experience rather than the sense of make believe that is intentionally conveyed by the exhibitions. The reasons for her lack of questions about the exhibitions seemed to be twofold. Firstly, it is possible that, as she had been to the museum before, her questions had been answered on previous occasions. However, based on Wilbur's similar pattern of questioning (see section 5.7), it is more likely to relate to a second point; because the museum was not collection based, and contained immersive scenes or activities it tended to foster play with others, not enquiry about things.

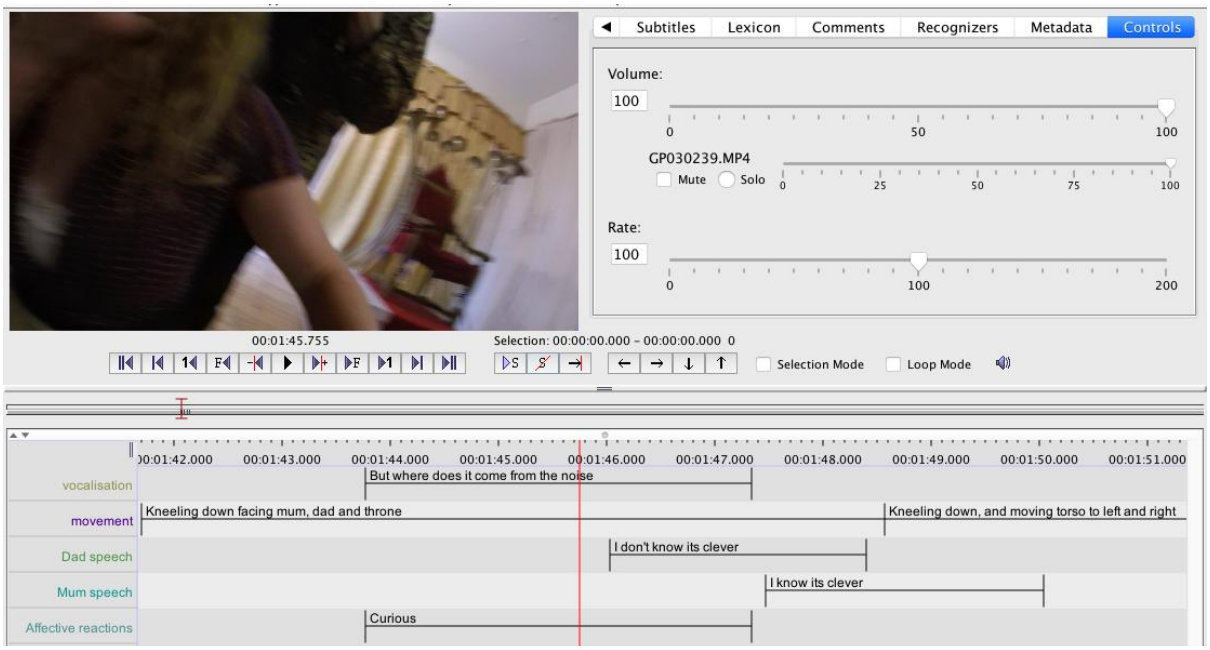


Figure 5.6.10: Una asking her dad a question

She did sometimes observe family members' actions and repeat them. This act of observation and then imitation or reproduction of an action has been noted as a

means by which young children might learn at an exhibition face from their peers (Meisner, 2007). One example being when she saw her older cousin performing an impromptu play with some soft toys to her baby sister. During this, Una picked up some soft toys and began to manipulate them in a similar way to her cousin as shown in F5.6.11. The FPV provided a sense of her enjoyment at touching and manipulating the soft toy as well as her intense and focussed engagement during the episode of play itself. This resonated with the 'hot and sweaty' engagement described in young children's museum play (Piscitelli, Everett and Weier, 2003), in that she was psychologically engaged and focused, but not in the sense of being physically intense.

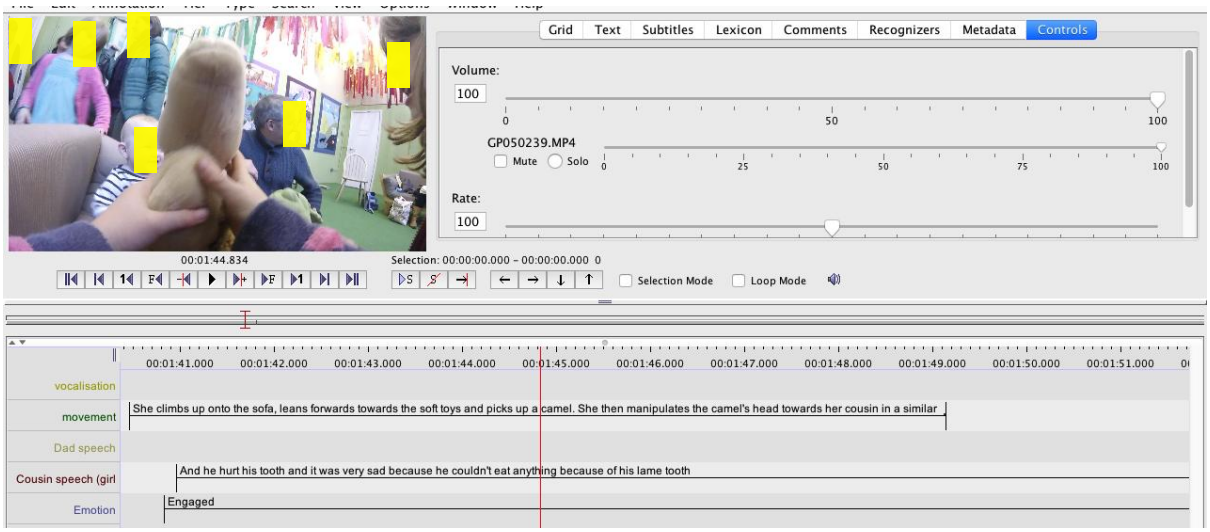


Figure 5.6.11: Una imitating her cousin

In addition, Una sometimes struggled with the physical size of some of the exhibitions. Dockett, Main and Kelly (2011) comment that coping with the size of exhibits can be a source of frustration for young children. This is the case for Una on a few occasions, for example as illustrated in F5.6.13 (part two) she struggled to climb onto a bed next to her dad. Una also required some help putting on some

dressing up clothes. Sometimes her dad (or mum), unasked, helped her to overcome these physical difficulties, for example by lifting her up to post a tin can into a hole just out of her reach, or helping her put her arms into a 'Mog' the cat onesie. Una could sometimes be demanding of attention, whiny and petulant in his company, especially during the later stages of the visit. She also exhibited signs of impatience, first in relation to time spent in a particular area (see F5.6.3 where Una impatiently beckoned her dad to follow). Second in terms of what she was actually doing. For example, in F5.6.13 (part three) she became increasingly impatient and distracted while her dad read her a story. This resonated with Anderson, Piscitelli and Everett's (2008) description of conflict occurring when there are clashes of agendas of mission and time. A clash of mission in terms of Una's dad wanting to read the story whereas Una wanted to move on and explore. A clash of time in terms of the time spent in a particular area on a particular activity. This issue had similarities to Wilbur's frustration at his mum's efforts to read to him.

She was also impatient with other family members, for example when she felt she was overdue a turn to use a tablet she petulantly said to her cousin '*No, I'm going to have a go*'.

Her dad, on several occasions, read to Una. On one occasion he read extensively from a label containing an extract from the book 'Watership Down', and on another occasion reading from a children's story book. Caregivers' extensive label reading (similarly to Wilbur's mum) is in contrast to the action of the parents of the children in the Museum A and B, who in keeping with findings from more traditional museums (Allen, 2003) tended to use labels to read names of objects or brief

snippets of information and rely on their own knowledge to further any discussions (Reiss and Tunnicliffe, 2011). Una, like Wilbur's 'passive resistance', did not pay much attention to her dad's label reading, instead continuing with what she was doing. For example, in the transcript below (F5.6.12) she continued to play with the story tube, inserted it into a listening point and jiggled it around while her dad was reading. When she had finished her activity, she moved away before he had finished.

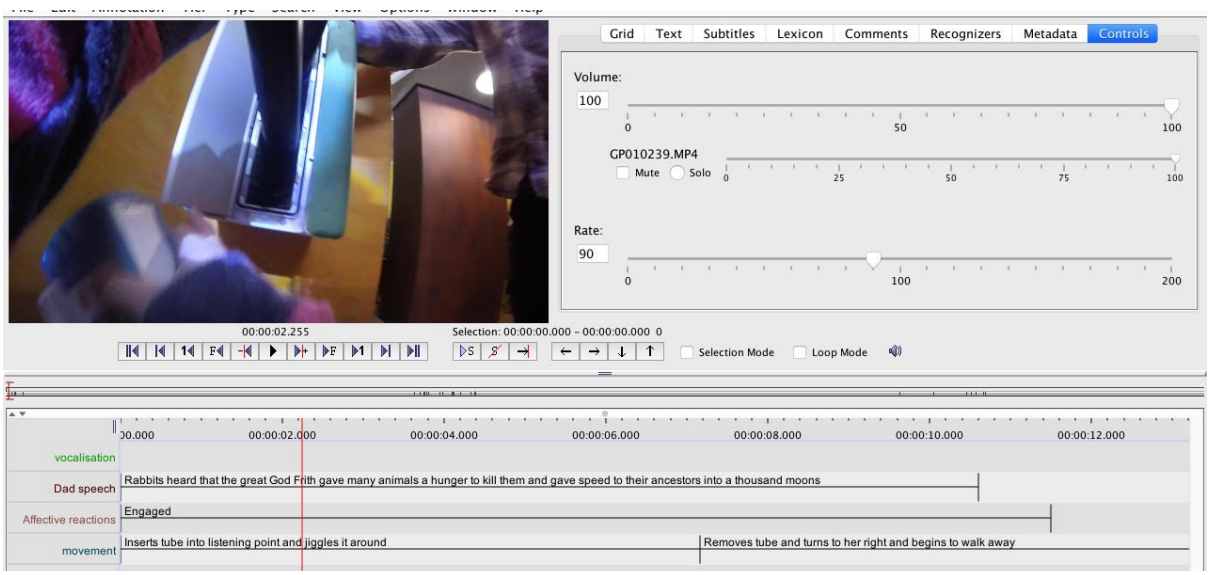


Figure 5.6.12: Una playing with story tube while dad is reading labels

This difference in label reading between the museums is likely due to the nature of the museum exhibitions (e.g. they relate to reading and stories) and the adults' interpretations of how best to engage their children with them i.e. reading is directly relevant to a museum of children's literature. Una initially responded positively to the story book being read to her. She stayed still to listen to her dad read to her whilst lying on a large bed, however as discussed quickly became distracted (F5.6.13). What chimed with the other visits is that Una's father is very keen to

engage her with the exhibitions, albeit in a way tailored to his understandings of the affordances of this particular space.

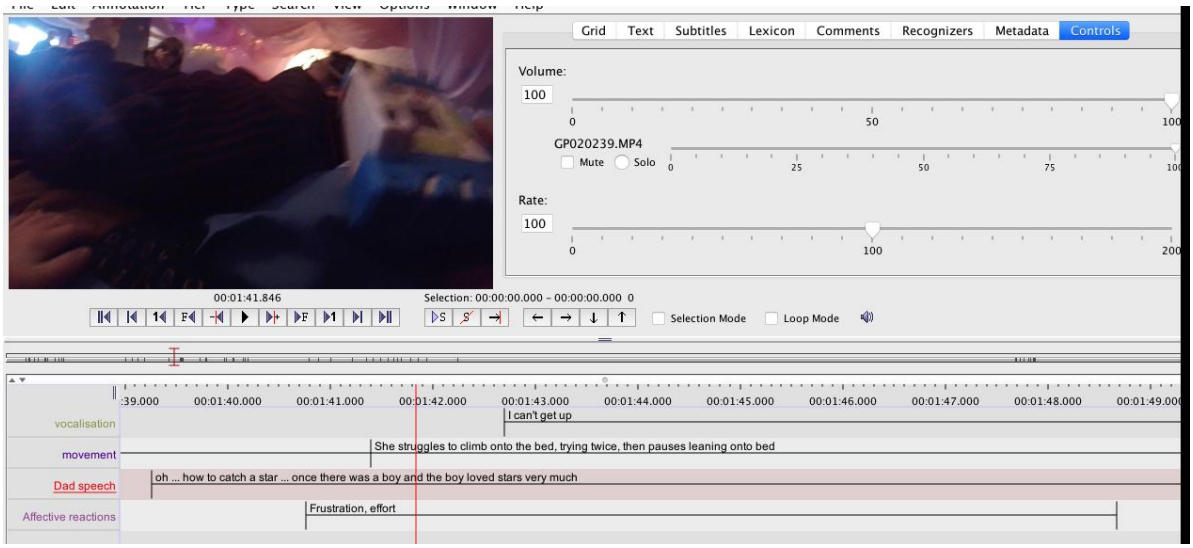


Figure 5.6.13 (part one): Una struggling to climb onto the bed while her dad is reading a story

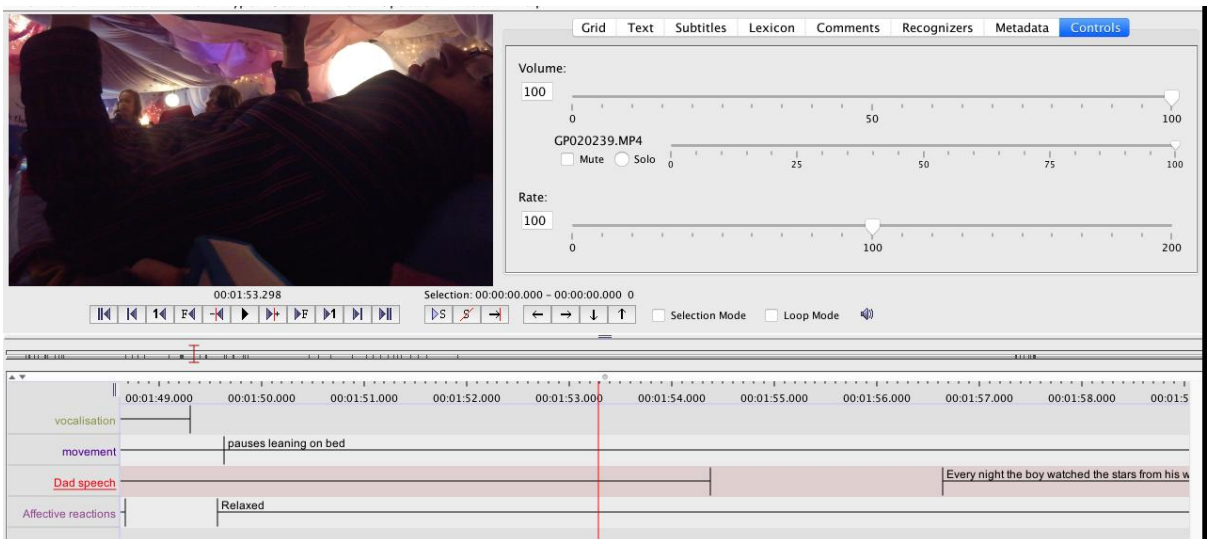


Figure 5.6.13 (part two): Una enjoying listening to her dad read a story

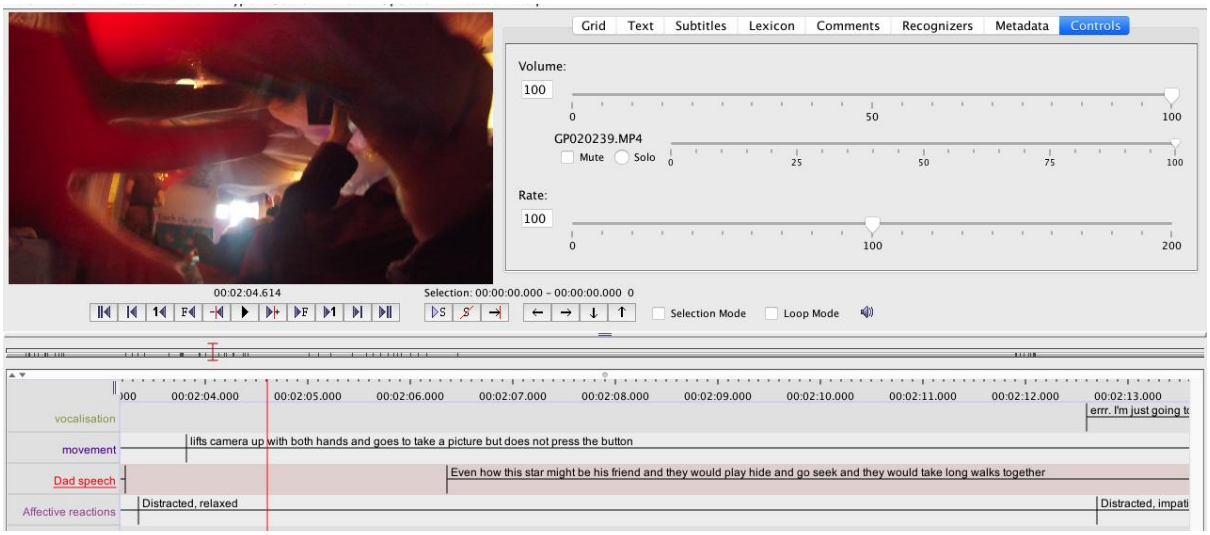


Figure 5.6.13 (part three): Una becoming distracted when being read a story

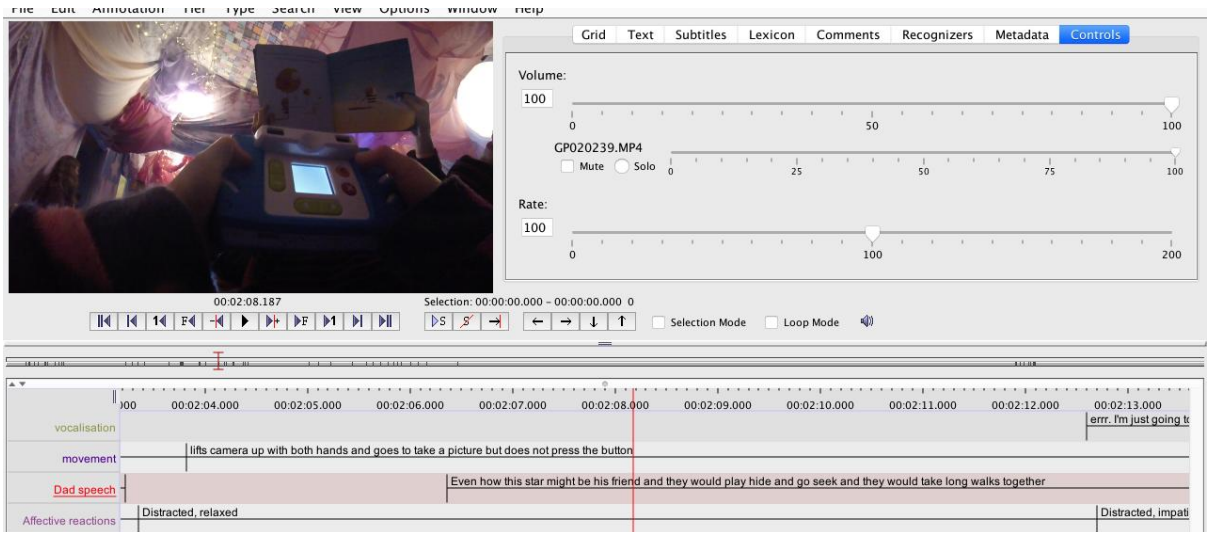


Figure 5.6.13 (part four): Una becoming distracted when being read a story

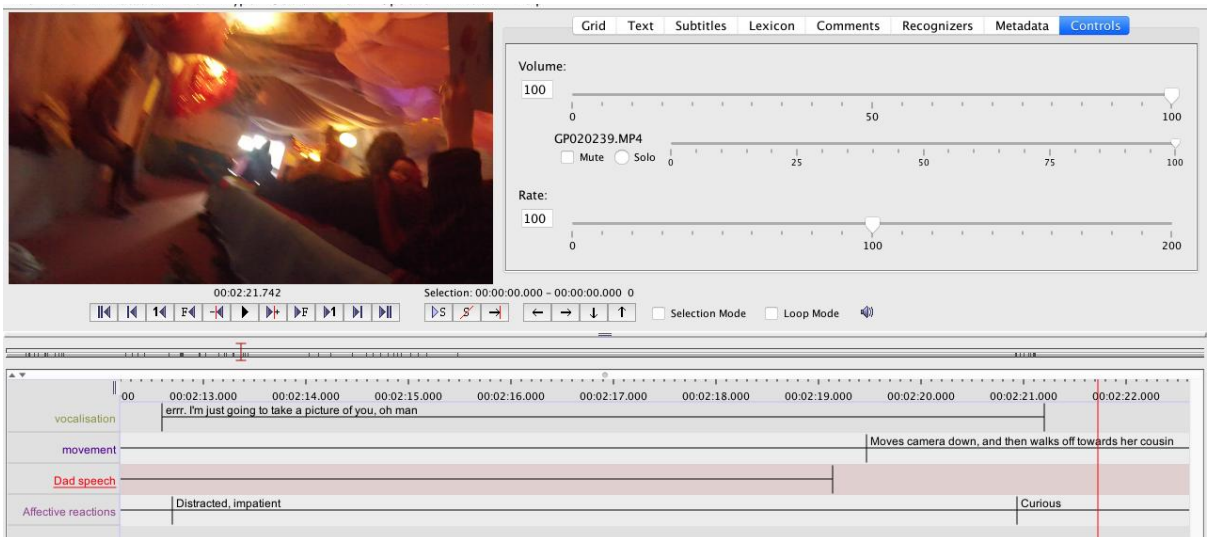


Figure 5.6.13 (part five): Una being read a story by her dad

Una was keen, when given an opportunity, to explain to her aunt, uncle (first time visitors) and cousins (also second time visitors) how to use aspects of the museum exhibitions that she was familiar with. For example, on one occasion Una turned back towards her uncle to explain how to use a piece of black tubing, or 'listening tube' that allowed the user to hear or smell something when inserted into one of the several green ports positioned around the exhibition (see F5.6.14 below).

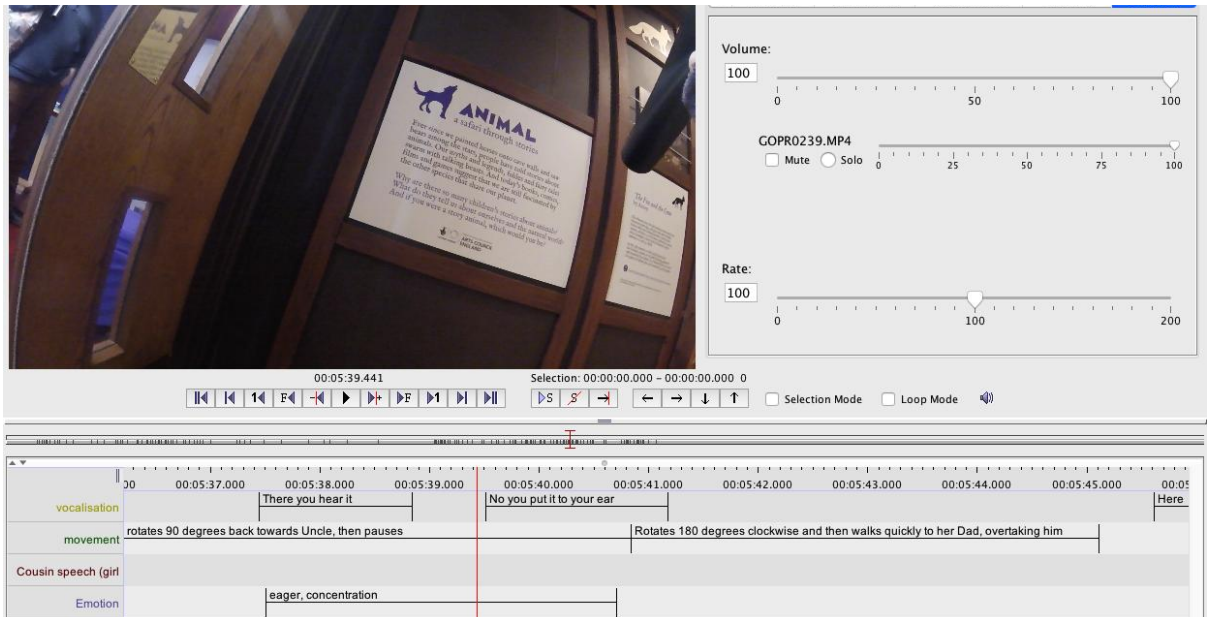


Figure 5.6.14: Una explaining to her uncle how to use the listening tube

During this episode Una, without prompting, takes on the role of the expert. She enjoyed telling her uncle how to operate the listening tube. Other children (Notably Bill and Noel) demonstrated similar traits. However, perhaps not surprisingly based on the nature of the exhibits, this is different because her expertise is focused on the practical knowledge of using the exhibit gleaned from her previous visits rather than an expression of factual knowledge.

5.6.4 Affective reactions

Like the other children, Una's affective reactions during her time in the exhibitions fluctuated from positive to negative. For the most part, she exhibited positive emotions such as wonder, happiness, humour, curiosity, exhilaration, excitement, playfulness and enjoyment. This overall sense of positivity is supported by her comment in interview (in reply to the question '*Why would she like to visit again?*'),

'*I like the whole thing*'. She exhibited a sense of wonder on a few occasions during the visit. For example, in F5.6.9, she stumbled across an alcove, and piped '*Woahh!*'. This was not to the same extent as the children in the museums A and B, or first-time visitor Wilbur. This is likely because as a repeat visitor, the exhibitions are, to an extent, familiar to her so not likely to induce a sense of wonder as often as they might if they were not. For Sophia (another second-time visitor) the vastness and variety of the collections combined with the large maze-like quality of the building meant that there were always novel objects around the corner that might induce a sense of wonder.

For the most part Una exuded happiness and excitement (F5.6.8, part one) when she moved around the exhibitions. She laughed with her dad (or mum) (F5.6.15), to herself, or when playing with her wider family. As noted in section 5.6.2 the presence of her cousins tended to amplify her sense of excitement. As discussed earlier (see F5.6.6) her sense of (over) excitement when with her cousins translated into breathless rushing around that limited concentration on the surrounding environment.

Una was also playful in the museum. In the episode below (F5.6.15) she entered the Wallace and Gromit exhibit and playfully and with humour drew her dad's attention to the peepholes that looked back out into the corridor. They then both playfully interacted before calling to Una's mum and cousin to join the game. During this period Una was absorbed and happily interacted with both her dad and the exhibition itself.

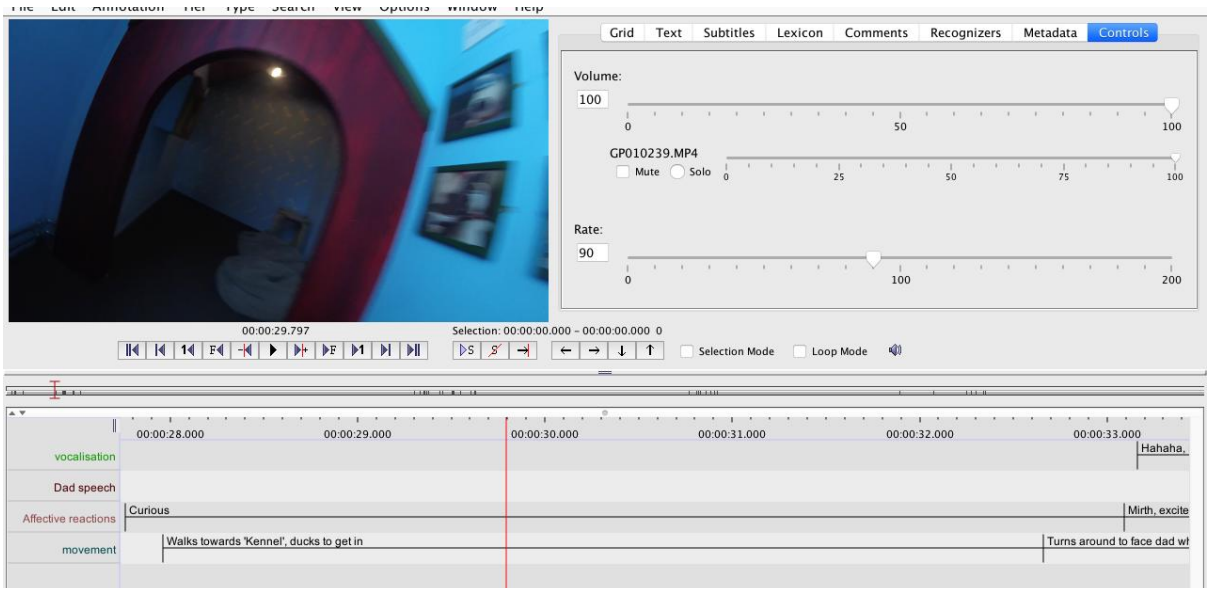


Figure 5.6.15 (part one): Una entering the Wallace and Gromit exhibition

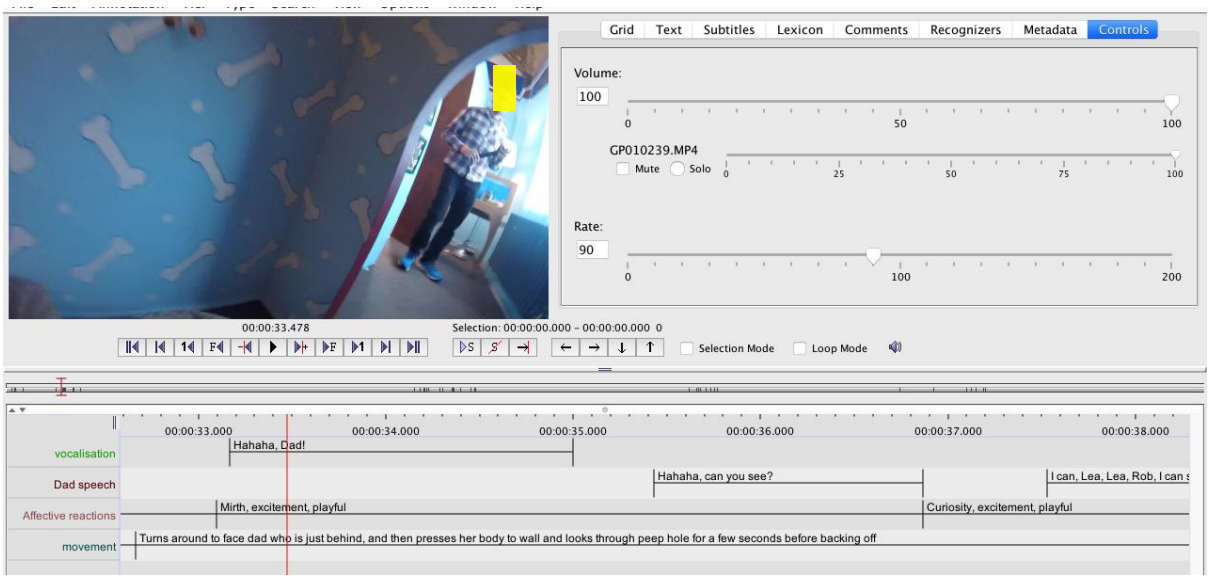


Figure 5.6.15 (part two): Una playfully looking through the peepholes

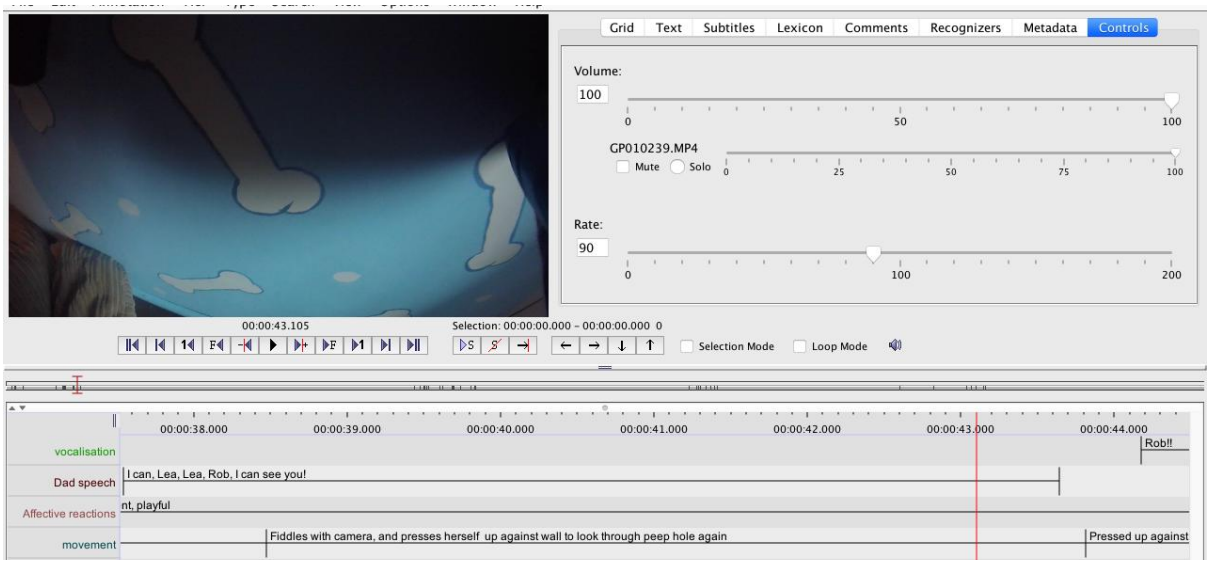


Figure 5.6.15 (part three): Una and her dad playfully interacting

There was one occasion when she expressed a sense of exhilaration. This was when she was just about to enter the dark space or wardrobe that marked the entrance into an exhibition based on C.S. Lewis' Narnia. This reaction is similar in nature to, for example, Bill's and Noel's expressions of exhilaration when they saw the T-Rex or entered the dark UV room. There was a slight sense of Una being scared but very much in a way that promoted her enjoyment of the experience (Fidler, Bunney and Craven, 2011). There was no sense of real fear as reported by Kirk (2014). On this occasion she was sandwiched between her cousins in front, and dad behind. This close support likely made her hesitation about moving into the dark space only momentary as illustrated in F5.6.16 below. Her reaction in interview to her photograph of the White Witch Jadis taken in the Narnia exhibit, supports the view that she was not frightened during this particular experience. For example, when asked about her photograph (F5.7.17) of the witch Jadis, '*What did you think of the Snow Queen?*' she replied, '*Very big'.* Her Dad followed this up by saying '*It was when we went into the wardrobe wasn't it, and it was very dark, then we went into*

that space, you immediately looked at her didn't you. Did you like her or were you scared?' To which Una nodded and replied, '*liked her'*.

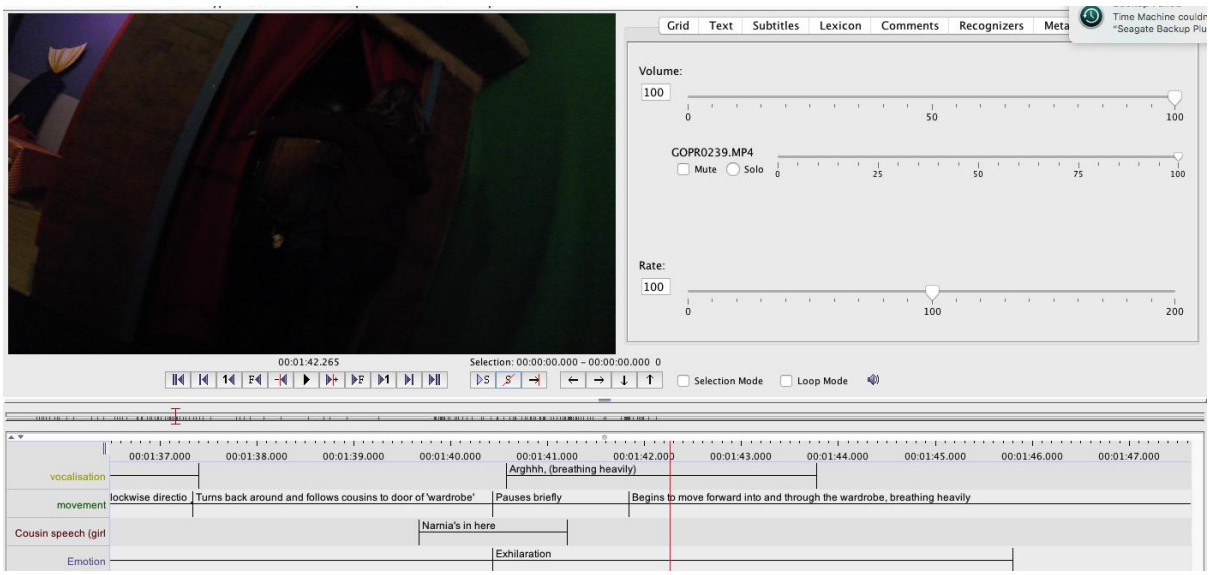


Figure 5.6.16: Una entering the wardrobe

Figure 5.6.17: Una's photograph of a large mounted and lit image of the '*very big'* witch Jadis

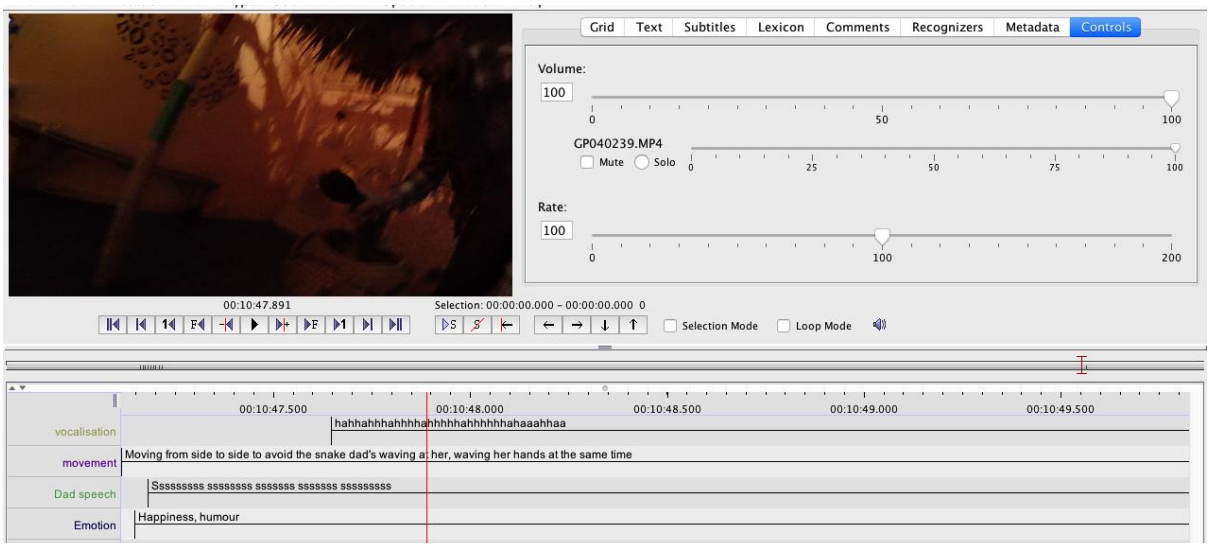


Figure 5.6.18: Una playing with dad

Negative emotions, such as impatience coupled with a demanding attitude (as noted in section 5.6.3), also crept into her experience during the visit, especially during the later stages. She also showed irritation, frustration and disappointment when things did not go her own way. This might be in terms of moving onto the next thing, not being able to put on some dress up clothes, or get up onto the bed (F5.6.13, part one). There was one occasion when she became irritated with her cousin concerning who should have the next turn on a tablet computer. This is illustrated in F5.6.19, where she rushed towards a tablet computer and asked to have a go (she had already had a go a few minutes earlier). When her cousin also demonstrated a desire to have a go, her reaction was one of irritation and then disappointment when she realized that she was not going to get a go. As with the others, Una used these negative emotions to pressure others to conform to what she wanted. Correspondingly when she experienced these negative emotions her focus was on resolving the issue that caused the negative feelings rather than focusing on the exhibits themselves.

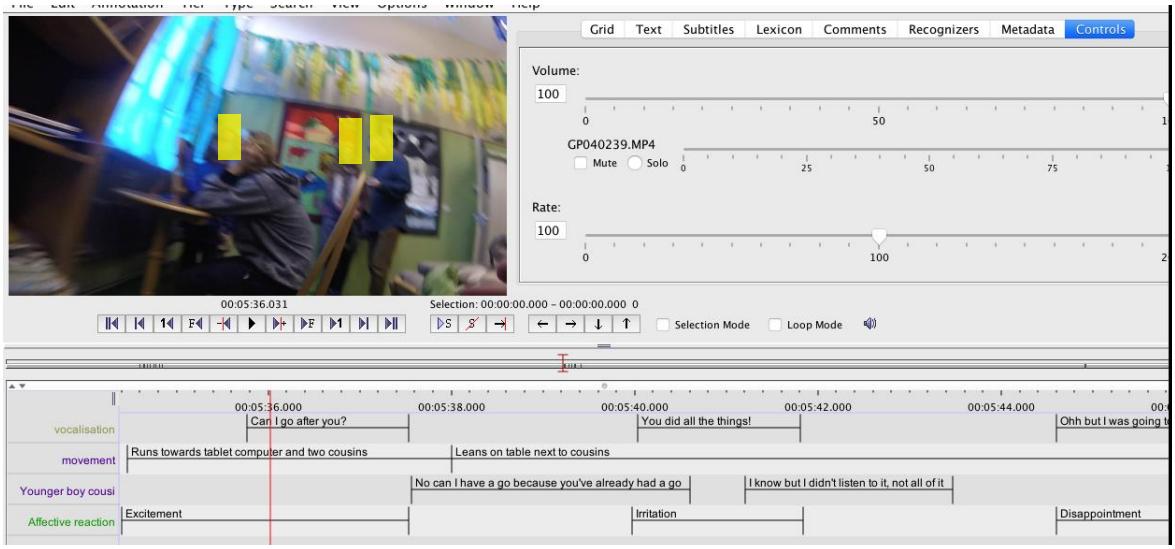


Figure 5.6.19, part one. Una becomes irritated when she does not get her own way.

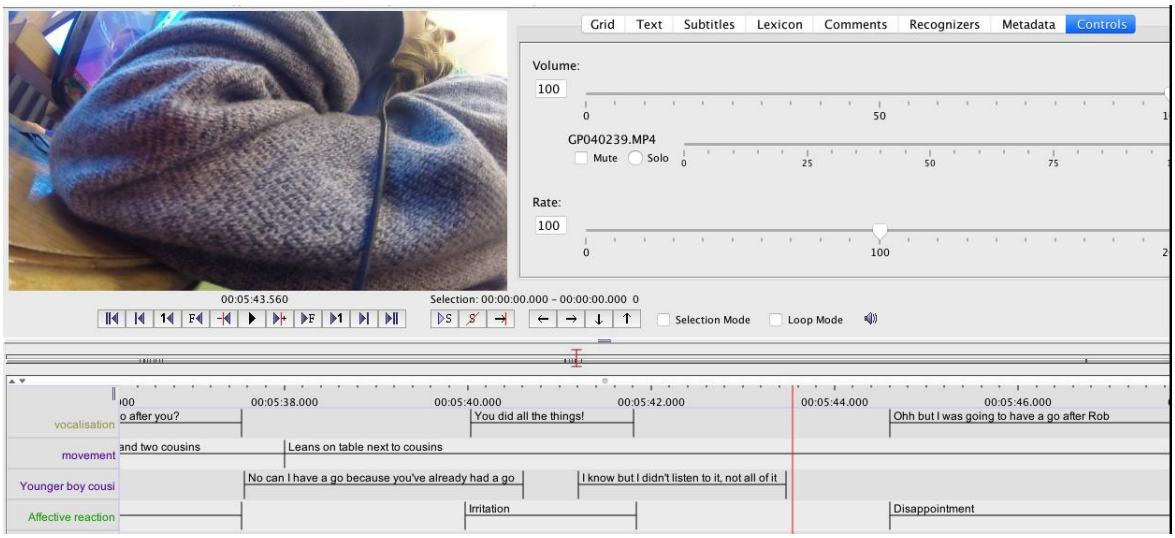


Figure 5.6.19 (part two): Una becomes irritated when she does not get her own way.

5.6.5 Patterns of attention

Una's patterns of attention, like the others, were varied and idiosyncratic. However, her focusses also, like the others, conformed to well established patterns (Kirk, 2014; Dockett, Main and Kelly, 2011). For example, large (Kindler and Darras, 1997) and

small objects (Jenkins, Lisk and Broadley, 2013; Kirk, 2014). In interview she mentioned the '*very big*' snow queen (F5.6.17), the '*big bear*' in the Time for Bed exhibition (F5.6.20). During her visit she also snuck off to look at, and photograph a case containing miniature Sylvanian Families animal models (F5.6.22). Animals, or representations of animals tend to be popular with young children (Danko-McGhee, 2006) and Una was no exception. She was also drawn to objects that linked to her wider experiences (Kirk, 2014; Piscitelli and Anderson, 2001). For example, when dressing up, she chose a cat onesie that she recognised as 'Mog', a character from a children's book.

Figure 5.6.20. Una's photograph of the 'big bear'.

She commented enthusiastically in interview that one of the Sylvanian figures was, '*driving a car!*'. This combination of an everyday object (car) combined with an animal figure clearly ticked several boxes for Una. Her dad also commented '*You have a lot of these at home, don't you*', to which she nodded. This familiarity with her home environment was also likely to have contributed to her interest.

She was also attracted to bright, and shiny objects in the museum. For example, in F5.6.21 Una spotted some bright fairy lights. She walked forwards and carefully entered the small room pausing a few feet away from the lights. She quickly turned and at the entrance of the room called to her dad, '*Dad, Amelie might like this?*'. She wanted to both draw his attention and have his support before moving closer to the lights. When her dad approached, she re-entered the room and moved closer to the lights.

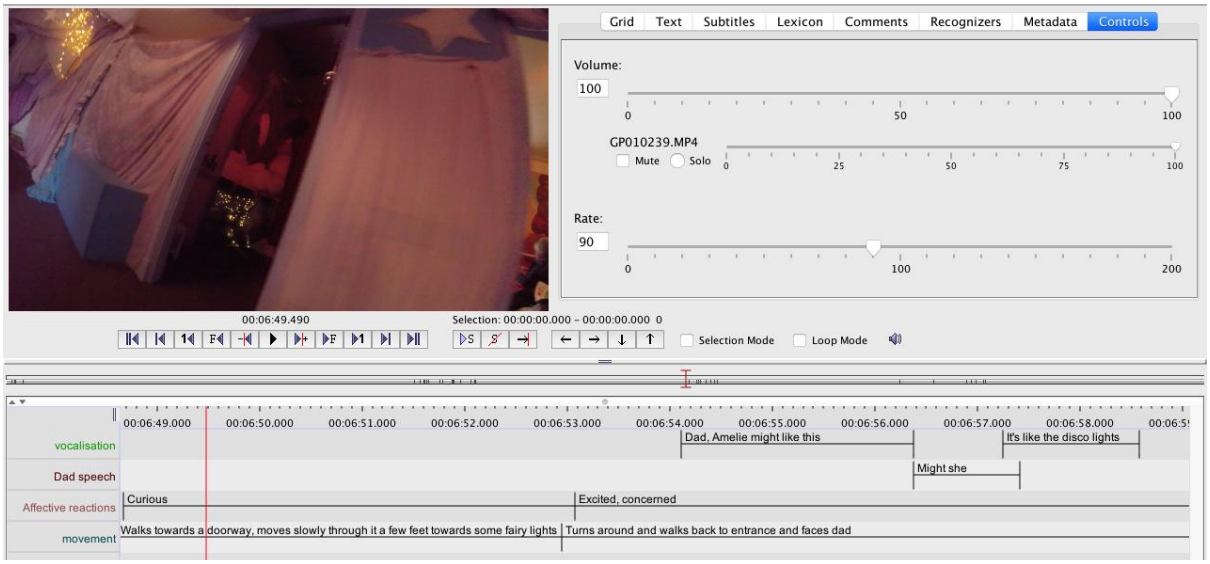


Figure 5.6.21 (part one): Una's attention drawn to fairy lights

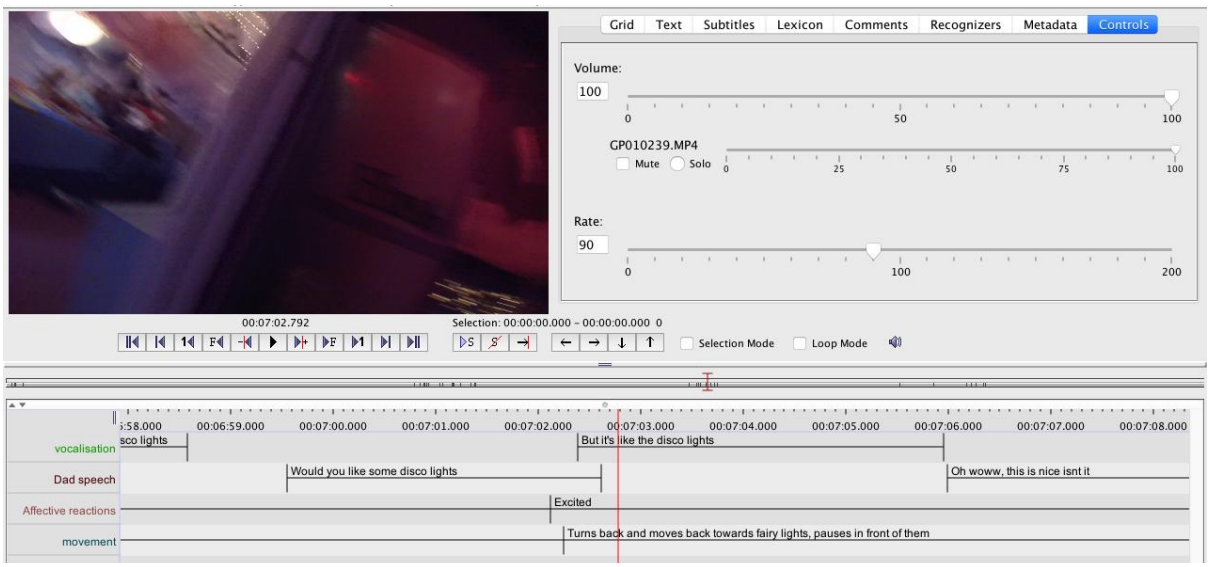


Figure 5.6.21 (part two): Una's attention drawn to fairy lights

Like the other children she also liked screens. In particular a tablet that involved touch interaction (F5.6.19). She also took an unprompted photograph (F5.6.27) of a television playing a Wallace and Gromit cartoon, indicating that this was of interest to her.

Figure 5.6.22: Una's Sylvanian families cabinet photograph

Una engaged with the exhibits in a variety of ways. For example, through photography, gaze, humour, play, touch, imitation and movement. Although she enjoyed using the camera, she only took ten photographs during her visit. The reason for this was not entirely clear, but it is likely that the interactive and immersive nature of the exhibitions hindered her opportunities to take photographs. When she was most engaged, for example during the playful incident with the peepholes in F5.6.15, she did not take any photographs even though she was holding the camera (Burbank, McGregor and Wild, 2018). In contrast to collection-based museums there were also not many discrete objects that were photographable in terms of size. It is likely no accident that all of Una's photographs are of discrete objects or people

rather than more generally of the spaces. For example, a teddy bear, Jadis, the Sylvanian case, a screen playing a film, her dad (F5.6.23) and the big bed.

Figure 5.6.23a Una's photograph of her dad.

Not surprisingly she used her gaze to engage with the spaces, turning this way and that to view exhibits but also corners of the building that are not specifically intended for visitor interaction (Hackett, Procter and Kummerfeld, 2018; Dockett, Main and Kelly, 2011). For example, in F5.6.8 (part two) she, on her way past, noticed a small alcove. This incident is reminiscent of Edward's investigation between two pillars.

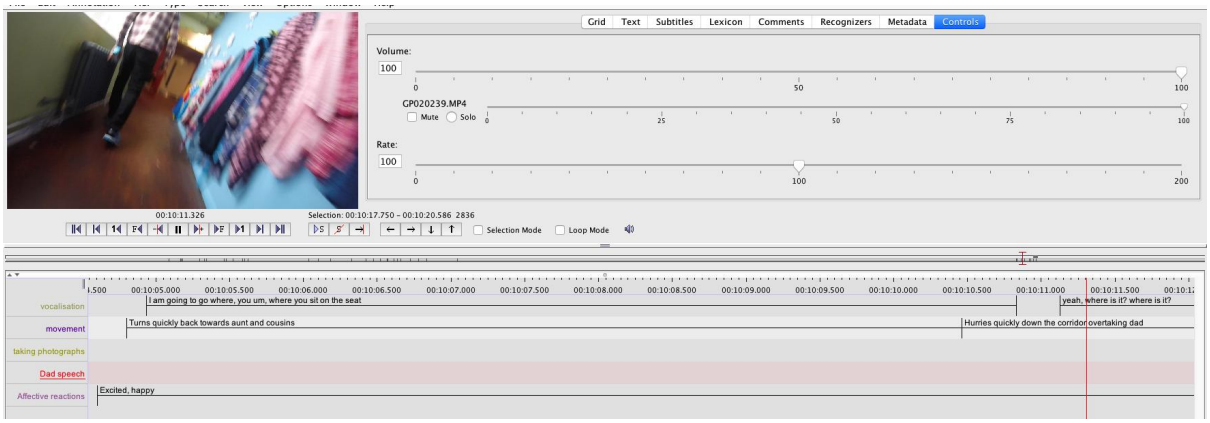


Figure 5.6.23 (part one): Una exploring while heading to the throne room

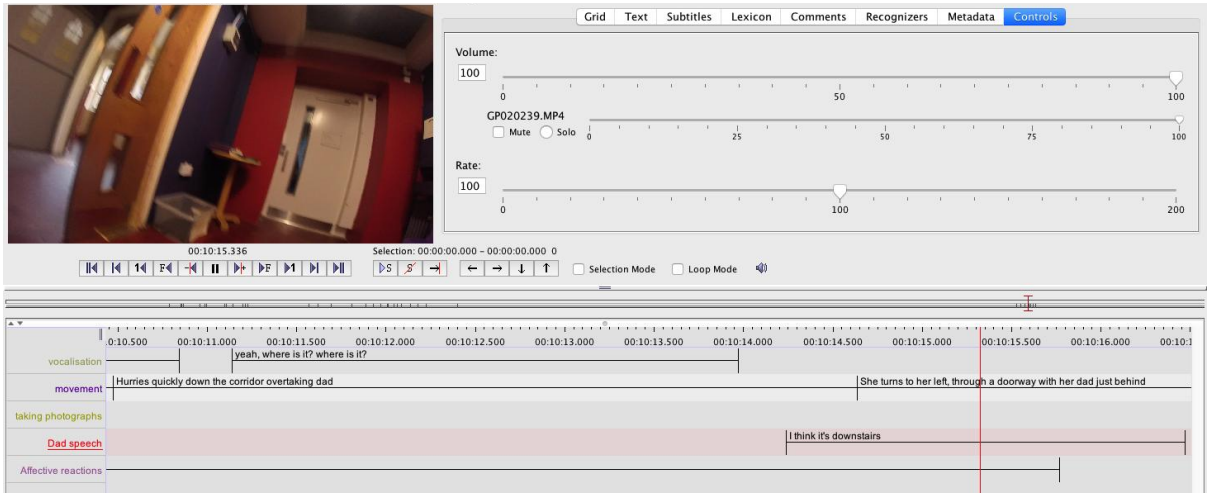


Figure 5.6.23 (part two): Una exploring while heading to the throne room

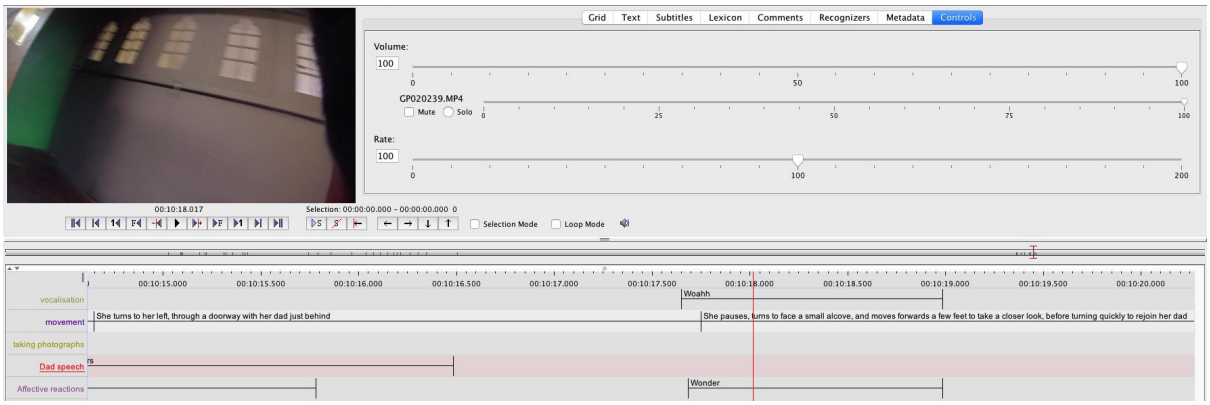


Figure 5.6.23 (part three): Una exploring, while heading to the throne room

As outlined in F5.6.2 she also returned to objects (such as a tablet that she was keen to use) underlining her interest (Hackett, 2014a). One example was opening and closing cupboards. Each cupboard contained a soft toy and a book, however Una was more absorbed in the act of methodically opening and closing the cupboards than interacting with the cupboards themselves. Dudley (2014), while not referring specifically to children, refers to the simple energy and rhythm involved in opening drawers. In a similar way this involvement in the repetitive process of opening and closing the cupboards absorbed and engaged Una as illustrated in F5.6.24 (parts one and two).

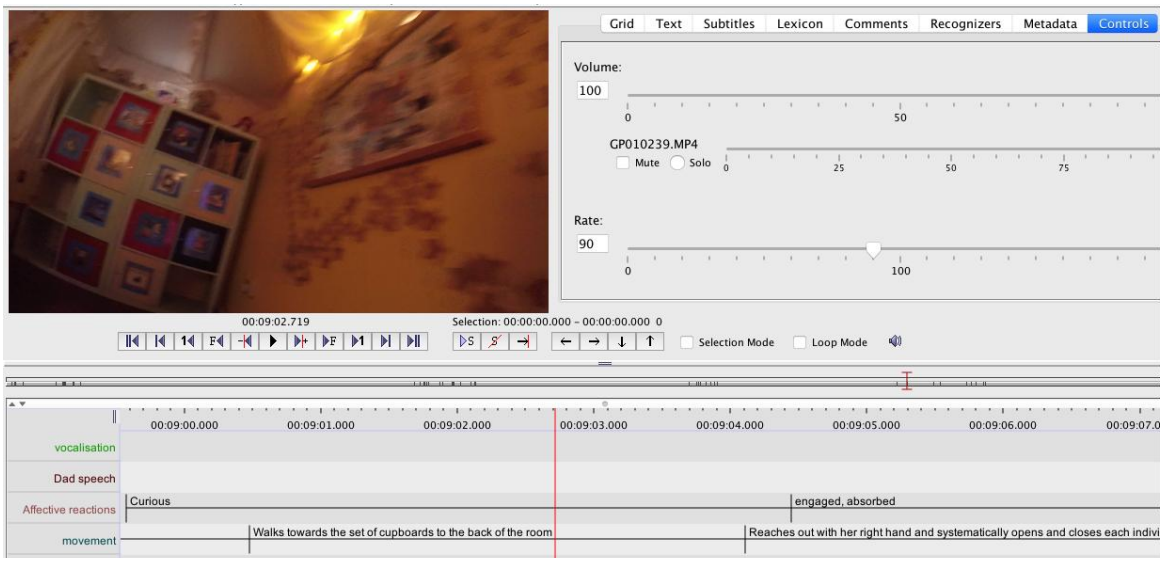


Figure 5.6.24 (part one): Una approaching the cupboards

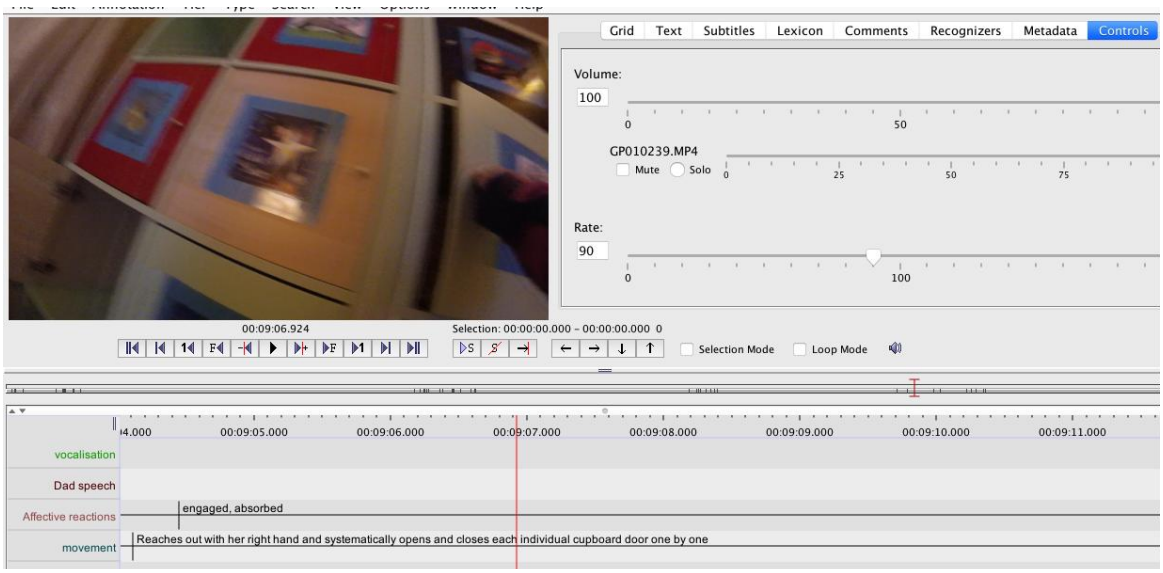


Figure 5.6.24 (part two) Una engaged opening and closing the cupboards

As with the others, 'touch', sometimes using her whole body (although not all the time) was integral to her interaction with the spaces (Kirk, 2014; MacRae, 2007). As many of the exhibits were interactive and touching was encouraged, this was to a greater extent, (and without adult restriction) compared to the children in the other museum spaces. For example, in 5.6.25 she demonstrated her instinctive desire to touch. She reached out for a typewriter (she is returning for the second time) and pressed its buttons. Her interactions moved her to ask her cousin '*What is this?*', to which he replied, '*It's a typewriter*'.

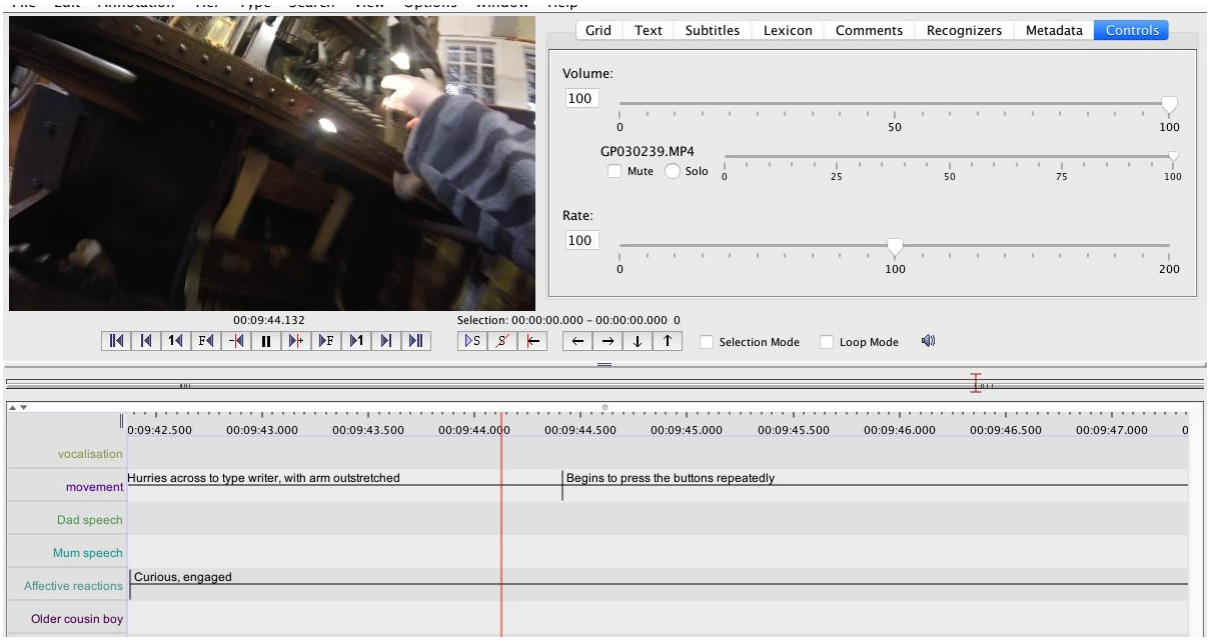


Figure 5.6.25 (part one) Una reaching out for the typewriter

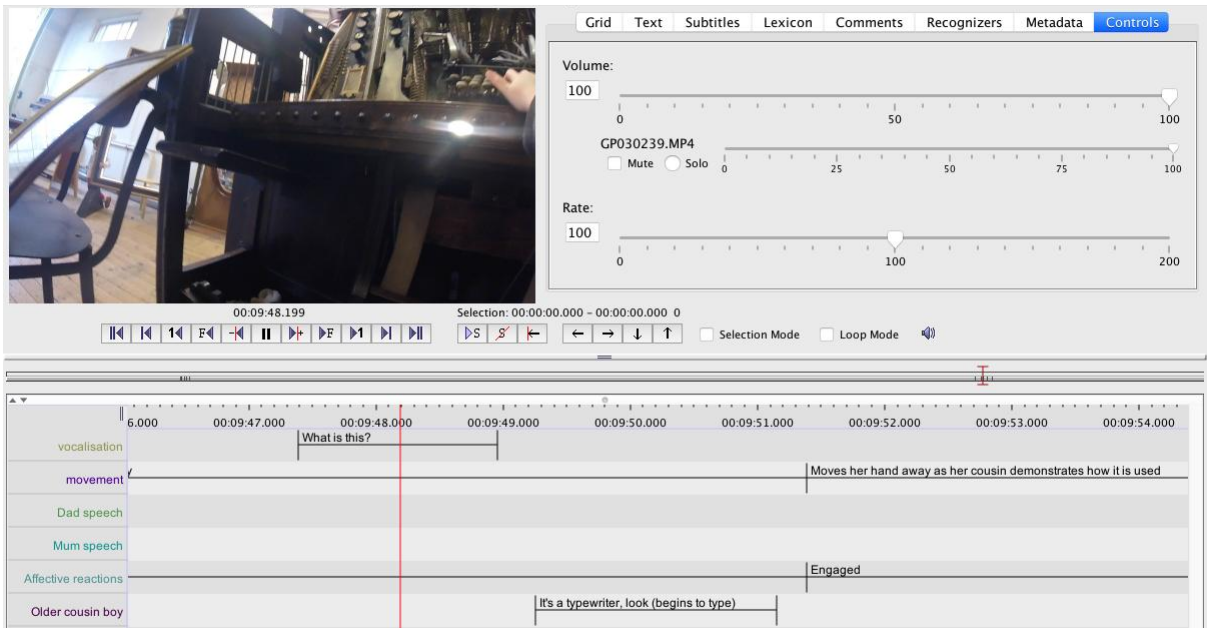


Figure 5.6.25 (part two): Una touching typewriter and asking cousin a question

Una enjoyed 'finding' the listening points where the listening sticks could be inserted. Similarly, to Sophia's fascination with lifts, it is possible that this could be part of a 'tradition' that had developed over previous visits (Hackett, 2016) . For

example, in F5.6.26 she hurried through the exhibition, searching for listening points. When she found one, she engaged the listening stick and huddled over the box and table. After approximately five seconds, she removed it and moved on to look for the next one.

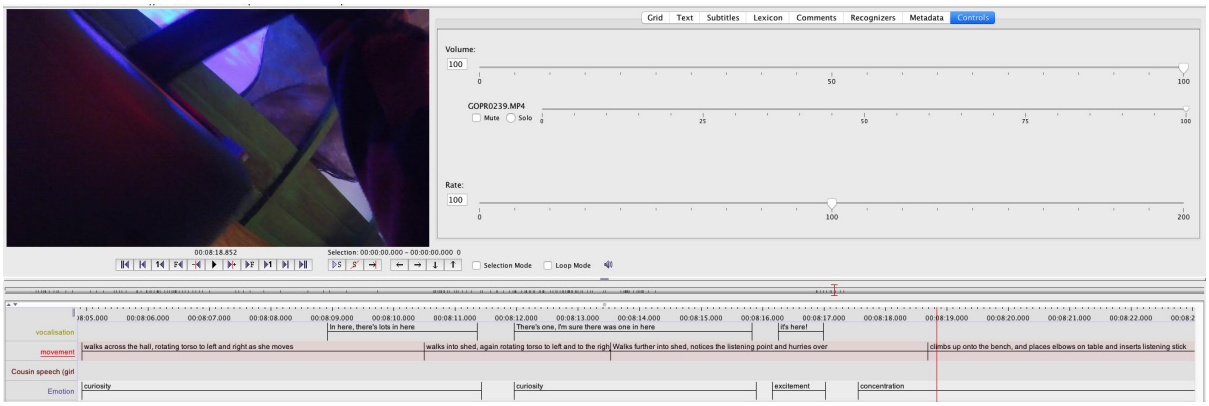


Figure 5.6.26: Una looking for a listening point

Una occasionally named things she recognized, for example, calling out '*snoowww!*' when she moved into the Narnia exhibit. She also described locations she recognised, for example '*That's where you brush your teeth'*. It is of note that naming, although instinctive, is relatively unusual for Una (and Wilbur). This is in contrast to the ubiquitous naming by the children visiting Museum B and to a lesser extent Museum A. The explanation is likely not because the children did not possess this drive to the same degree, rather that Museum C's spaces tended to be abstract in nature and did not contain as many recognizable or indeed discrete objects that invited the children to look and name. Although again unusually, Una also described things in the museum. Her descriptions tended to focus on the concrete, aesthetic aspects of the things she saw. For example, she said, '*I'm going to have the blue toothbrush*' when she engaged in play on her way out of the Time for Bed

exhibition. She also described a teddy bear in interview as '*A big bear'*. More rarely she described things by linking them to her past experience. For example, in F5.6.21 (part one), when she saw some fairy lights she said '*It's like the disco lights*', clearly drawing on her past experiences to make the comparison.

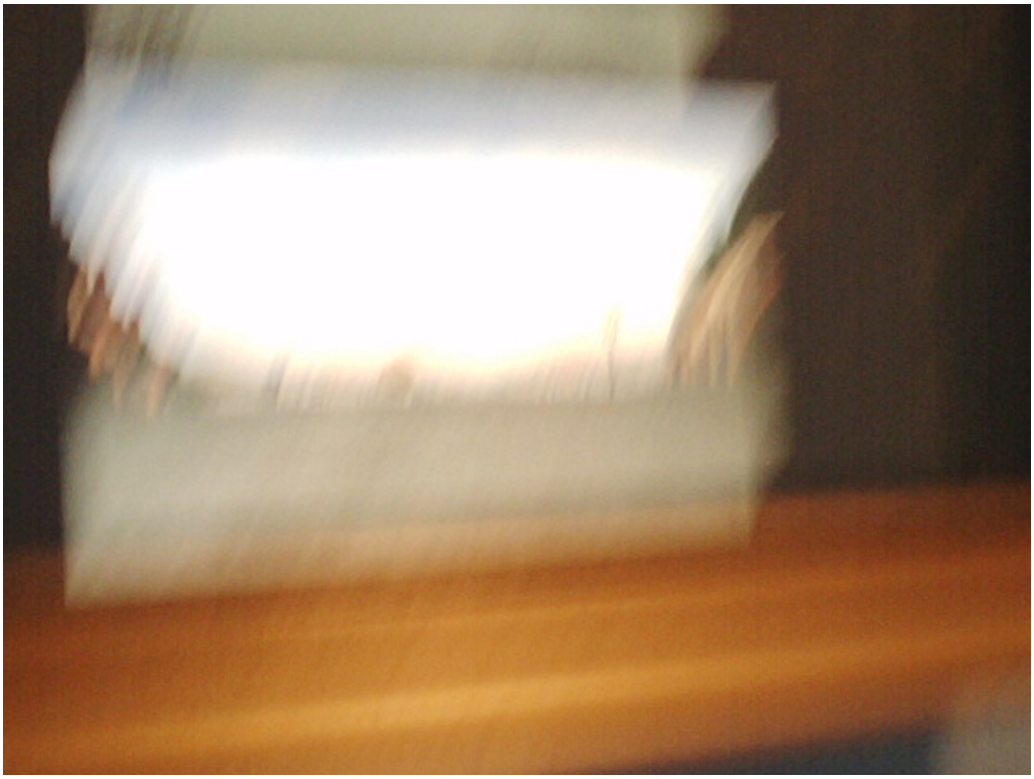


Figure 5.6.27: Una's blurred photograph of a television playing Wallace and Gromit

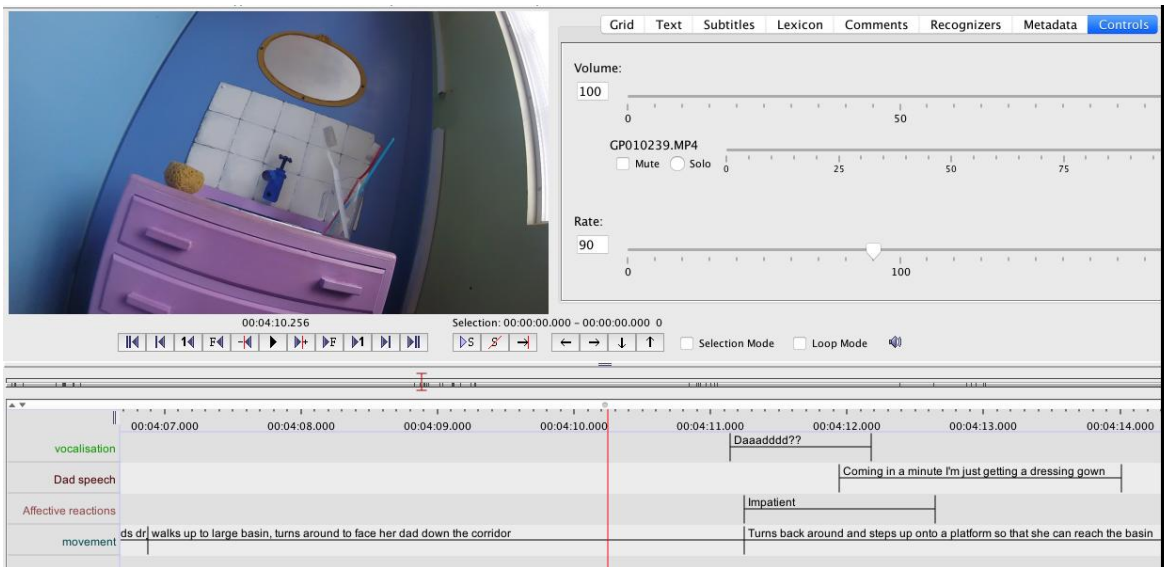


Figure 5.6.28 (part one): Una, calling for her dad to hurry up after finding the large basin and toothbrushes

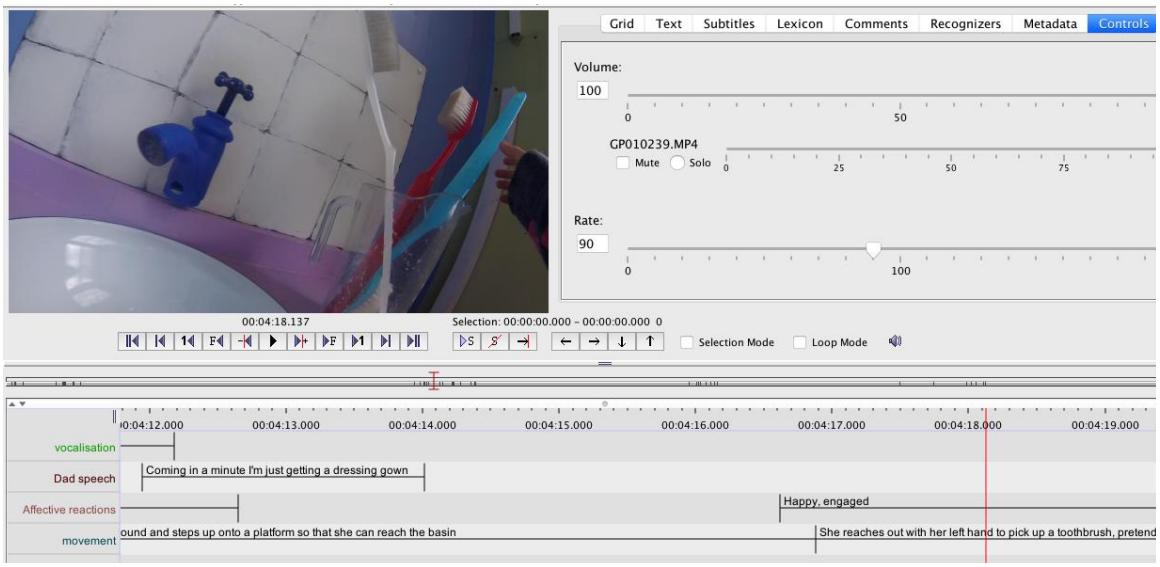


Figure 5.6.28 (part two): Una playing with toothbrush

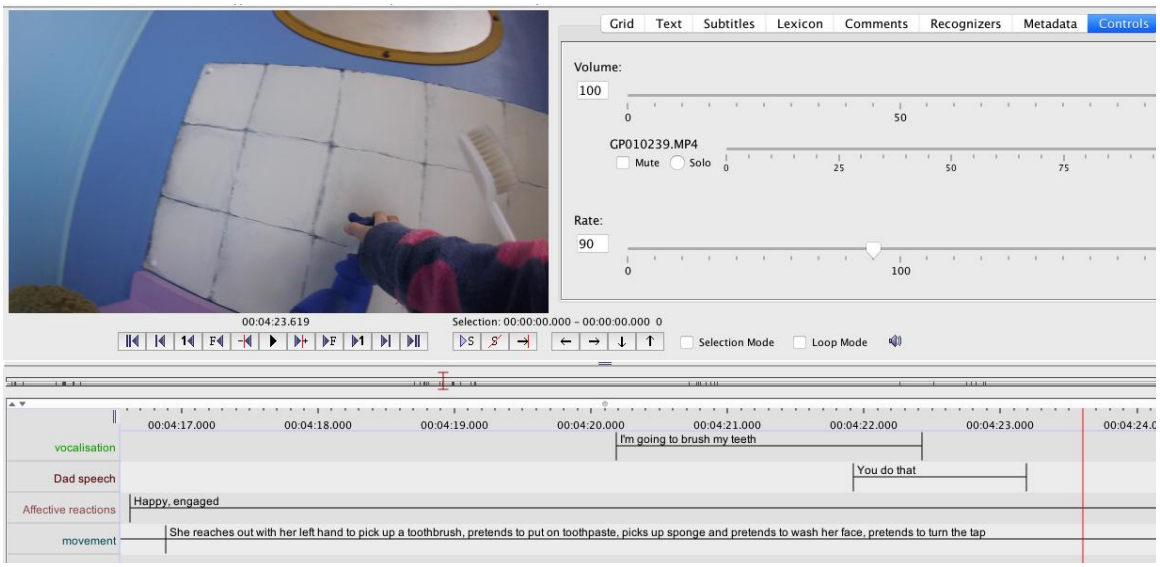


Figure 5.6.28 (part three): Una pretending to turn on the tap

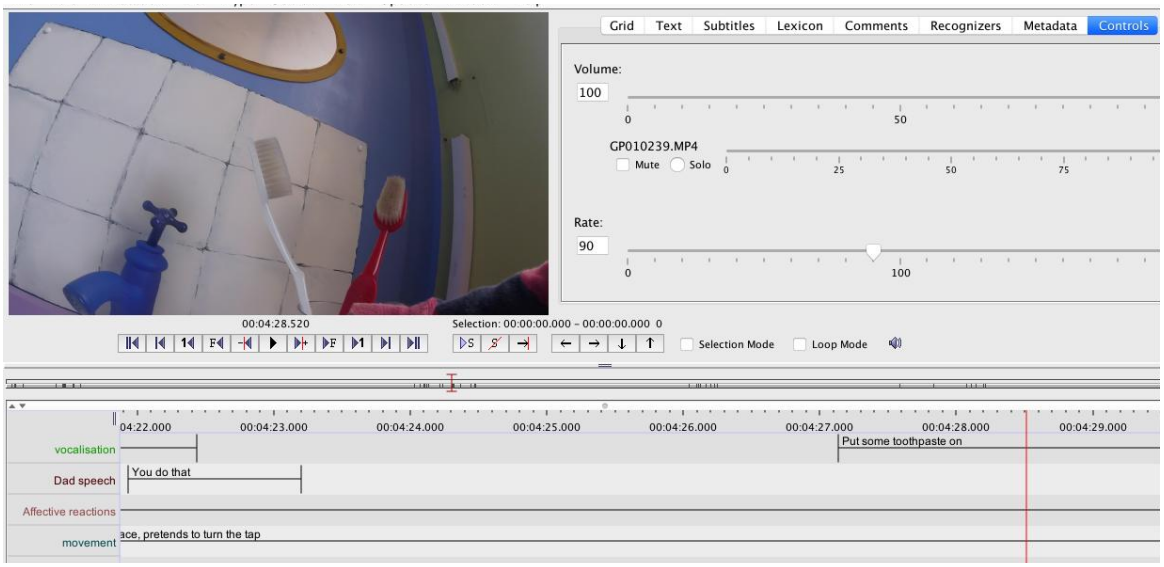


Figure 5.6.28 (part four): Una putting some toothpaste on her toothbrush

Una (like Wilbur) showed great enjoyment when playing with props that linked to her wider everyday experience. For example, the camera and a giant toothbrush set. In F5.6.28 she encountered a large pretend basin complete with all the appropriate 'larger than life' paraphernalia for getting ready for bed. This was set up outside a large pretend bedroom. Like Wilbur she was engaged and absorbed when she

pretended to brush her teeth and wash her face as illustrated in Figure F5.6.28 parts one to four. She returned to the basin again to repeat the experience as she left the room. This indicated that she enjoyed it enough to repeat it. As the routine of brushing her teeth was part of her everyday experience, this familiarity provided inspiration for her play with the props and her dad.

5.6.6 Summary

Una's movement was predominantly exploratory as she moved around the museum. However, within this exploratory framework she did return to areas of the museum that she was familiar with. Her exploratory movement was curtailed when she was racing around with her cousins. She moved in a stop-start manner. She paused in doorways, conscious of not entering new spaces without being certain her dad or other family members were in close attendance. She had a good humoured and playful relationship with her dad and other members of the group. For the most part she had free reign over where to go, often leading her dad. Ultimately however, her dad/family were in charge of where they went. She on occasions needed physical assistance to help her interact with the exhibits. Una's affective reactions were, for the most part positive, however at times she was impatient, demanding or disappointed. This was often due to clashes between her desired speed of movement and her dad's slower pace (Tolmie *et al.*, 2014). She used her negative emotions to try to impose her will. While the things she paid attention to were idiosyncratic, her patterns of attention conformed to established patterns such as big, small and objects

that linked to her previous experience. On occasion her descriptions linked to her wider experiences.

She particularly enjoyed opening and closing cupboards, hunting for listening points, screens and playing with props. She named things, however infrequently in comparison to children in the other museums. She also, on occasion, described things. Her descriptions were mostly related to the description of surface features. On occasion her descriptions linked to her wider experiences.

5.7 Wilbur's visit to Museum C

Wilbur in interview:

Interviewer: '*What was your favourite thing you did?*'

Wilbur: '*Playing with the teapot!, It had jingles in it"*

Figure 5.7.1: Wilbur's photograph of the teapot

5.7.1 Introduction

Wilbur was visiting the museum for the first time with his mum and baby sister. His visit was the shortest out of all the participants. Perhaps for this reason he did not exhibit any signs of tiredness towards the end of his visit. The museum was generally quiet, although there were a few other visitors meandering through the

exhibitions. According to his mum, Wilbur could not read. Rather like his demeanour during the visit, he was chirpy, and his attention regularly flitted from one thing to the next.

5.7.2 Movement

Like the other children his movement was exploratory. His exploratory tendencies were exhibited in a variety of different ways which will now be outlined below. He predominantly walked but there was much variation in his movement, for example, he ran (F5.7.3), stomped (F5.7.1), and rotated (F5.7.2) as he moved through the spaces. When asked in interview '*What would you like to see if you came back?*', Wilbur replied '*Umm I don't know, all of it maybe?*'. This comment when considered in light of his exploratory experiences during the visit suggested that movement around the museum is an important element of his experience.

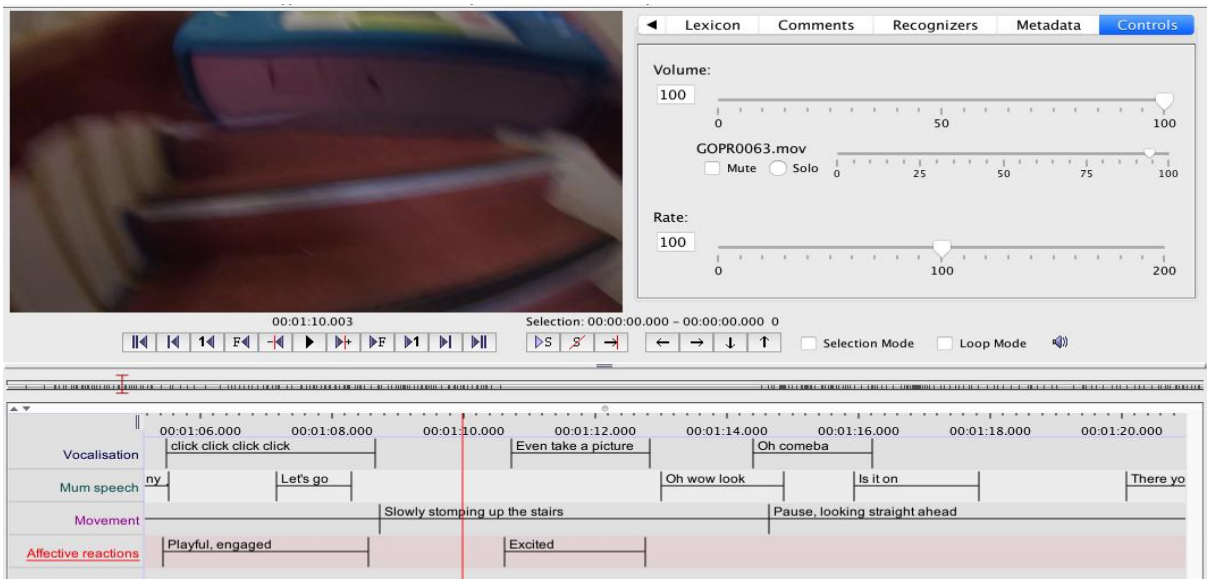


Figure 5.7.2: Wilbur stomping up the stairs

Wilbur communicated his explorative intent using gaze, movement (locomotion and torso rotations) and touch. It can be assumed that his exploration was multi-sensory (Pink, 2015a). Indeed, when he first entered the Animal exhibition Wilbur stopped dead in his tracks when he heard birdsong (F5.7.20). This resonates with Knutson *et al.* (2016) who note the appeal of bird calls for young children. This indicated that his aural senses were on high alert too (F5.7.18). Wilbur's exploration resonated with Hackett's (2016, p. 172) description of 'scoping the joint' where she notes the *'... children move very fast around each room in turn, getting a sense of place*'. Although resonating with this description, I suggest that Wilbur's exploration was more comprehensive than Hackett (ibid) describes. However, although his exploration was comprehensive it was still cursory. I will now use an example to illustrate this.

Figure F5.7.4 is a movement map transcribed from the GoPro footage. The Elan transcripts in F5.7.3 correspond to points 2 to 8 on the movement map. They both illustrate a fragment of Wilbur's experience where he quickly but comprehensively explored a small rectangular room (approx. 3.5 metres by 2 metres) that contained objects relating to the Kipling novel, The Jungle Book. With reference to F5.7.3 and F5.7.4 I will now outline how Wilbur got to know the room's contents, including moving closer to the areas that he found of particular interest. When he entered the room, he immediately walked across to a cut out bear in the top left of the space, sharply drawing breath indicating that he was struck by its imposing presence. He rotated to his left as he did so, giving himself the opportunity to glance at the left-hand side of the room. He paused in front of the bear (3) and said '*Woahhh*', then

turned to his right which allowed him to survey the top right of the room (5.7.3, part two). He then rotated anti-clockwise in a small circle back past the bear. He paused for a few seconds again, which gave him the opportunity to better survey the bottom left corner of the room (F5.7.3, part three) once again before turning back towards the top right of the room. He then quickly walked towards a gap in the fabric located in the top right-hand side of the room that had obviously caught his attention. He then paused to take a closer look (F5.7.3, part four). He then turned around crossing the room diagonally towards a bookcase and listening point in the bottom left of the room (9), rotating to his left to allow himself to survey the bottom right of the room as he moved (F5.7.3, part five). This sequence of movements allowed him to comprehensively survey the entire room, including each of its four corners.

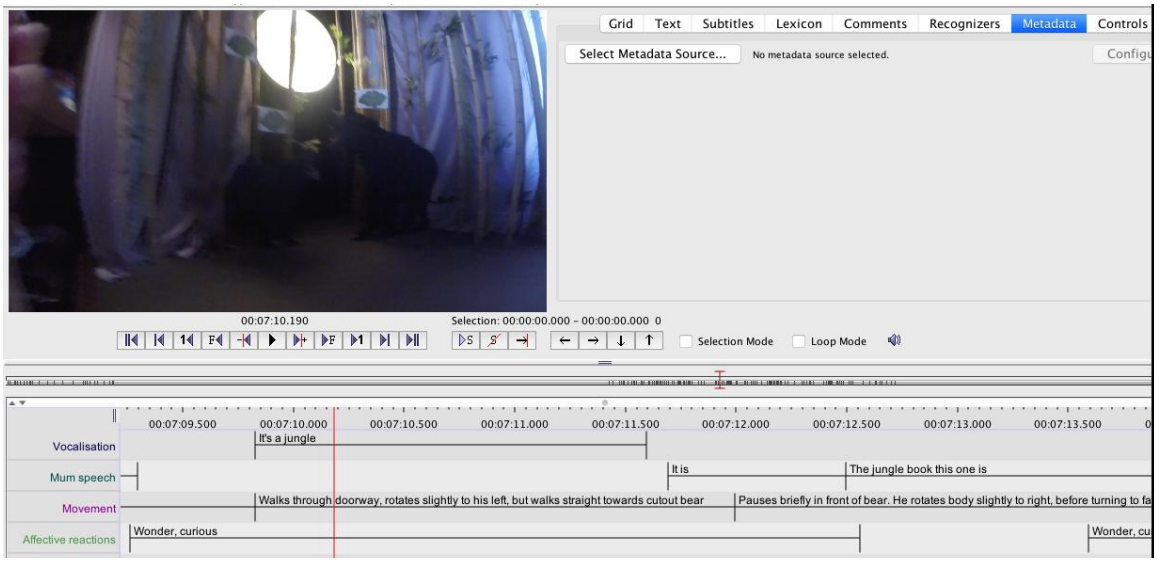


Figure 5.7.3 (part one): Wilbur's exploration of the Jungle Book room

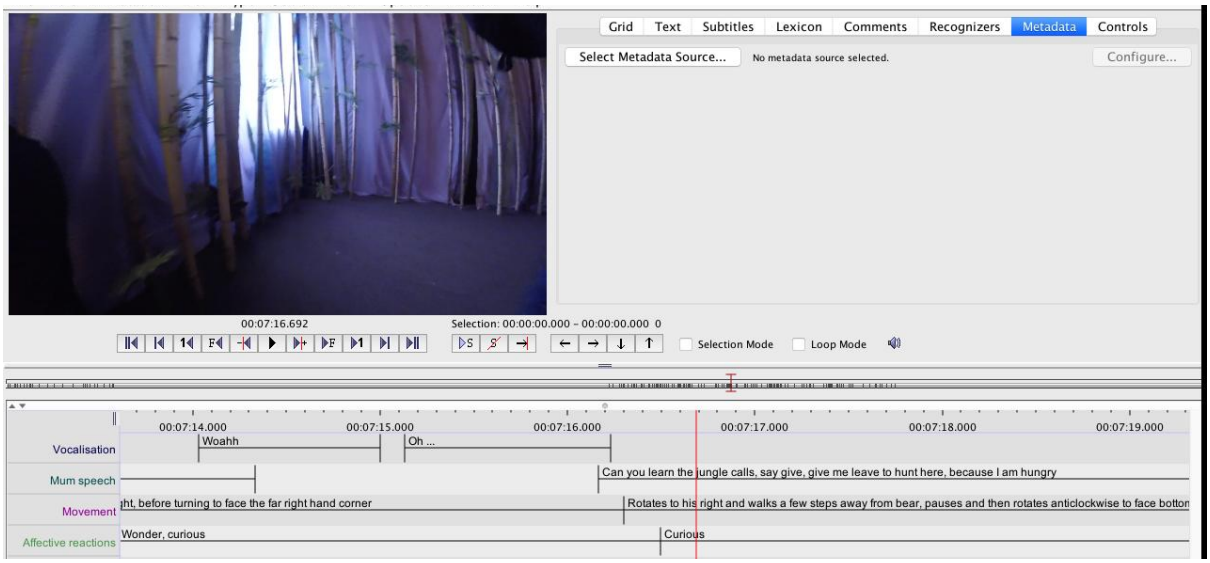
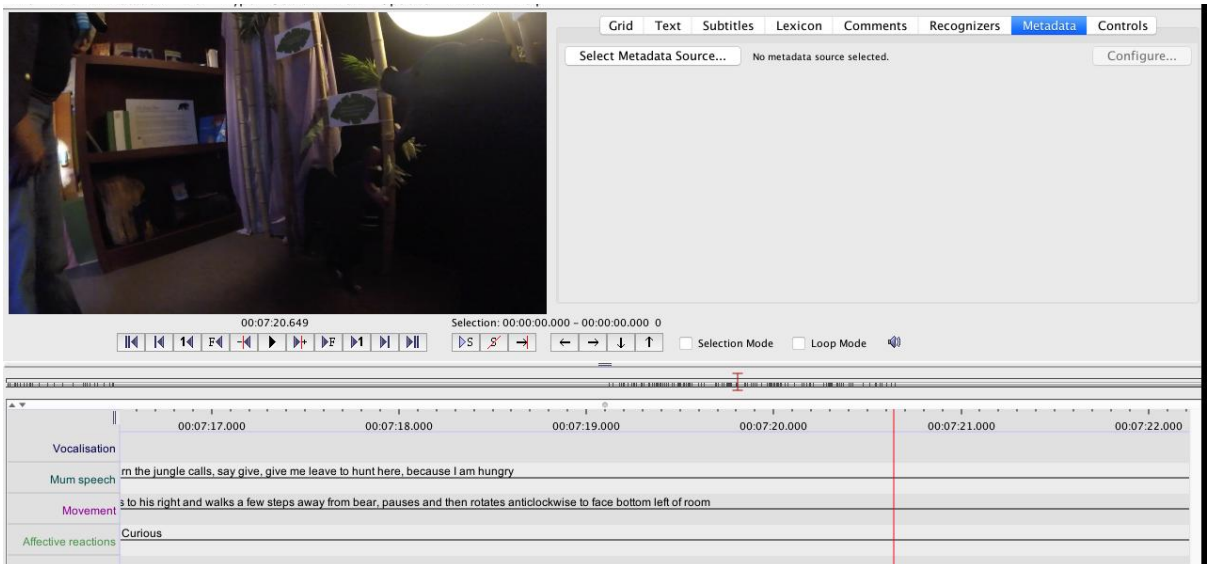


Figure 5.7.3 (part two): Wilbur's exploration of the Jungle Book room



Wilbur 5.7.3 (part three): Wilbur's exploration of the Jungle Book room

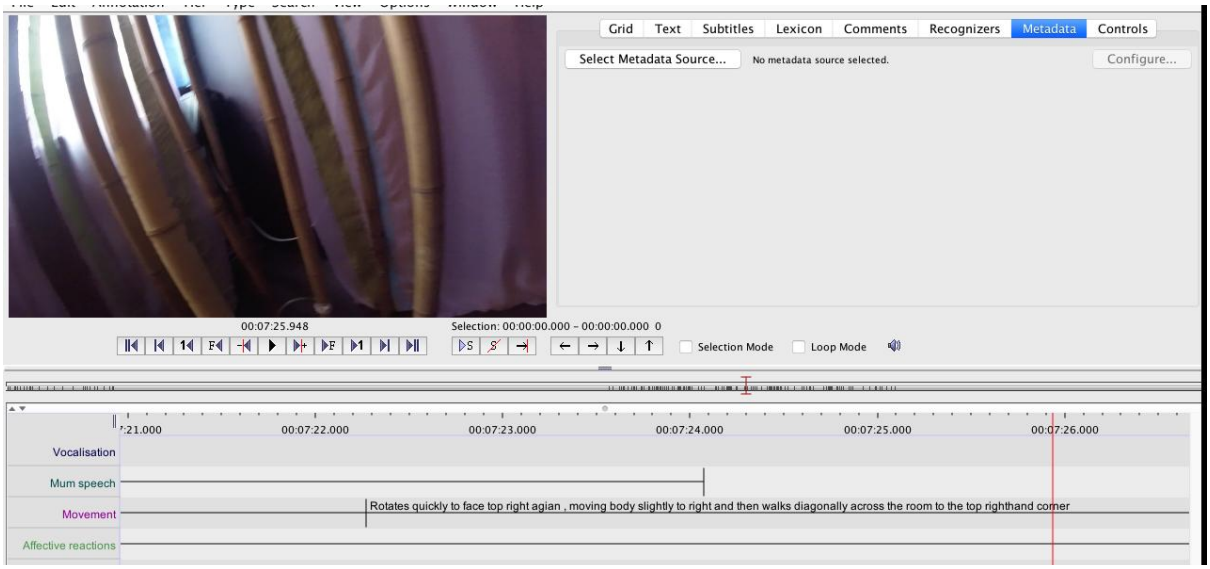


Figure 5.7.3 (part four): Wilbur's exploration of the Jungle Book room

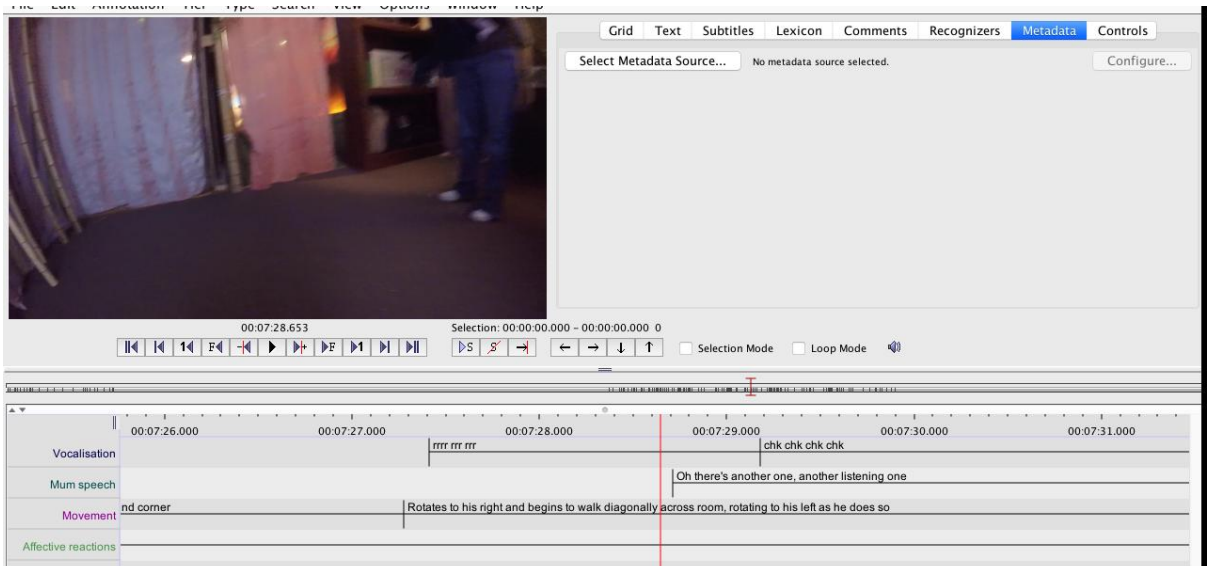


Figure 5.7.3 (part five): Wilbur's exploration of the Jungle Book room

In accompaniment to his movement, and often to announce his intentions, he sometimes, as illustrated in F5.7.5, part two asked questions such as '*What's in there?*', or made statements such as '*Let's go in there.*' (F5.7.5, part one). These accompaniments, more self-talk than intent to consult his mum, signalled his desire to see what was in the next room or around the corner.

He is mostly given the freedom to lead (F5.7.4), but his mum frequently made suggestions about what to do. To this end she often encouraged him to pause and to engage with an aspect of an exhibition. Although not necessarily a negative, this did tend to suppress his natural energetic movements. For example, in F5.7.2 (part two) she suggested *'... do you want to make Evie a cup of tea?*' in a successful effort to entice Wilbur to play with a tea set. As will be discussed in section F5.7.3 these interventions sometimes created low-levels of friction between the two of them.

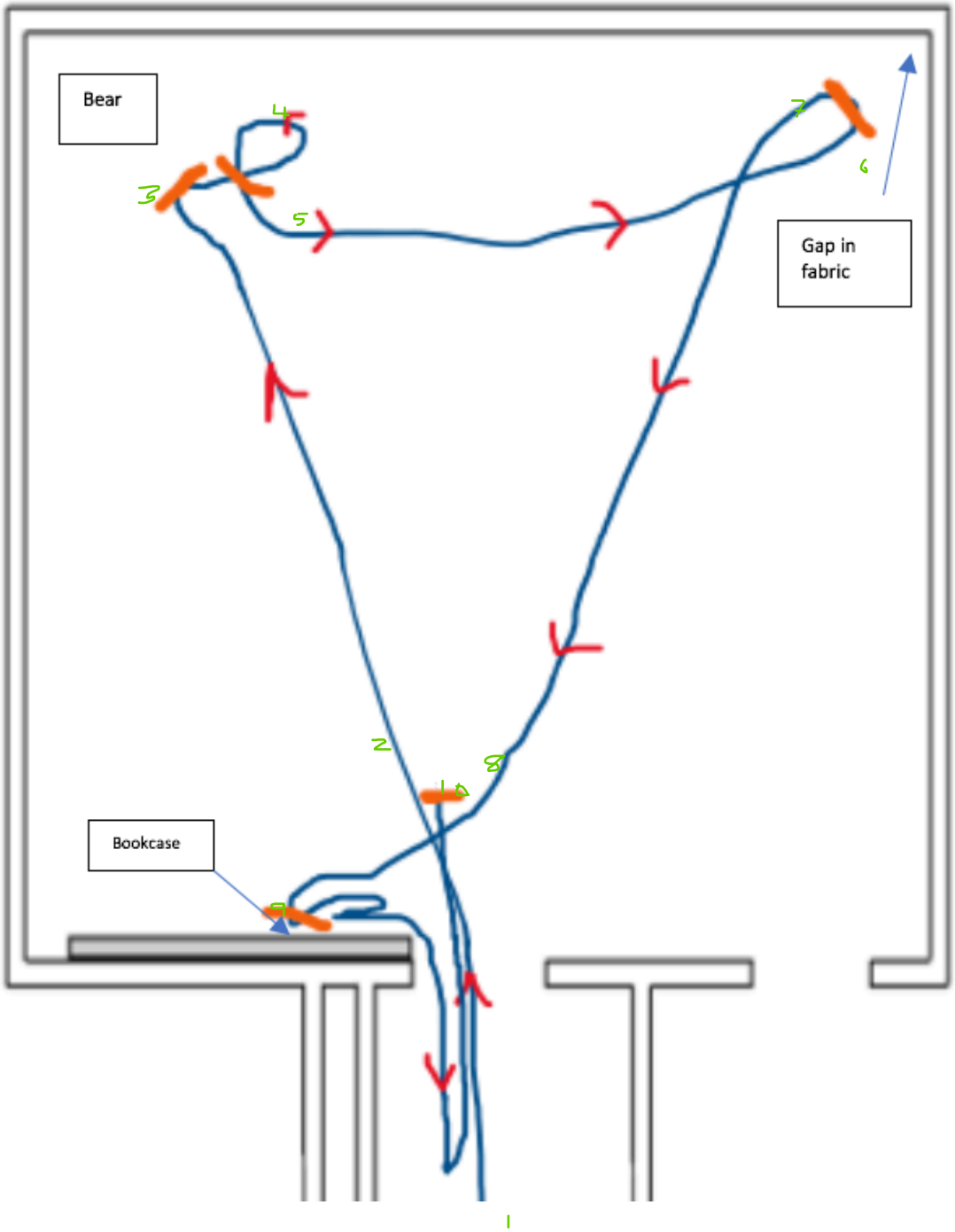


Figure 5.7.4: A movement map showing Wilbur's's movement around the Jungle Book room. *The orange lines mark where he pauses. The blue line is a trace of his movement through the space, the red chevrons show his direction of travel. The green numbers represent the movement from start to finish. The extract begins at point one when Wilbur enters the room following his mum. It ends at point 10 when his mum stops him and suggests he takes a photograph of the bear*

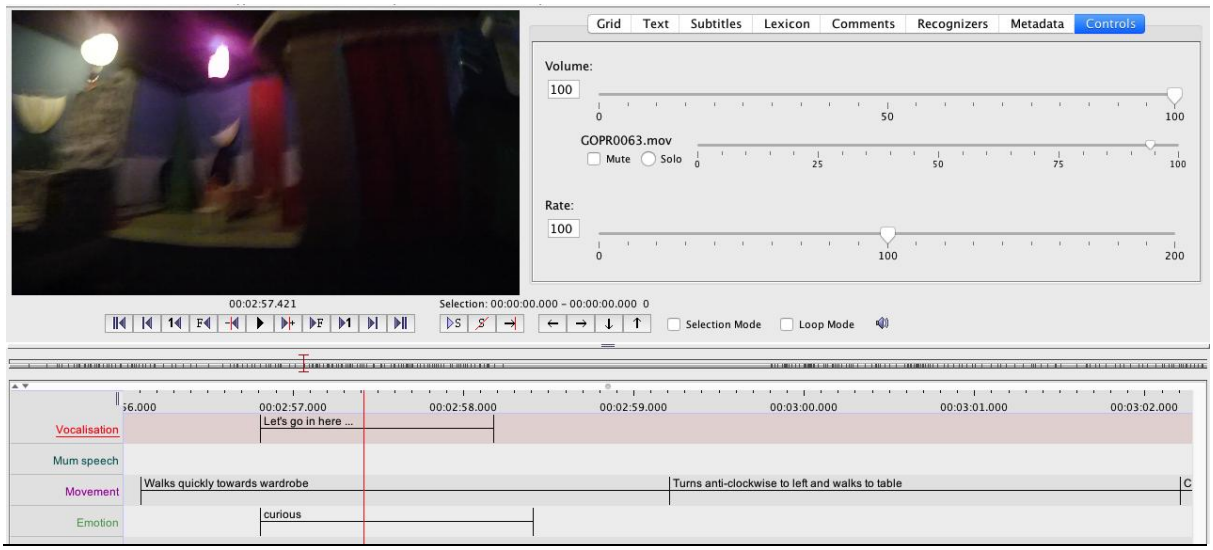


Figure 5.7.5 (part one): Wilbur leading his mum

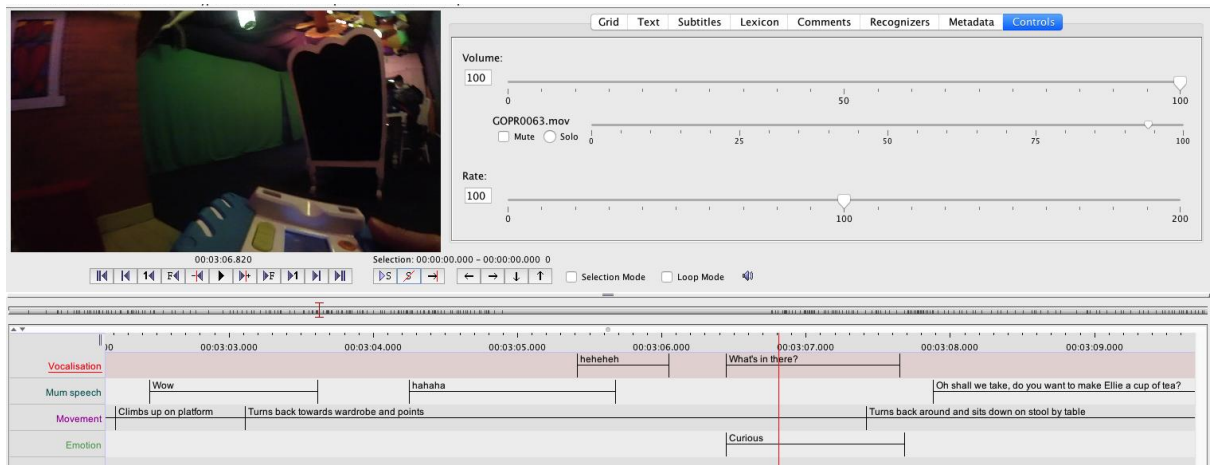


Figure 5.7.5 (part two): Wilbur leading his mum

Wilbur often moved in a stop-start manner through the spaces. This pattern is also illustrated by movement map F5.7.4, where his frequent pauses are marked by the orange dashes and in F5.7.6 where he is walking down a corridor towards the jungle book room.

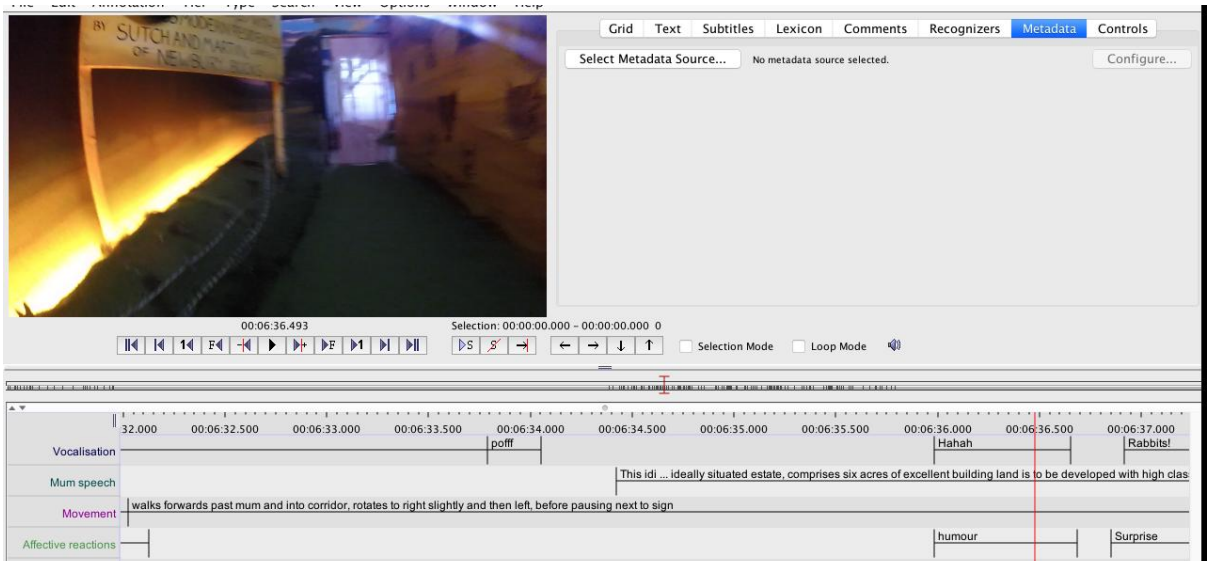


Figure 5.7.6 (part one): Wilbur's stop-start movement

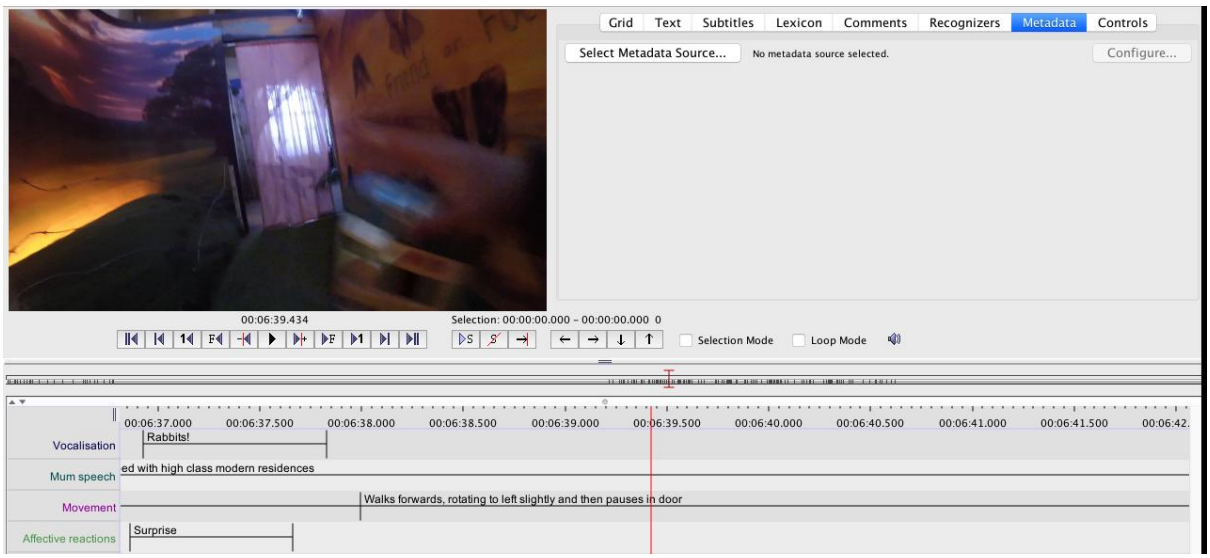


Figure 5.7.6 (part two): Wilbur's stop-start movement

Wilbur was conscious of his mum's whereabouts and support when he moved ahead to explore alone. He often waited for cues such as her close presence to progress forwards into a new space. For example, he sometimes paused at the threshold of doorways, waiting for his mum before walking forwards into new spaces. This indicated that he felt a sense of security and confidence in her company. In F5.7.7 he is walking down a corridor ahead of his mum. He brushed aside some light fabric

and paused in the entrance of the room saying '*Woaahh, we're going into a jungle*'. Instead of going in, he turned and returned to his mum before entering with her a little later (F5.7.3, part one). This reaction was typical of his explorative instincts being entwined with and curtailed by his need for his mum's support.

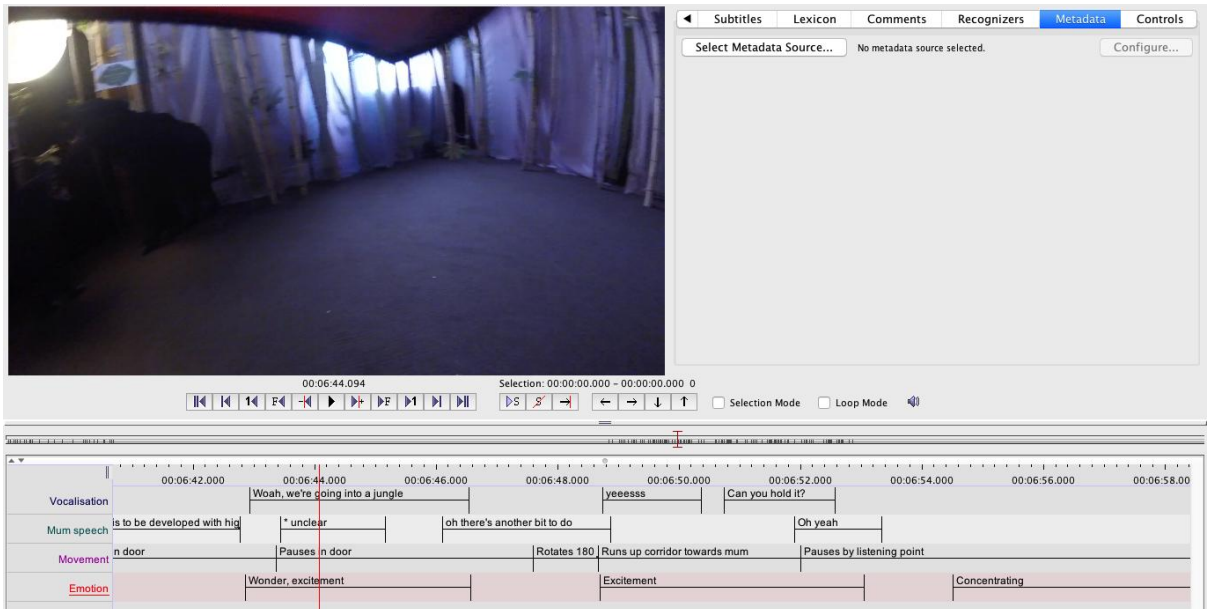


Figure 5.7.7: Wilbur pausing in doorway of the Jungle Book room

Wilbur sometimes combined movement with vocalisations, for example in F5.7.14 (parts one and two) he blew raspberries rhythmically and in approximate time to him moving his storytube up and down and his torso side to side. Like Sophia and Bill this appeared to be a distraction or indication he was bored with the space or activities around him, although ironically he is also engaged and absorbed during the period he did this. Although this particular example included vocalisations, other examples of this type of behaviour included rhythmically hitting the storytube into his hand on several occasions, or fiddling with his wristband during his visit (Burbank, McGregor and Wild, 2018). These instances resonate with the rhythmic movements and vocalisations that are apparent during the other children's visits.

5.7.3 Family interactions

Wilbur's relationship with his mum is mostly good humoured and relaxed. She let him explore ahead of her, although she made it clear that she was in charge. The dynamic between the pair, apparent during the visit, is triangulated with some of her interview comments. For example when asked why they visited the museum today, she answered Wilbur saying, '*I don't think you had much choice here, Mummy said you're going! And we came!*'. Although happy in the main, Wilbur's own reaction to this dynamic (similarly to Noel) is sometimes expressed using passive resistance. This either manifested itself in him making it clear he wanted to move on (as illustrated in F5.7.8 below) or him continuing to explore in the local area and not engaging with her (F5.7.3). It is of note, in regard to Wilbur's experience, that she considered the visit an opportunity to read to him, and to engage him as much as possible with the exhibit activities. In other words she had a learning agenda (Falk, Moussouri and Coulson, 1998). Contrastingly Wilbur's agenda was predominantly explorative as illustrated by his movement outlined above. This fostered low-level conflict between the two of them that sometimes resulted in an overt battle of wills. For example, in F5.7.8 below, his mum was persistent about wanting to read to him. At the same time, he was persistent about exploring. This meant she became slightly exasperated, and he became impatient. Wilbur succeeded in stopping his mum from reading to him on this occasion, because he was giving the impression that he would cause a scene if she continued (Tolmie *et al.*, 2014).

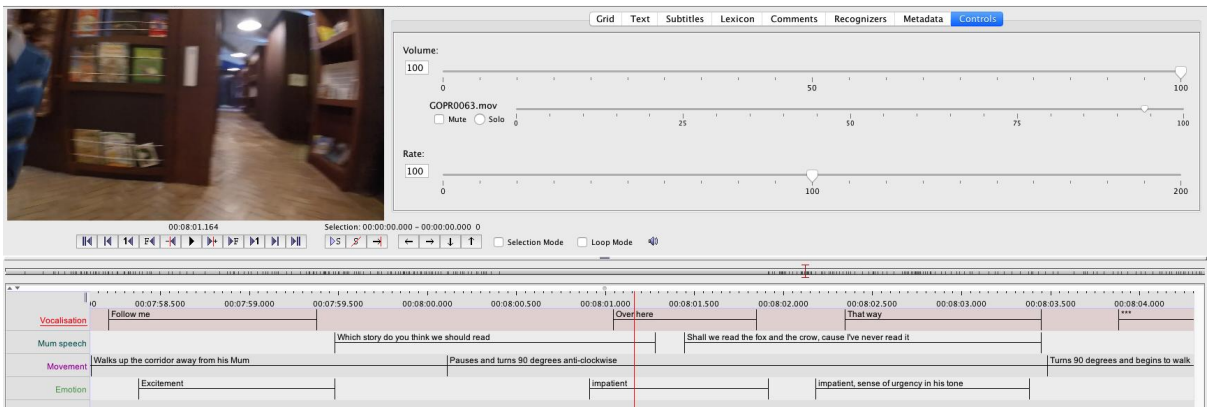


Figure 5.7.8: Wilbur conflict with his mum

Wilbur's mum's attempts to read to him were not confined to story books alone, as on some occasions she launched (sometimes unannounced) into reading extensively from labels as illustrated in F5.7.6, part one and F5.7.9. This resonates with the tactic of inventing a story in order to negotiate young children's sometimes egocentric behaviour noted by Brule-Currie (1996). This is in contrast to the children's caregivers in Museums A and B and findings in natural history and science museums where visitors tended to only superficially read labels and interpret exhibits based on their own knowledge (Tunnicliffe and Scheersoi, 2010). Wilbur's mum's reading of labels is an exaggerated version of the label reading behaviour of Una's dad. The implications, however, are the same: both parents think this is a museum where reading is a central activity whereas the children were more interested in exploring and playing. In addition the immersive and unusual nature of the exhibitions meant Wilbur's mum as a first time visitor was using the labels as instructions to engage him with the activities on display (see F5.7.9).

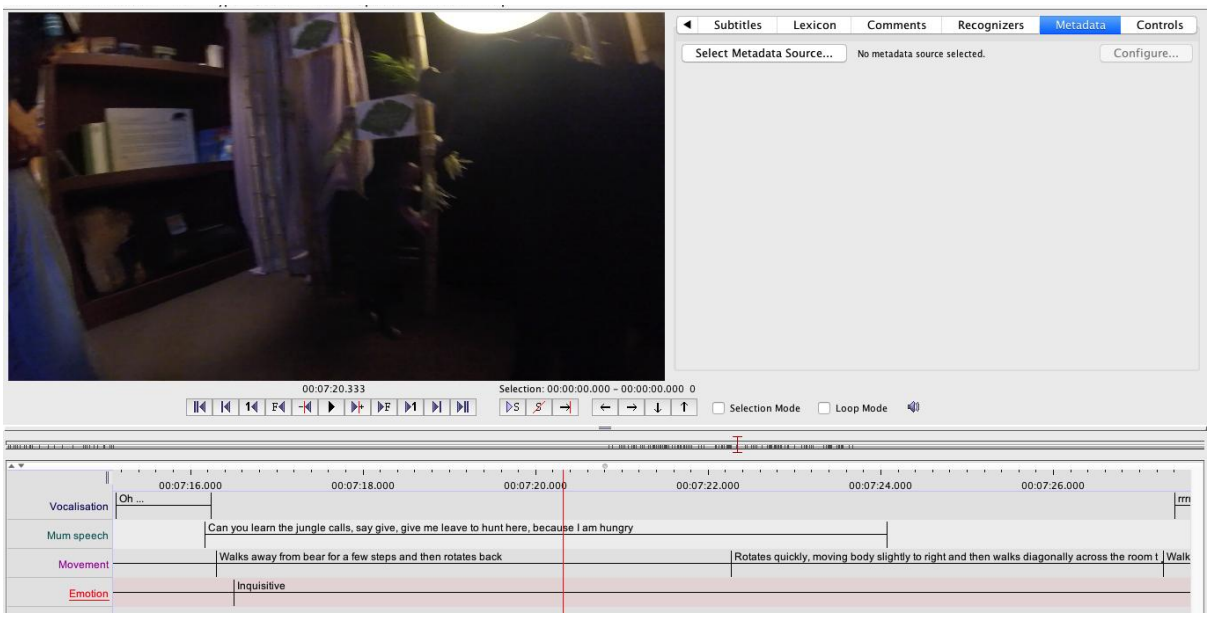


Figure 5.7.9 : Wilbur's mum reading label

Despite the friction described above, they are, in the main, happy in each other's company (similarly to the other children). For example as shown in F5.7.10, Wilbur and his mum are laughing whilst playing with a tea set together. His baby sister was mostly passive and quiet during his visit. Wilbur does not pay her much attention other than when his mum briefly involved her in his play. The visit is short in comparison to the other children and this is likely why negative emotions such as whining and moaning were not such a feature of the later stages of his visit in the way it was for the other children.

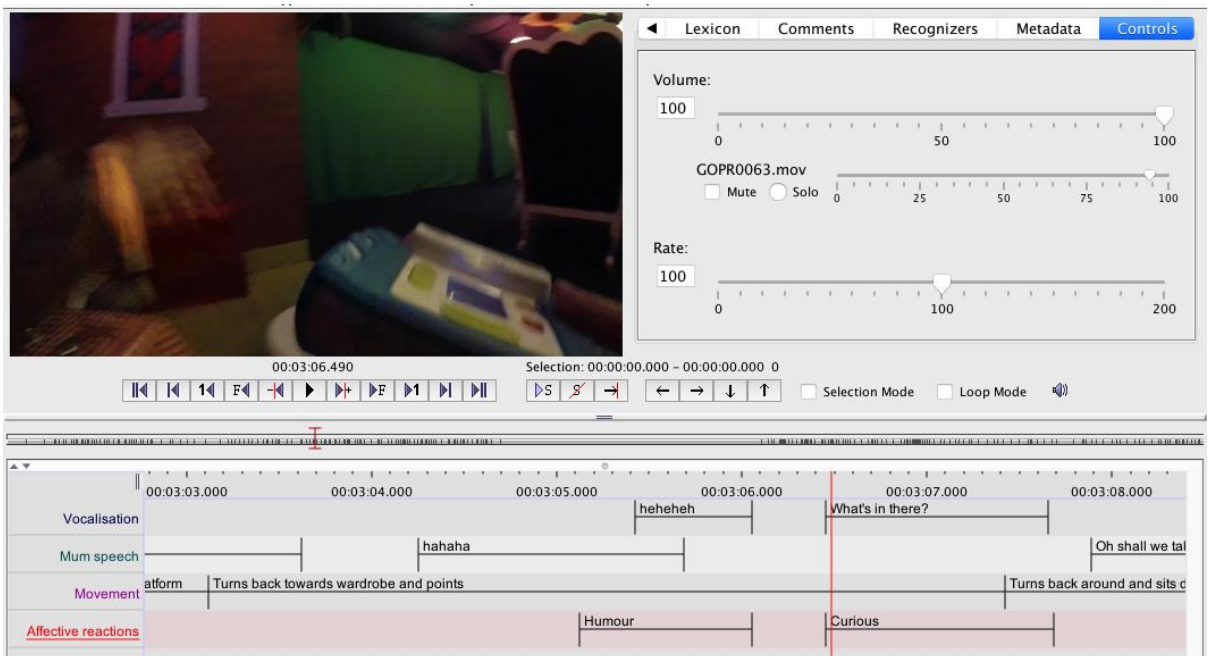


Figure 5.7.10: Wilbur and his mum laughing together

Wilbur's mum was also keen to direct his photography on a few occasions. This was both in terms of how to use the equipment and what to take a photograph of. For example, she suggested he took a photograph of the bear in the Jungle Book room at point ten in F5.7.4. Wilbur looked to his mum for cues about how to begin interacting, or indeed if he could interact with exhibits. For example, she demonstrated 'brushing' her teeth with the large toothbrushes described during Una's visit. Wilbur promptly copied her as illustrated in F5.7.11 (part two). This is in contrast to Una's reaction to the same exhibit (which she had visited before) when she felt confident to begin the brushing process herself. Although in this case with an adult, this resonated with Meisner's (2007) finding that young children imitate peers when first engaging with interactive exhibits.

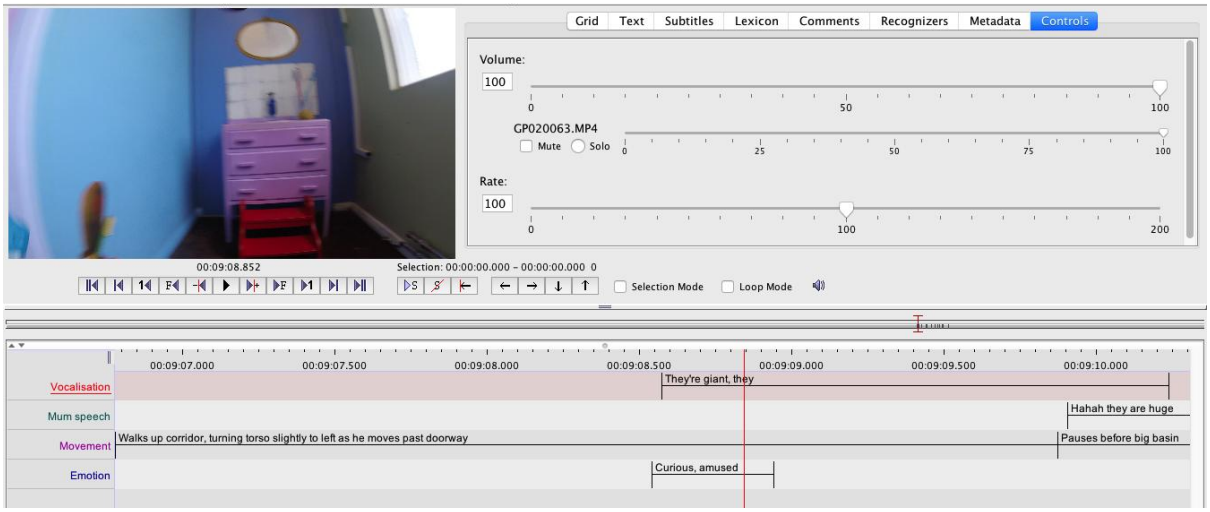


Figure 5.7.11 (part one): Wilbur's playful interactions with the giant basin and toothbrushes

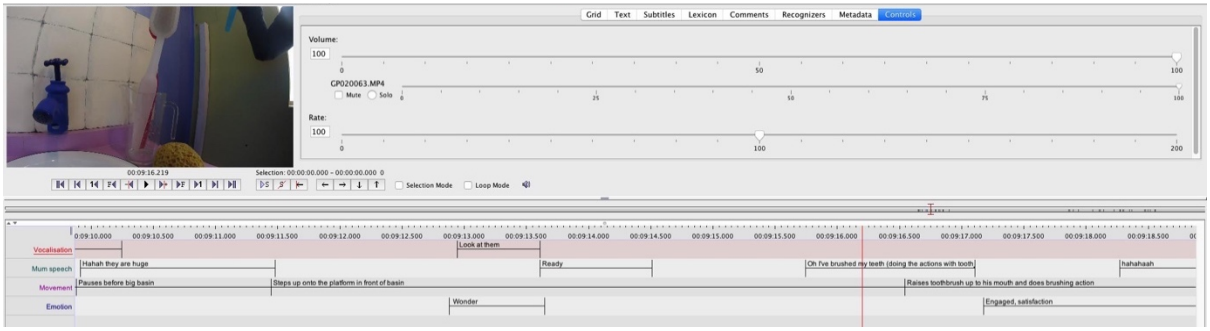


Figure 5.7.11 (part two): Wilbur's playful interactions with the giant basin and toothbrushes

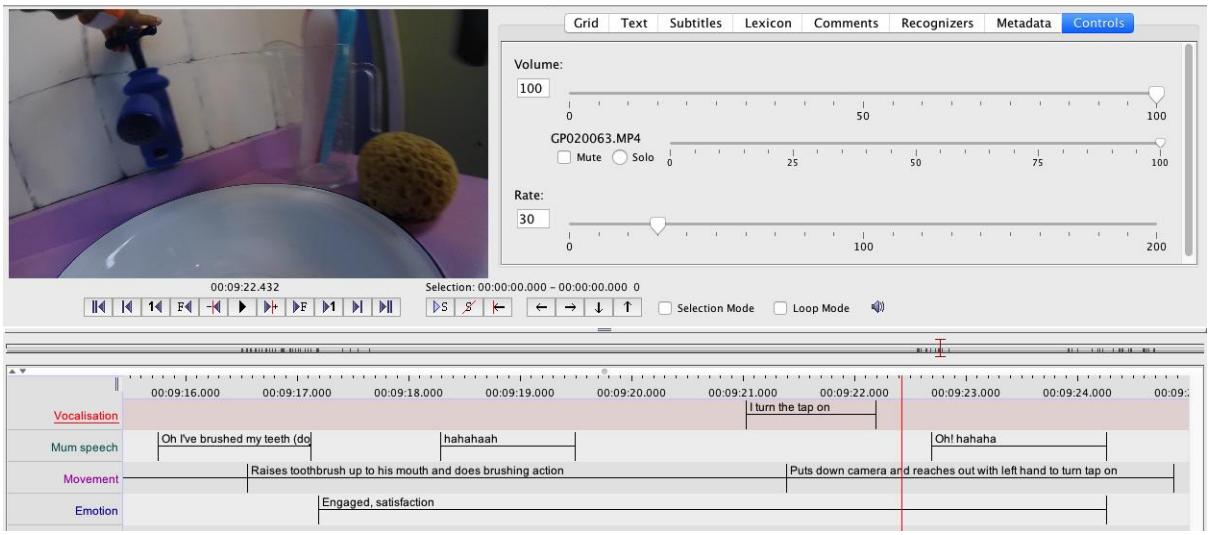


Figure 5.7.11 (part three): Wilbur's playful interactions with the giant basin and toothbrushes

5.7.4 Affective reactions

As alluded to in the previous sections Wilbur experienced a range of emotions that were both positive and negative. His overall visit experience was positive as pointed out in section F5.7.3. The affective reactions that appeared particularly salient to him were excitement, wonder, playfulness, curiosity and occasionally exhilaration. Commonly Wilbur exuded a sense of wonder and excitement when he entered new spaces. For example, his exclamations of '*wow*' or '*wooah*' gave the impression of a sense of wonder. For example, his exclamation of '*wooah, we're going into a jungle*' when he first peered into the Jungle Book Room (5.7.7). Similarly, to the other children this was often accompanied by excitement that can be clearly heard in the timbre of his voice. This sense of wonder and excitement rarely led to further engagement or enquiry. He seemed satisfied with the momentary fix of wonder and excitement rather than spurred to find out more or ask questions. He was also playful throughout the visit. This is in the sense that he was light-hearted and when given the

opportunity engaged with objects in an imaginative way. For example, as illustrated in F5.7.12 his initial interactions with the handheld camera were of playful excitement, with him imitating the noises a camera might make. For example, saying '*click, click, click*' while he pointed the camera pretending to take a photograph.

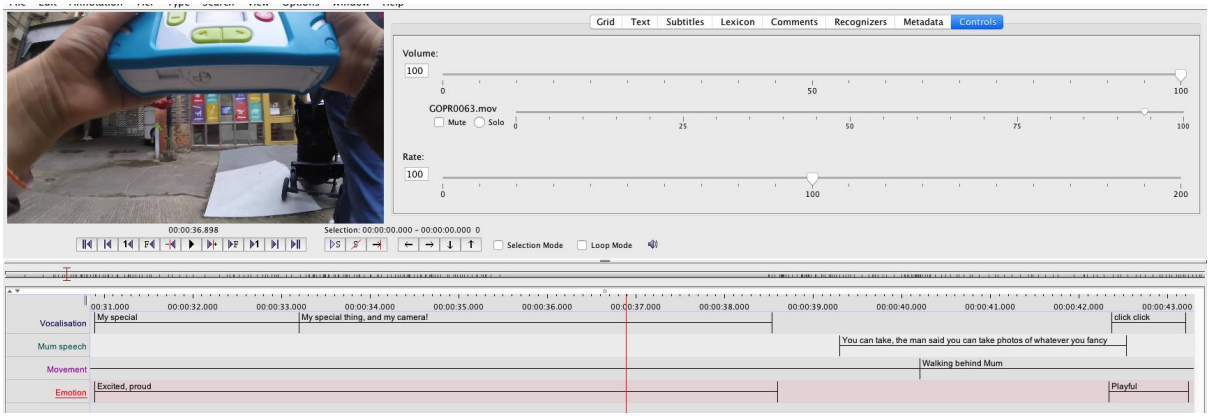


Figure 5.7.12 (part one): Wilbur being playful with the camera

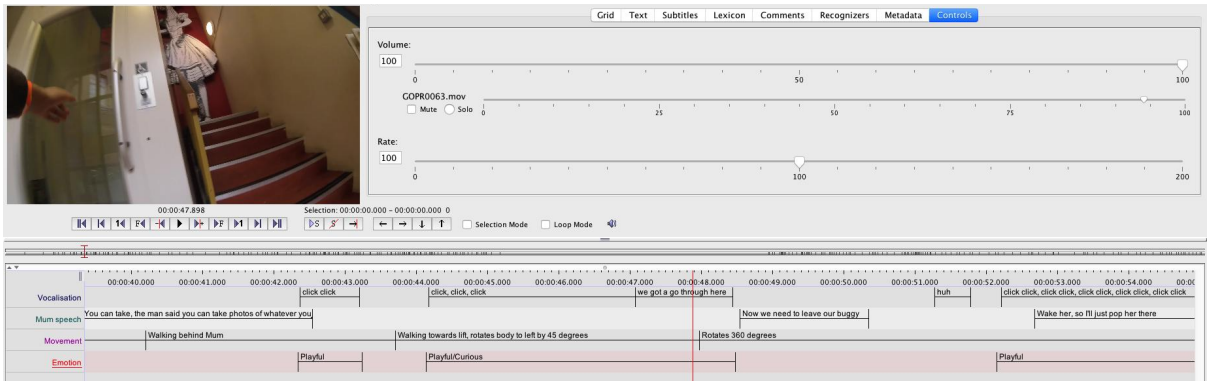


Figure 5.7.12 (part two): Wilbur being playful with the camera

Wilbur also exhibited a sense of curiosity. Like Una this tended to be expressed via his exploratory movement and engagement with the spaces. This was accompanied by exploratory questions and comments such as '*what's in there?*' (F5.7.10), '*what's*

in this one?' or '*that wa*y!' (see F5.7.21 and F5.7.8). It seemed that these were instances of self-talk as he asked the questions at the same time he investigated for the answers himself. There were only two occasions during his visit when he directly asked his mum questions about the exhibits that were not to do with location. On the first occasion he asked '*why?*' when he was told he had to move back during a boardgame (F5.7.15). On the second occasion he asked, '*What is this?*' in relation to a dimpled plastic 'window' he reached out to touch (F5.7.17, parts two and three). His mum did not respond to this rare indication of interest, missing an opportunity to engage with him. Although it was still unusual for the children in museums A and B to ask questions beyond asking for a name, it was more usual than for Wilbur in Museum C.

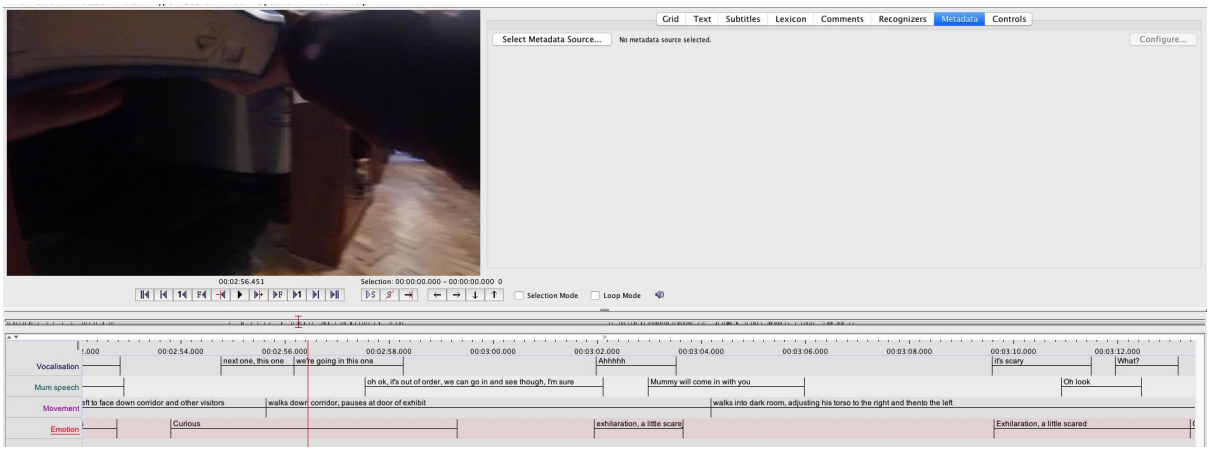


Figure 5.7.13 (part one): Wilbur entering a dark space

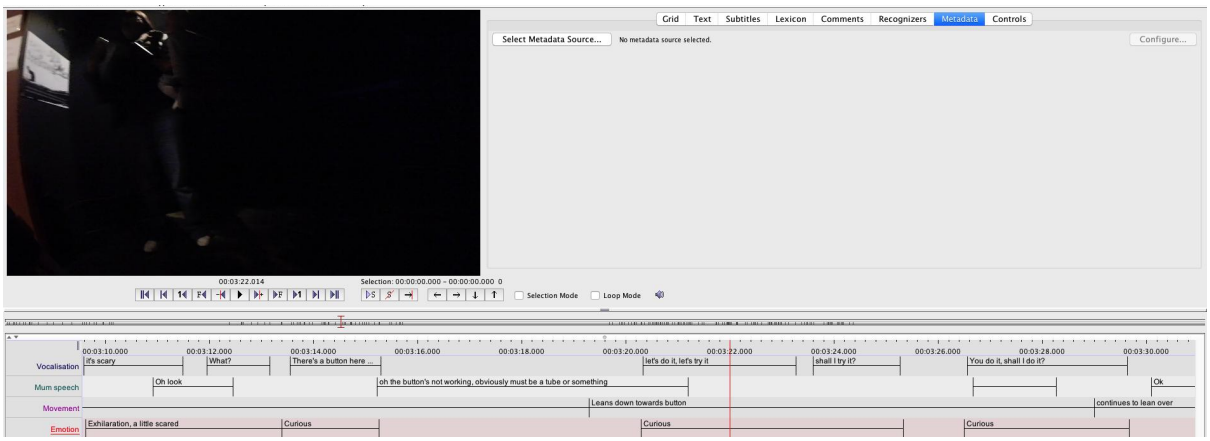


Figure 5.7.13 (part two): Wilbur entering a dark space

Like Bill and Una, Wilbur was exhilarated when he entered dark spaces even when accompanied by his mum. He was also a little scared, although not in a negative way (Fidler, Bunney and Craven, 2011). Instead, this combination of exhilaration and being a little scared seemed part of the appeal. F5.7.13, (part one) illustrates Wilbur's reaction to a dark space that he entered accompanied by his mum for moral support. When he first entered this dark space he exclaims '*Ahhh ... it's scary*'. He was not too afraid, as a few seconds afterwards he noticed a button and went to investigate. So rather than hamper engagement, his sense of exhilaration served to focus his attention on the space, although only for a brief period.

As outlined in section 5.7.3 Wilbur was impatient and bored at times. These affective reactions tended to occur when his mum insisted on reading to him as illustrated by the examples shown in F5.7.8 and F5.7.14. In Figure 5.7.14 (part two) his boredom was communicated by his 'distraction' or engagement with blowing raspberries and moving the story tube up and down. In F5.7.14 (part three) he showed similar tactics to those exhibited in F5.7.8. For example, he made his desire to move into a different part of the museum and sense of impatience obvious with his

movement towards the door, distracted vocalisations and his words, '*something out there …'*

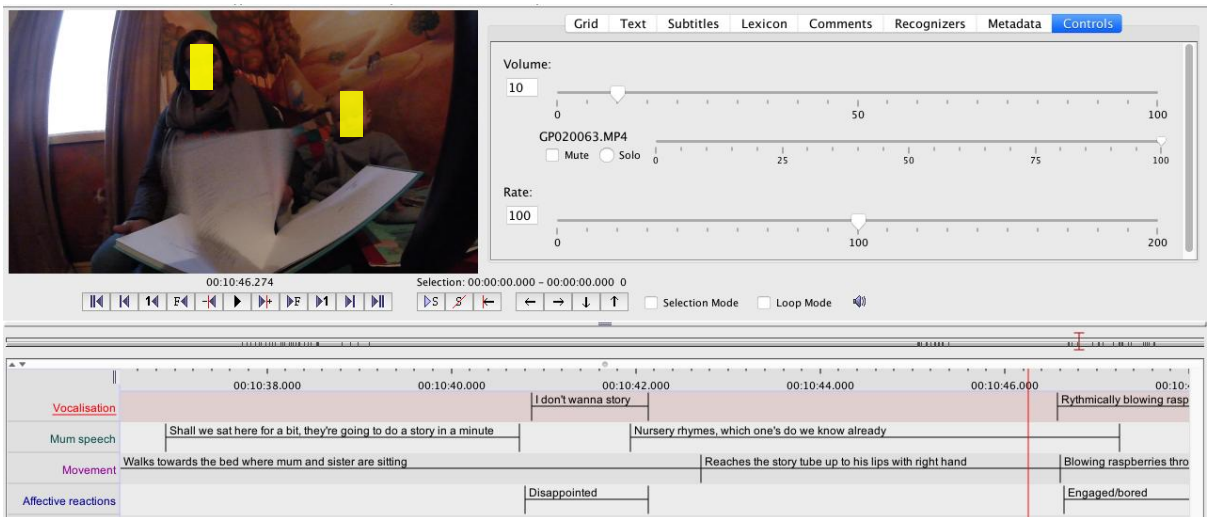


Figure 5.7.14 (part one): Wilbur being read a nursery rhyme

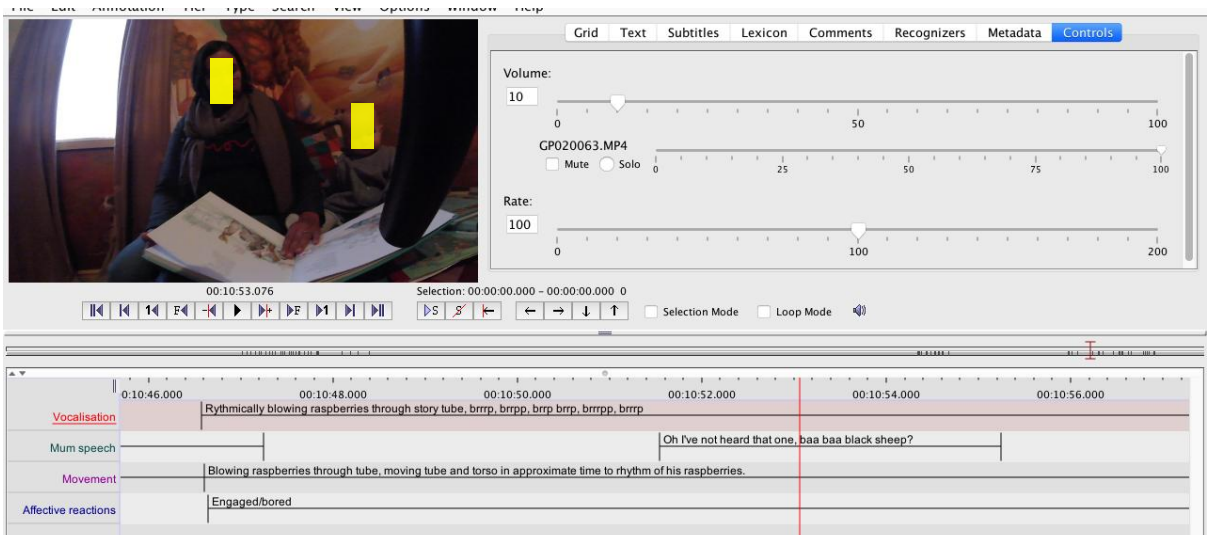


Figure 5.7.14 (part two): Wilbur being read a nursery rhyme

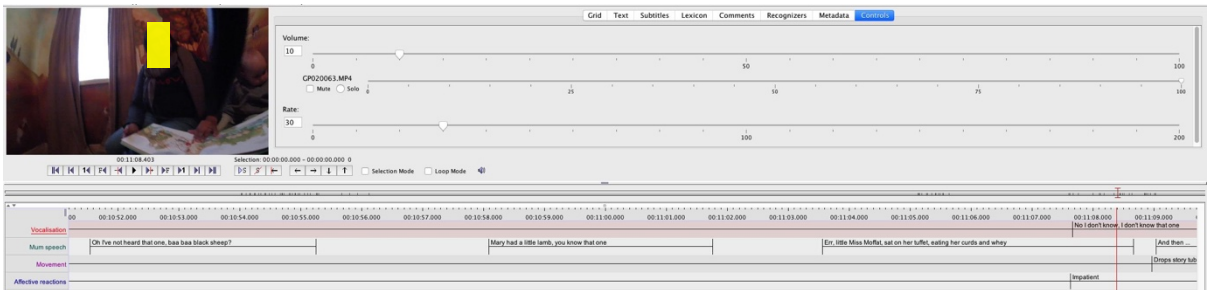


Figure 5.7.14 (part three): Wilbur being read a nursery rhyme

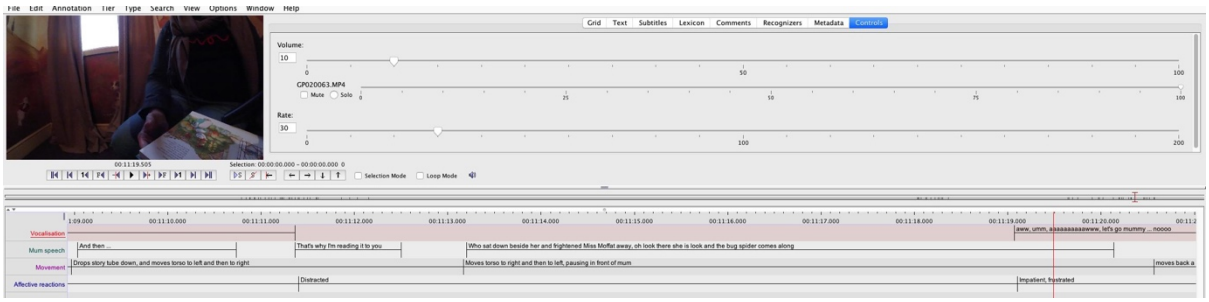


Figure 5.7.14 (part four): Wilbur being read a nursery rhyme

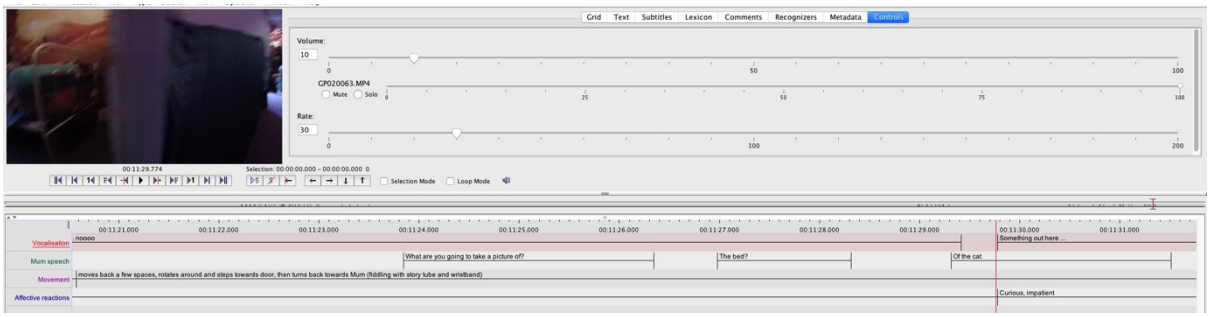


Figure 5.7.14 (part five): Wilbur being read a nursery rhyme

Wilbur also engaged with the exhibitions with humour. For example, exclaiming '*hahaha ... rabbits*' when spotting some toy rabbits in the Watership Down exhibit F5.7.11. As with a sense of wonder, the brief moment of humour was at the time a satisfying enough engagement for Wilbur.

5.7.5 Patterns of attention

Like the other children, the things that Wilbur paid attention to were varied and idiosyncratic (Kirk, 2014). As discussed in section 5.7.2 he engaged with objects predominantly via gaze and touch but also photography, wonder, humour and play.

His patterns of attention, although varied, conformed to established patterns. For example large and small objects (Jenkins, Lisk and Broadley, 2013; Piscitelli and Anderson, 2001). In F5.7.11 he commented '*they're giant them'* when he first saw the large basin and toothbrushes. In interview he commented when asked '*did you enjoy the big bedroom?*', that '*there was a little tiny bed for me, and I got Mog out to go in his little basket*'. This indicated small things drew his attention too. In interview he commented that some rats he had seen were '*good ... they're really shiny*' indicating that both shiny things and animals were memorable to him (Danko-Mcghee, 2006). During his ways around the exhibition, he sometimes spontaneously named animals he recognised, or thought he recognised. For example, he called out '*wow snakes'* when he saw some thin wooden sticks that made up part of a pretend water vole burrow (F5.7.16). He was also interested in aspects of the building that were not part of the exhibitions (Hackett, Procter and Kummerfeld, 2018). For example, the gap in the fabric shown in F5.7.3. Like Sophia, Edward and Bill he showed interest in a lift he came across. For example, in F5.7.12 (part two) he pointed at a lift and said '*We gotta go in here'*. His mum did not indulge him. He was also excited when he came across things that were unexpected. For example, stopping dead in his tracks when he heard recorded birdsong that had been piped into an exhibition space (F5.7.20).

It was conspicuous that he was definitely not interested (beyond a cursory glance) in the story books dotted around the museum. His avoidance of being read to has already been discussed in the previous two sections. In interview he also indicated that he was not paying attention to his mum's reading when his mum says '*We ...*

then had a little story'. He was then asked, '*what was the story about?*' to which he replied, '*I don't know.*' His mum then elaborated, saying, '*You don't know, can't remember. We didn't get through all of it did we? Because you got a bit bored and decided you wanted to open all the doors. So it was only half a story.*' Una similarly became bored halfway through a story.

He enjoyed carrying and playing with the handheld camera during his visit and seemed very proud of it as illustrated by his comment in F5.7.12 (part one), '*My special …. My special thing and my camera!*'. He also paid much attention to his listening stick (black plastic tubing) and entrance wristband. For example, he regularly fiddled with the material of the wristband as illustrated in F5.7.15 and banged the tubing into the palm of his hand.

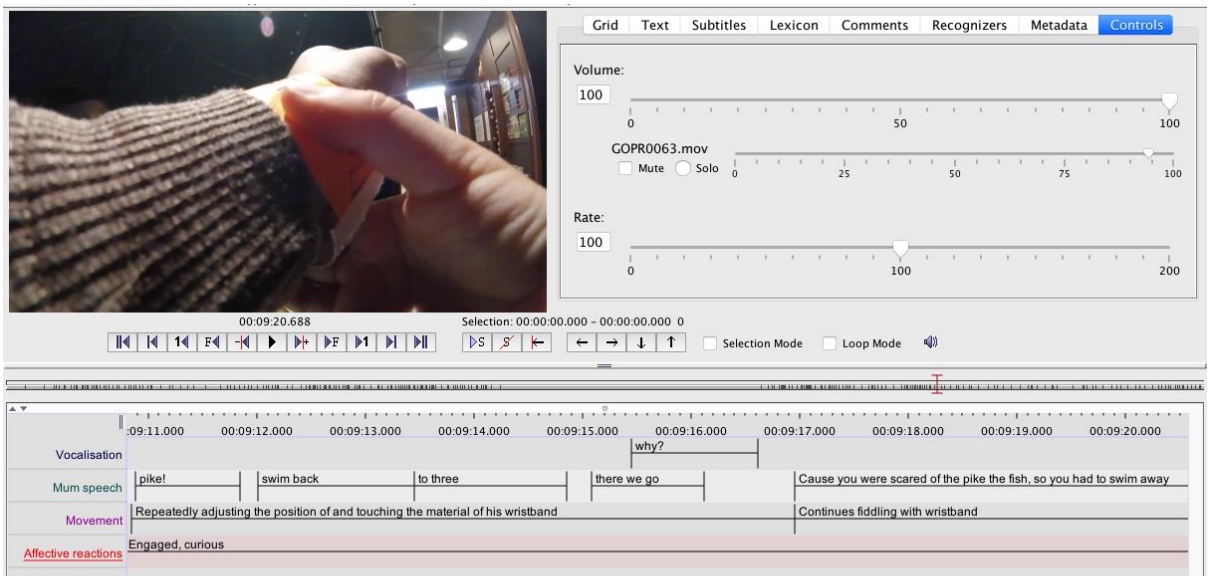


Figure 5.7.15: Wilbur adjusting his wristband

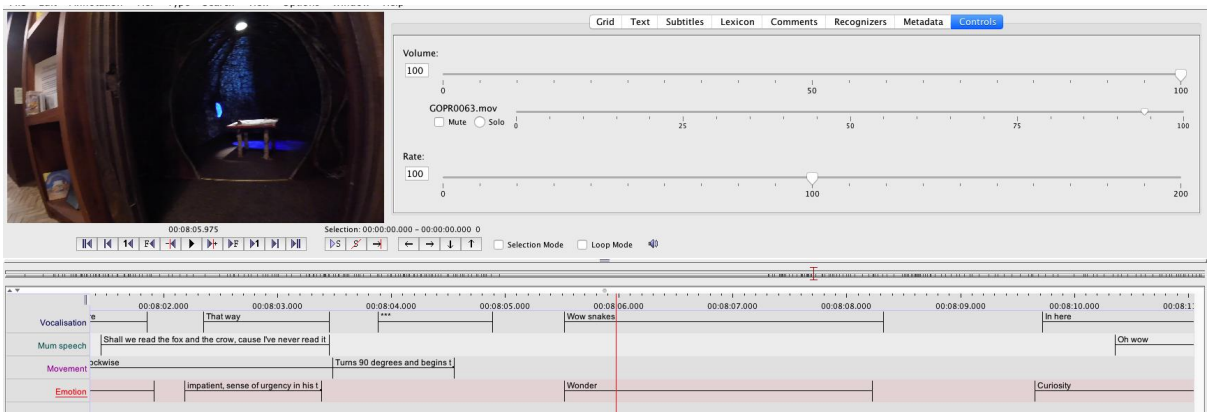


Figure 5.7.16: Wilbur seeing the entrance to a ‘water voles’ nest’ for the first time.

Like Una, Wilbur used the camera to engage with the exhibitions mostly of his own accord but also as a result of his mum’s prompting (F5.7.17). As Fasoli (2003) pointed out, and F5.7.16 illustrates, photographs are part of the social fabric in which they are constructed and as such do not necessarily represent what the child is interested in. He engaged using the camera in two ways, firstly playfully (see F5.7.4, and F5.7.12) and secondly by taking photographs of (like Una) discrete objects and then quickly moving on without any further attention. Although taking more photographs than Una, similarly to her, he was not as dedicated a photographer as the children visiting Museums A and B. This is likely due to the immersive and sometimes interactive nature of the exhibits meaning that photography is sometimes not possible at the same time as interacting with the exhibitions.

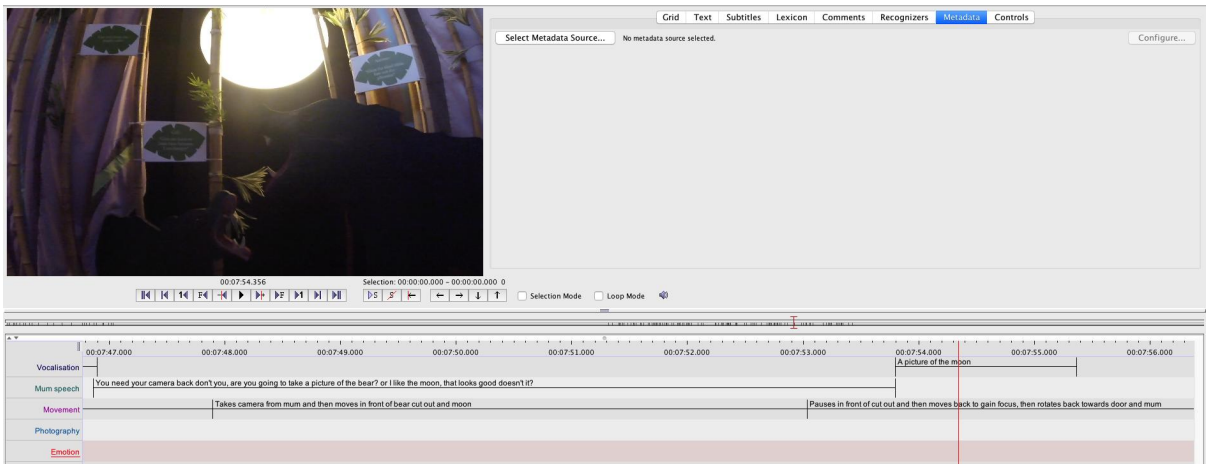


Figure 5.7.17: Wilbur's mum encouraging him to take a photograph

Wilbur enjoyed touching and manipulating things. For example, pressing the button in F5.7.13 (part two), reaching out to explore the contrasting fabric of some moveable felt animals mounted on a shiny whiteboard background (F5.7.18, part one) or reaching out to touch some textured plastic (F5.7.18, part two). He also, in a way that seemed uninhibited, used his whole body to interact with the spaces around him, for example leaning on things or lying face down on a bed (F5.7.18, part four). Rather like his movement, his haptic engagement appeared to be instinctive, cursory and exploratory. Unlike the children in the more traditional museum spaces (A and B), Wilbur was free to touch things when he wanted and without fear of reprimand.

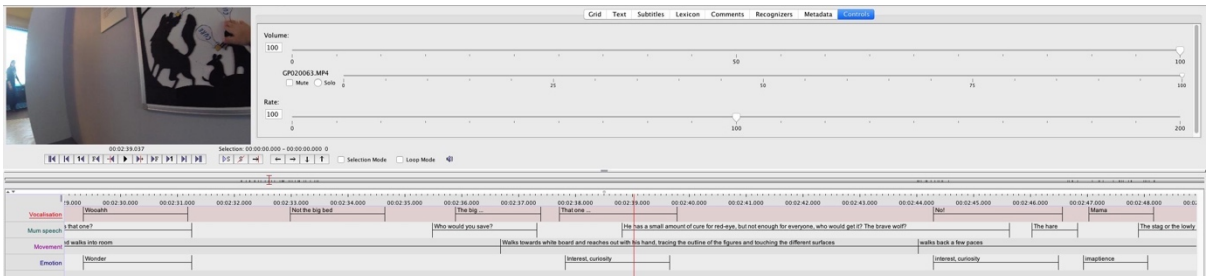


Figure 5.7.18 (part one): Wilbur exploring through touch, movement and gaze

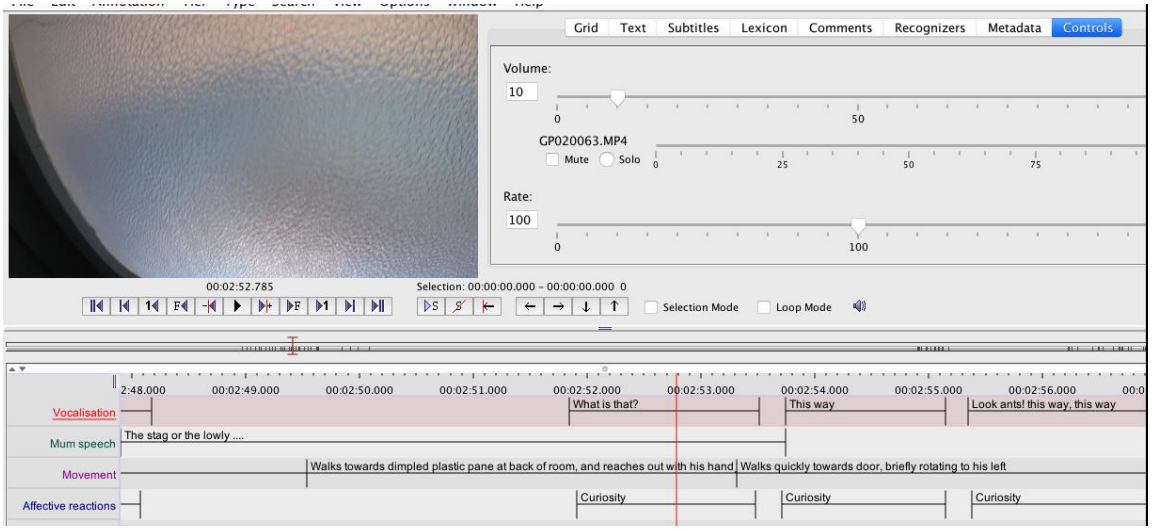


Figure 5.7.18 (part two): Wilbur exploring through touch, movement and gaze

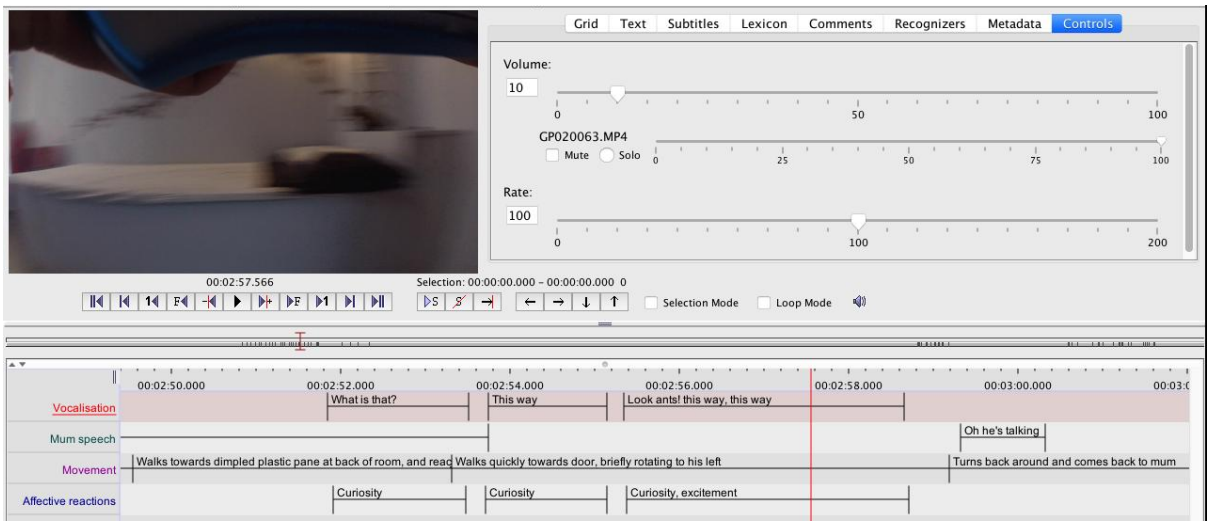


Figure 5.7.18 (part three): Wilbur exploring through touch movement and gaze

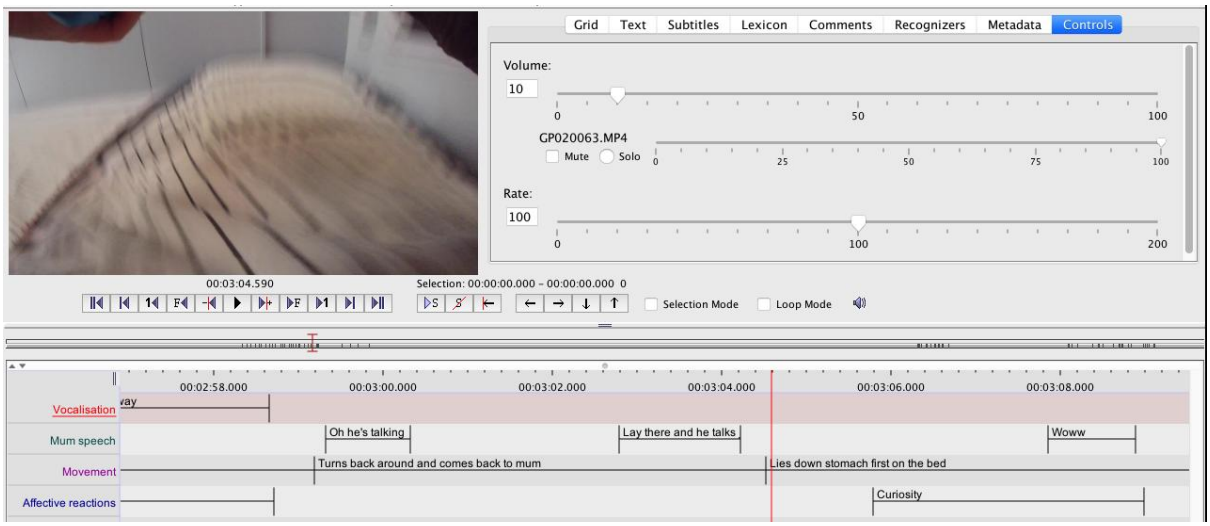


Figure 5.7.18 (part four): Wilbur exploring through touch, movement and gaze

Like Una, Wilbur enjoyed finding listening points. This is an activity that he engaged in without any prompting from his mum. The implication is that this activity complemented his exploratory instincts. The listening points were green boxes where he could insert a 'listening stick' (a footlong piece of black tubing) and either listen or smell something. This interest is illustrated in F5.7.19. In this instance he suddenly interrupted his play to say, '*No wait, it's here another listening one*'.

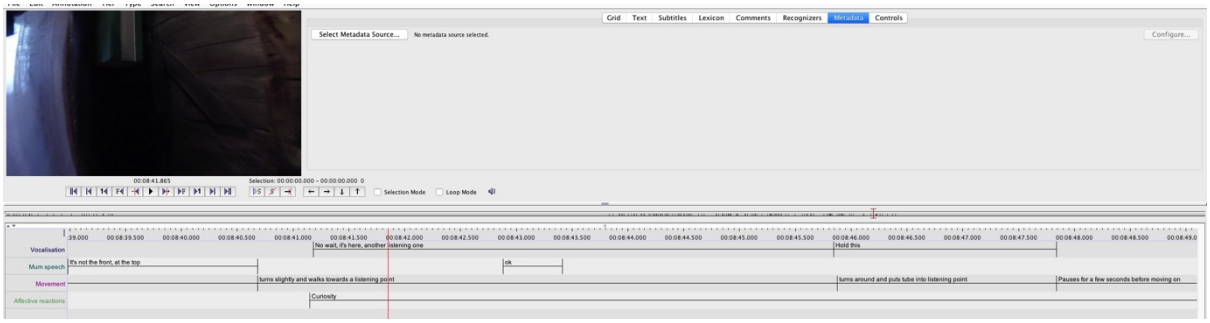


Figure 5.7.19: Wilbur finding a listening point, but not staying long

In common with Una, he did not stay engaged with the listening points for long. As soon as he found one, he became distracted again. He was much more interested in the *act* of finding them, than in the listening points themselves and what they communicated. He was similarly briefly engaged when he was opening and closing tiny doors on a small house. Again, the act of searching for things seemed to resonate with his exploratory instincts. Although the act of searching was much enjoyed, this in itself did not facilitate deeper engagement as suggested by Fidler, Bunney and Craven (2011).

Wilbur very much enjoyed interacting in a playful and imaginative way with other things than just the camera, especially when there were props provided. These were the few occasions during his visit, other than watching an extract of a Wallace and Gromit animation, when his attention was held for more than a few seconds. For example, in F5.7.11, he played with the toothbrush and large tap, and in F5.7.20 he played with a tea set. During these fragments he was satisfied and engaged. In interview, in response to the question '*What was your favourite thing you did?*' he replied, '*playing with the teapot… it had jingles in it'*

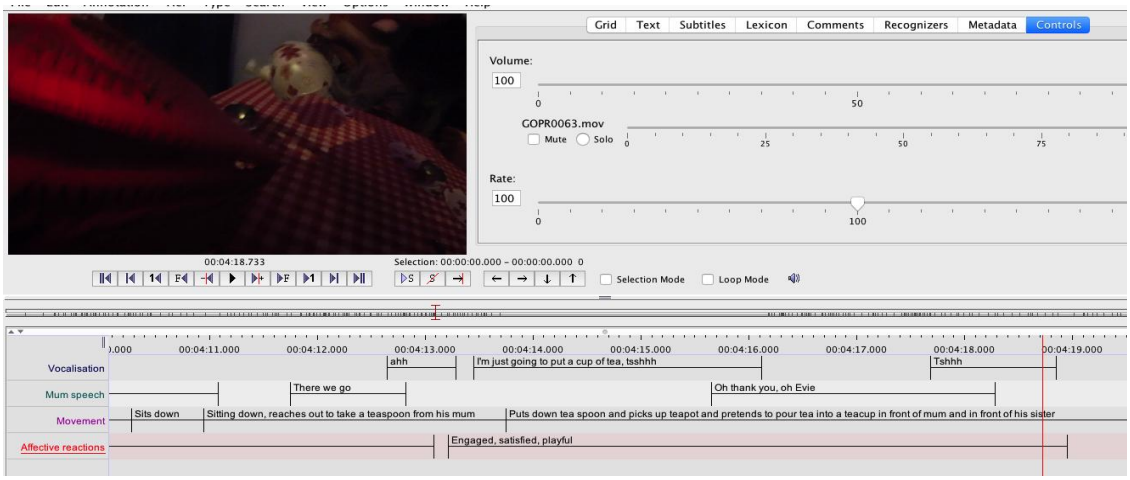


Figure 5.7.20: Wilbur playing with the tea set

This comment in interview combined with his expressions of enjoyment and satisfaction during the fragment itself (and his spontaneous photograph, F5.7.1) suggested that he found playing with the teapot a memorable and enjoyable experience. In contrast to Shine and Acosta's (2000) finding that parents' attempts to pounce on teaching opportunities such as counting inhibited pretend play, his mum encouraged and facilitated the pretend play episode rather than interrupting it. For example, by passing him a teaspoon and joining in the make believe. The reason for this is likely to be that Museum C advertised itself as an imaginative space and therefore Wilbur's mum is likely to have seen this as supporting her son's engagement with the exhibitions.

Dockett, Main and Kelly (2011) found that children enjoyed genuine artifacts that they could touch and see such as stuffed animals. While genuine artifacts are certainly an attraction in Museums A and B, what was particularly salient to Wilbur (and Una) were real everyday objects with uses that he could closely relate to. For example, a toothbrush or a teapot. This connected to the established point that, like

the other participants, Wilbur payed attention to objects that he could link to his wider experience (Kirk, 2014; Dockett, Main and Kelly, 2011). He did this by the spontaneous naming of things (particularly animals) he thought he recognised (Reiss and Tunnicliffe, 2011; Tunnicliffe and Scheersoi, 2009). For example, in F5.7.6, he called out '*rabbits!*' in an excited voice. Resonating with Kirk's (2014) and Fidler, Bunney and Craven's (2011) findings, simply naming an object, or more rarely giving a brief description was satisfying enough for Wilbur and he did not investigate further.

He also sometimes described objects in terms of both their aesthetic properties and how they linked to his wider experience. Description was unusual during the visit, and more common in interview. For example, in F5.7.22 he described a shiny light on a pretend rubbish tip as like '*... a fireball, pow*'. In interview, when asked why he took a picture of the teapot, he replied '*It had jingles in it'*; neatly describing the noise its contents made when it was manipulated.

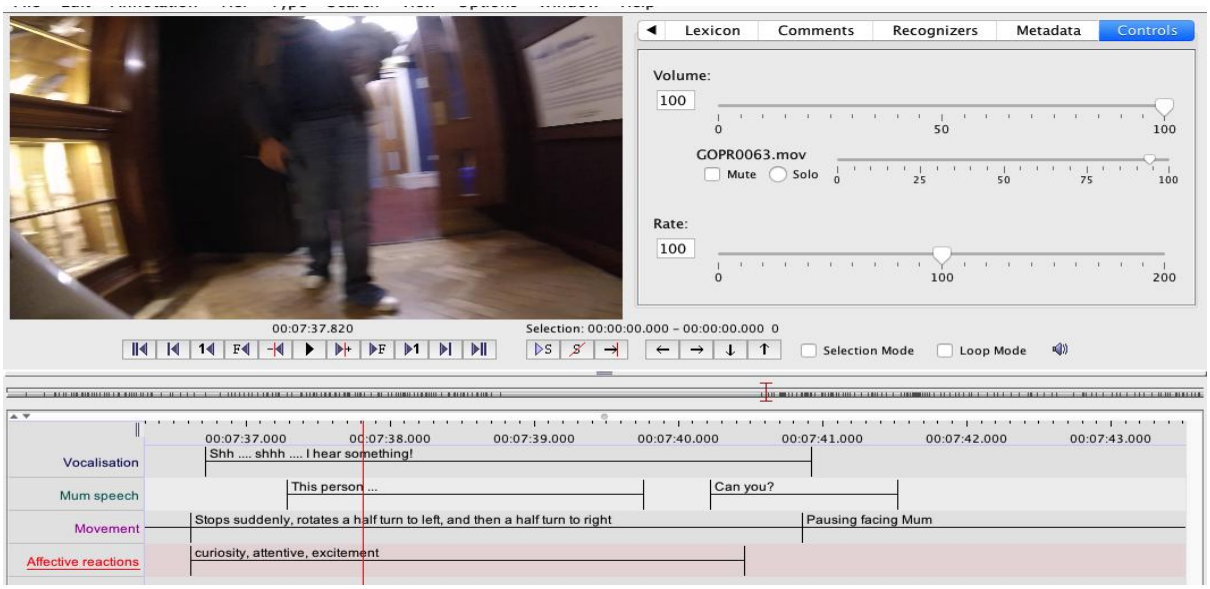


Figure 5.7.21: Wilbur hearing something unexpected

Similarly to Edward and Sophia's experience, naming and describing was much less common a reaction than for Bill and Noel. However, it was still an instinctive reaction to things he recognised (Dunn, 2012; Weier, 2004). This contrast is likely to relate to the nature of the collections, in particular that Museum B has many objects that the children are likely to recognize from story books, media and school (e.g. animals) whereas Museum A did not. Equally Museum C's exhibitions were not collection based and exhibits were predominantly immersive scenes.

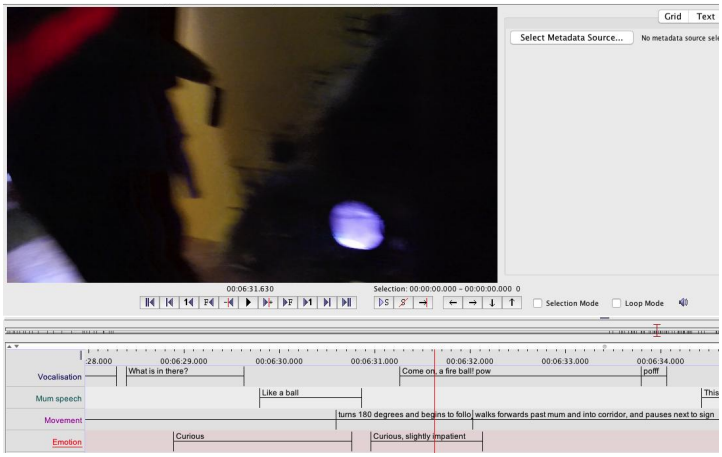


Figure 5.7.22: Wilbur making a creative connection (describing)

5.7.6 Summary

Wilbur's movement was exploratory. His exploration was characteristically stop-start, comprehensive in scope, yet cursory in nature. Although taking the lead in terms of the family's route around the museum, he ensured his mum was in close attendance before moving into new spaces. His mum's didactic attempts to engage him with the stories and exhibits sometimes clashed with his desire to explore. This

meant at times he became impatient and bored. His affective reactions fluctuated throughout the visit, but he was predominantly happy. He engaged with the exhibitions and spaces with wonder, excitement, humour, and playfulness. He showed interest in large objects, small objects, playing with the camera, shiny objects and aspects of the building itself. Although infrequently, he named objects he recognised, and made creative connections between his own knowledge and things in the museum to describe things. He particularly enjoyed playing with props that related to his everyday experiences and finding the listening points.

6 Findings part two: commonalities of experience between the participants

This chapter will address RQ2:

RQ2 To what extent do there appear to be commonalities of young children's (aged 4 and 5) experiences during unstructured, family visits to museum spaces?

6.1 Introduction

The previous chapter outlined the individual visit experiences that emerged from the first stages of the IPA analysis of the six young children's individual visits. Building on these individual visits this chapter will present and discuss the commonalities of experience that emerged from this next stage of the IPA analysis. These findings form part of the ongoing ethnographic place (Pink, 2015a) that is represented in this thesis. The stages of analysis are outlined in Chapter 4.

The commonalities across participants' experiences will, as in Chapter 5, be considered under the following headings: movement; family interactions; affective reactions; and patterns of attention. Each section will begin with a table outlining the common themes that exist across the cases. Each of these themes have been addressed in Chapter 5 in terms of each individual visit but will now be examined as themes that emerged across the participants.

6.2 Movement

Table 6.1: A table to show common themes relating to movement

	Edward (A)	Sophia (A)	Bill (B)	Noel (B)	Una (C)	Wilbur (C)
6.2.1 Exploration Continues throughout visit	Yes	Yes	Yes	Yes	Yes	Yes
6.2.1 More comprehensive than expected exploration via a combination of gaze, torso rotations and touch	Yes	Yes	Yes	Yes	Yes	Yes
6.2.2 Stuttering (stop-start movement through)	Yes	Yes	Yes	Yes	Yes	Yes
6.2.3 Invisible ties keeping a close eye on parents' whereabouts) 6.2.4 Including 'architectural traffic lights' or pausing in doorways	Yes	Yes	Yes	Yes	Yes	Yes
6.2.5 Synchronisation of movement and vocalisations	Yes	Yes	Yes	Yes	Yes	Yes

6.2.1 Exploration

As outlined in Chapter 5 all six of the children, despite tiredness, were driven to explore the museum's spaces throughout their visit. This diverges from previous research that suggests young children, after an initial period of rushing about, settle to explore exhibits more selectively and quietly (Kirk, 2014; Worthington and Paull, 1987; Rounds, 2004; Degotardi *et al.*, 2017). The reason for this might be that the children were all engaged in a journey from the beginning of their visit to the end; they were almost always moving into a fresh space containing undiscovered things rather than visiting a single enclosed exhibition space. Museums A and B were large enough with extensive collections for this to be the case, and the much smaller Museum C had a designated recommended route that the families followed. Although tempered slightly due to returning to things or areas they have been before, this point also held true for second time visitors Sophia and Una. Therefore, indicating that this exploratory tendency is not lost if they have visited the museum previously.

In addition, this finding builds on observations from previous research that suggests that at first glance children look like they are rushing around, but on closer inspection this is part of a powerful impulse to discover what is new in a space (Piscitelli, Everett and Weier, 2003; Kirk, 2014; Hackett, 2014b). Piscitelli, Everett and Weier (2003, pg. 17) also mentioned that young '*Children comb...'* the museums

they visit for information and ideas. These findings add to this body of work, providing a more fine-grained examination of exactly how the children scan the spaces they moved through. The FPV traces illustrate that all six of these children's exploratory movements involved a more comprehensive than expected scanning of the spaces that they were passing through. The children explored using torso rotations, associated gaze, locomotion and occasionally touch to explore. For example, Bill's approach to the Iguanodon illustrated that, even when struck with wonder and excitement he still found the time to scan the spaces he moved through (See S5.5.2 and F5.5.4, parts one to five). Wilbur's exploration of the Jungle Book Room is illustrative of how all four corners of a room were quickly and efficiently scoped (See S5.7.2 and F5.7.3 and 5.7.4).

The way in which the children both used torso rotations, locomotion and associated gaze to explore is outlined in detail in Chapter 5.

The children also sometimes returned to things that sparked their interest (Hackett, 2014b), potentially investigating through touch. For example, Edward returning to a painting in the Italian Renaissance Art Gallery (F5.22), Noel returning to a touch screen in F5.4.9 and Una returning to a tablet screen in F5.6.19.

The children's comprehensive scanning of the spaces they moved through did not mean that the route they took around the museum was systematic or deliberately thorough. Instead it meant that the spaces they moved through were comprehensively scanned or as Hackett (2014b) puts it, scoped. The actual route taken is a reflection of a huge variety of factors including trail sheets, caregiver and

sibling influence in addition to the children's own interests and engagement with the material environment. Similarly, Kelton *et al.* (2018) refer to the impact of these influences as a dance between verbal, material and spatial interactions. Instead, I refer to the approach taken by the children to explore the spaces they moved through. I will now refer back to two examples to illustrate this point. The first is Bill approaching the Iguanodon cast (See section 5.5.2 and F5.5.4, parts one to five) and the second is Wilbur's exploration of the Jungle Book Room (F5.7.3 and 5.7.4). The way in which the children both used torso rotations and associated gaze to explore is outlined in detail in Chapter 5.

Although it cannot be assumed that the FPV showed exactly what the child saw and heard, it can be assumed that it is a rough approximation (Burbank, McGregor and Wild, 2018). It is apparent from the analysis, and as illustrated by the examples above that the children frequently performed trunk rotations when in locomotion through the museum's spaces. Although naturally there was variation, they appeared to be a maximum of 45 degrees clockwise or anticlockwise when moving. As Land (2006) points out, trunk rotations can occur with gaze rotations of any amplitude. In addition, eyes rotate faster than the head, and the head faster than the body meaning that the child is likely to have a wider field of vision than is communicated by the video footage. This indicated that Bill and Wilbur are both likely to have surveyed a wider area than the FPV footage makes explicit. Although the children's coverage tends to be comprehensive as demonstrated by the examples above, it is reasonable to assume from the brief nature of their attention that the exploration, although comprehensive in scope, is only cursory in nature. The degree to which this varies in

each child will be a matter of individual difference and is not ascertainable from these data alone.

It is apparent that this scanning is more than just on the visual level. For example, Wilbur stopped in his tracks when he heard an unusual sound (F5.7.20) and Edward reached out to touch a sofa on his way past (F5.5.25). These episodes suggested that the children were alert and exploring on a variety of sensory levels. The FPV footage, however, foregrounded how the children's physical movement (including body rotations) facilitated the children's exploratory gaze. Una indicated that she had formed a type of mental map or cognitive map (Worthington and Paull, 1987) from her previous visit. This is illustrated by her desire to revisit several things in Museum C (F5.6.8). The indication was that, for Una, her cognitive map was not as detailed as suggested by Kirk's research (2014). The reason for this is likely that Kirk (2014) based her findings on post visit interviews when the visits were fresh in the children's minds. Contrastingly Una had not visited the museum for several months and had therefore had time for the memory to fade. The children in this study tended to talk about things in interview that they had given some attention to. This was likely to be, as will be discussed in more detail later in this chapter (S6.5), things that linked to their previous knowledge and experiences or aesthetic properties.

This point combined with the children's comprehensive scanning of the spaces suggests that the children's experience consists of a hierarchy of exploratory attention:

i) Firstly, the children scan the environment in a comprehensive yet cursory way. This is part of the moment-by-moment fabric of their experience and is not necessarily memorable in itself

ii) Secondly the children give closer attention to objects which they are either drawn to themselves or are drawn to by their interactions with others. These are more likely to be reported after the event in interview or form part of a cognitive map (Kirk, 2014)

To conclude the children explored more comprehensively than after the event reporting in interviews and previous research using video and observations might suggest (Piscitelli, Everett and Weier, 2003; Kirk, 2014; Hackett, 2016). There were two scenarios when this type of exploration did not feature in the children's visits. The first is when Una's movement becomes more frenetic when she is with her cousins (See Figure 5.6.3, part one). As outlined in section 5.6.2 during these times her exploration became less of a priority and her attention was focussed on interacting with and keeping up with her cousins. The second being when the two children who are repeat visitors (Sophia and Una), became (on a few occasions) more focussed on reaching a particular destination than exploring their surroundings. For example, Sophia being focussed on finding the lift (F5.3.18) and Una making a beeline for a tablet (F5.6.19). This point links to Ingold's (2016) concept of wayfaring that has been drawn upon by others to interpret young children's place-making in museums (Hackett, 2016; Dardanou, 2019). Ingold (2015) uses the metaphor of a mariner to whom seafaring is experienced as a way of life, versus the perspective of a naval commander as a means to differentiate between the concept of

wayfaring and travelling. A naval commander is likely to be concerned with linking home ports with overseas territories, facilitating expansion of global trade. The point is that wayfaring is 'life at sea', whereas a naval commander is more concerned with the ship representing a vehicle of transport that has an underlying purpose which is reaching another destination. The children in this study, for the most part, appeared to be living their visits in the moment, making instinctive and impulsive decisions to explore and discover the spaces they move through rather than having a pre-planned purpose for their visits. However, on occasions, as with Sophia and Una they began to slip into a more purposeful mode. This is in contrast to the accompanying adults who, wanting to engage their children with the exhibitions, often clashed with their children's exploratory tendencies (see section 6.3 for more detail).

6.2.2 Stuttering through the museum

Rennie and McClafferty (1995: 5), when discussing children's behaviour in science and technology centres (during school visits), observe that children, after an initial rushing about period attend to exhibits in a '… *stop-start manner, revisiting exhibits that interest them, often several times*'. The children in this study experience the museum through their movement in a similar stop-start pattern. They do this throughout their visits and not only after an initial rushing about period. I liken this type of movement to 'stuttering'. Stuttering in the sense that it can be difficult to articulate words in a sentence, perhaps getting stuck on a particular consonant for a period of time, before quickly moving onto the next word where you might become stuck again, but this time for a shorter or longer period and so on. In the same vein

all the children moved down an aisle or through an exhibition stopping at something that interests them, or that they have their attention drawn to. Then depending on their level of interest and demonstrative of their agency (e.g. Kelton *et al.*, 2018) engaging for a long or short period of time before moving onto the next thing. In contrast to Rennie and Mclafferty (1995) use of the word 'exhibits', the word 'thing' here is used to indicate that interest is not necessarily restricted to exhibits, for example the soft fabric of sofas and chairs initiated several pauses for Edward when moving through the Museum A. See movement maps 5.2.2 and 5.4.7 for examples of this pattern.

6.2.3 Invisible ties between children and caregivers

The children's experiences are inevitably entangled with those around them (Ingold, 2008; Pink, 2015a). As a result, it is of value to understanding the children's experience to briefly focus on the caregivers' reactions to their children roaming in the museum. It has been noted before that parents are vigilant of their children's whereabouts during a visit, and may cut short their focus on an exhibit in order to keep up with their children (Tolmie *et al.*, 2014). Kirk (2014) observed that young children do not tend to stray too far from their parents, rarely being out of sight for more than a few seconds. She also points out that parents generally felt comfortable to allow their children some freedom of movement and that both parents and children felt a sense of safety in the spaces. My research concurs with Kirk's (2014) observation that the accompanying adults (concerning their children) felt relatively safe in Museum B, not giving the impression of worrying too much if the children

wandered a short distance. The open plan of the museum, that provided clear lines of sight likely contributed to this sense of security. Contrastingly, parents in Museum A and Museum C showed more overt signs of concern to make sure their children were close by. For example, Edward's mum called for him to '*Come on Edward!*' when he risked being separated from her and his sister (F5.2.7). Or in the case of Una, her dad being visibly worried (See F5.6.5) when he came looking for her after she had moved around the corner on her own.

This sense of concern may have been due to the large size and labyrinthine feel of Museum A, or the tight corners and small rooms of the Museum C meaning both of these museums have restricted lines of sight. As pointed out in Chapter 5 the adults' reactions in Museum A and Museum C contexts are more akin to the parental concern, reported by Tolmie et al. (2014) in large European museums, of maintaining group cohesion. This is in order to avoid the serious matter of children becoming separated. This sense of parental concern provides useful context to the children's own experiences, which I will now address.

The FPV provided some insight into how the children actually felt when they moved away from their parents. It was noticeable the children themselves were moderating their own movement in relation to the proximity of the adults and other family members that were accompanying them. It became apparent they were taking a degree of responsibility for not becoming separated. They were vigilant about where their caregivers were in relation to their own position. Returning to the example of Una's Dad's relief at finding her (F5.6.5), it was striking that Una gave the impression she was not in the least bit concerned. She had moments earlier left her

Dad with the baby in the Lullaby Room (part of the same exhibit) and it is reasonable to assume that she was secure in the knowledge that he was close by and he would have to walk past her if he left. In contrast when she explored ahead of her Dad as illustrated by movement map 5.6.4 and F5.6.3 (parts one to seven) she returned to fetch her Dad before having the confidence to move through the doorway into further exhibition spaces. This was even though she had visited the museum before. The children checking for their caregivers is often more subtle than returning to fetch them. For example, they sometimes cast a quick backward glance to check where their caregivers were in relation to them. For example, Bill glanced behind him to check his dad and sisters were following before moving forward to explore the next area (see F5.5.4, part two).

In summary each of the children demonstrated that they keep an eye on their family members' whereabouts regardless of the adult's own vantage point or level of concern shown throughout the visit. They are as if attached to a piece of elastic, springing back to accompanying family members of their own volition when they feel uneasy about straying too far. The next commonality 'architectural traffic lights' represents a sub theme to this wider point.

6.2.4 Architectural traffic lights

As surely as the children's experiences are entangled with the humans that accompany and interact with them, the children's experiences are also entangled with the non-human environment (Pink, 2015a; Ingold, 2008). For example, the

architecture of the buildings themselves. There were examples of all the children being reluctant to cross, or to cross by far (and if they do only briefly) thresholds into new spaces without being closely accompanied by caregivers or other relatives. This hesitation occurred before entering new spaces with a variety of characteristics. For example, they might be dark or light, out or in a caregiver's line of sight, large spaces or intimate spaces. What is consistent is that the children paused either on the threshold of doorways to new spaces (See F5.4.8, parts one and two and movement map 5.6.4) or if a little braver momentarily moving a few feet past the threshold before quickly returning to look for others (see movement maps 5.3.3) before moving forwards, or if the momentum of the family's visit is heading elsewhere, then moving on.

The impression is that the architecture of a doorway acted as a cue to stop. I use the analogy of traffic lights because the pause is often only temporary until an adult arrives, at which point the lights turn green and the child moves on unhindered. Hackett et al. (2018) and Birch (2018) make the point that there seems to be a relationship between the physical nature of the spaces and children's movement. When considering the children as entangled with the non-human this finding supports this point. In this example, the architectural cues combined with the social context. For example, there is a sense of intuitive awareness of their own vulnerability when the children moved forwards alone, in contrast to a sense of security if they are accompanied by their parents or other family members. So as Greenman (2005: 13) suggests '*corridors whisper run'*, the children's actions communicated that doorways commanded 'stop' to young children unless they are in close proximity to an adult or other family members.

6.2.5 Synchronisation of movement and vocalisations

The children, often repetitively, synchronise their movement with vocalisations (See Table 1 for examples). This tended to occur during the later stages of the visit. During these episodes the children communicated a sense of absorption, satisfaction and engagement with their body's physical activity. These might be spontaneous reactions to the spaces, for example, jumping up steps and chanting like Edward (F5.2.8), or Bill circling a large display case while humming in time to the ever-increasing speed of his steps (Movement map 5.5.3 and F5.5.12). Or indeed a reaction to being constrained in one place, for example Sophia channelling her impatient energy into circular twirls and demands for her dad to move on (F5.3.3 and 5.3.5).

As outlined above there are a number of conditions when these episodes of synchronised humming and locomotion developed. It is interesting to consider what the children felt when they engaged in these episodes beyond the sense of absorption, satisfaction and engagement that is communicated via the FPV. With this aim in mind it is worth considering the notion of proprioception. Montero (2006) describes proprioception as an aesthetic sense and one that not only encompasses an awareness of the relative positions of different parts of the body but also a sense of the motions of those parts. Therefore, it is possible to make aesthetic judgements based on the motions of those parts. For example, a dancer can not only appreciate the beauty of another's movement, but also their own via the experience or feel of

that movement (Dudley, 2014). Hearing and vision are also commonly recognised as aesthetic senses (Montero, 2006) and it is not a great leap to connect, as with dance and music, the motion of a child with the sounds she/he is producing. In fact Moore and Yamamoto (2011) point out that the oneness between sound and movement in normal behaviour is truly impressive.

Piscitelli and Weier (2003) comment on young children's 'hot and sweaty', flow-like (Csikszentmihalyi, 1990) physical engagement with interactive play spaces. Bill's activity (F5.5.3 and 5.5.12) described above echoes the intensity that this observation conjures up. However, it cannot be explained by their constructivist explanation. Drawing on Hein and Alexander (1998) they explain that the children are using their hands and their bodies to experiment, think and build ideas. Instead, perhaps similarly to Dudley (2014) tentatively noting that visitors enjoy the satisfying feeling of opening and closing drawers in the Pitt Rivers Museum in Oxford, the children are during these episodes absorbed in the feeling of their individual combination of movement and sound rather than doing it to achieve an aim.

Hackett (2016; 2014a) uses an example of children banging drums, chanting and marching in circles in a museum as an example of a 'tradition' that the children developed and repeated over a series of visits. In this description she also makes note of the drums' affective quality. It is not possible to ascertain whether the children's synchronised behaviour displayed in this research might (after repeat visits) develop into a tradition over time, but there are certainly echoes of this repetitive behaviour (although using their voices as an instrument) in the children in this study.

Comparable observations, and another way of interpreting the above in very young children are made by Hackett and Somerville (2017) who examine through a posthuman lens the possibilities of reimagining early childhood literacy as movement and sound. They suggest that by decentring the human from the analysis, and from the perspective of intra-action that the sounds made by the children and the sounds of the place (for example a child playing in mud on a riverbank) were echoing each other and intimately entwined and emergent in the production of place. In other words, the water, mud and birdsong at the riverbank encouraged the emergent sounds of the child. Continuing they suggest that different places enable different repertoires of literacy practice to emerge (Pahl, 2014). By this logic and providing an explanation for why these episodes of synchrony vary in length, the children in this study could be stimulated by intra-action with the human and non-human world to produce a synchronisation of movement and sound unique to that particular combination in time and space. Referring back to Bill's example, the smooth surface of the display case, the sound of his steps on the stone floor, the vibrations coming from his lips meeting the air, and the clunk of the GoPro™ on the case, all combine to generate a unique, synchronised, in the moment experience.

6.3 Family interactions

Table 6.2: A table to show common themes related to family interactions

	Edward	Sophia	Bill	Noel	Una	Wilbur
6.3.1 Conflict of children's and other family members' agendas	Yes	Yes	Yes	Yes	Yes	Yes
6.3.2 Children enquiring about their surroundings Children's indications of interest not capitalised on Children imitating their caregivers	Yes	Yes	Yes	Yes	Yes	Yes
6.3.3 Finding activities with other family members	Yes (but not encouraged)	Yes	Yes	Yes	Yes	Yes

6.3.1 Conflict between children's and other family members' agendas

It has long been argued that visitors tend to have an agenda for their visit and that these agendas directly influence visits (Falk and Dierking, 2012; Falk, Moussouri and Coulson, 1998; Balling, Falk and Aronson, 1980; Moussouri, 1997). However, there are only a handful of studies that have addressed how the agendas of young children in museums can influence family interactions (Anderson, Piscitelli and Everett, 2008; Kirk, 2014; Tolmie *et al.*, 2014; Hackett, 2014a), with most focussing on the agendas of adults. Although there are other agendas such as play that emerged across the children's visits, only the children's strong exploratory tendencies (See

Chapter 5 for examples) seemed to consistently lead to conflict with other family members across all the cases. It is not possible to accurately discern whether the children entered the museum with this agenda in mind, but what is clear is that exploration tended to underpin many of the strategies that they used to engage with the spaces they moved through (See Chapter 5 and 6.2 for more detail). This is in contrast to the adult members of the family groups. Falk, Moussouri and Coulson (1998) highlight that most families (they specifically asked the adults) visiting hands-on museums tend to have learning as one reason to visit. This educational agenda or desire to engage the children with the exhibitions is apparent in five out of six of the family groups. Edward's mum has an educational agenda, but this is focussed on helping his older sister complete a trail sheet. This involved engagement with the exhibitions but was not focussed on Edward himself (See Chapter 5.2 for details). In addition, and linked to the above, the adults were keen to uphold museum rules (for example, no touching, see F5.3.8). At times they wanted to control the pace of the visit because, for example, they wanted to look at something, draw attention to something, or use a mobile phone (see F5.3.2).

The children's and family members' agendas clashed periodically to create moments of low-level conflict during the visits. The impact of these conflicts, in all cases, did not affect the overall positive feel of the visit. They tended to be just enough to create a fluctuation in the mood of the children, making them impatient, bored or frustrated, which in turn curtailed their interactions with the exhibitions (see section 6.4). The extent of the impact of these conflicts hinged on the children's personalities and the idiosyncratic social context. Kirk (2014) describes similar instances as micro-conflicts and suggests they are not due to broad agendas, rather

momentary fluctuations in the compatibility of desires. She gives examples such as when two boys argue over a stick, or when a boy is told off by his mother for fussing. My findings diverge from Kirk's appraisal in that the FPV reveals that moment-by-moment conflicts most often manifest due to a clash with the children's instinctive 'over-arching' agenda of exploration. This might be touching an exhibit or wanting to move quickly onto the next thing or space. It is also noticeable that the children's affective reactions during these moments of conflict can range from a quiet acceptance of their parents' will (Edward being told not to touch. See F5.2.13), to a more urgent sense of impatience (William not wanting to be read a story, F5.7.8). Even these more intense moments appeared to be quickly forgotten by the children. Conflicts relating to children's agendas of exploration chimed somewhat with Tolmie et al's (2014) point that young children's energy can aggravate the tension between individual group members' interest in exhibitions and adults' efforts to maintain group cohesion. As outlined in 6.2.3 young children themselves tended to be vigilant concerning group cohesion therefore the unease from the children's point of view tended to emerge when the adults themselves moved further away from the children than they might like (e.g. Bill asking his dad to wait, F5.5.9). Anderson et al. (2008) note that there may be competing agendas that develop during young children's visits. They outline three main areas of competition; content (the topic of conversation), mission (who is in charge of the route) and time (how long should be spent in a particular area). Interestingly the FPV communicates that, across all the cases, that a child's explorative drive tended to impact on all three of these categories simultaneously. For an example I will now refer to F5.7.8. In terms of content Wilbur is keen to not talk about 'The Fox and the Crow', in terms of mission he is determined to direct his mum to another area of the museum e.g. '*that*

way', and in terms of time he is keen to move on quickly whereas his mum wants to stay to read him a story.

In summary there are a variety of ways in which conflict between children and caregivers might manifest itself, but commonly for these children this is derived from conflict with the children's instinct to explore.

6.3.2 Enquiring about their surroundings

Although not a common aspect of the children's interactions with family members the children do all enquire about their surroundings, a shift in thinking that often accompanies curiosity (Schmitt and Lahroodi, 2008) (see section 6.4). This trait can be considered as an extension of their exploratory movement discussed in 6.2. The children were most often interested in asking what something is. For example, asking for a name of something (see F5.5.7, part two). Kirk (2014) pointed out that children were most interested in what an object is and what it is like and this most often manifested itself in naming and describing. Naming and describing as an individual reaction will be addressed in more detail in section 6.5. The children in this study rarely enquired about their surroundings beyond asking what something is. Although a slightly different context this chimes with Wallis' (2018) observation that young children rarely asked questions during her museum educator led tours. On the few occasions that their questioning did extend beyond this there was a common pattern between their interactions with their family members. The responses they received for these questions tended to be closed and succinct.

The reason for this is not clear but may be related to parental confidence and knowledge (Wallis, 2018; Bates, 2018) or that the parents deemed their answers appropriate for the children's level of understanding, or that their questions were not worthy to pursue. For example (see Figure 5.3.16, part two), Sophia asked her dad '*Why does that horsey have a saddle?*' to which her dad quickly answers, '*To ride it, some people just ride without saddles.',* after which Sophia moved onto the next thing. Although this exchange is brief and the question perhaps unexpected for her dad, it is missing a collaborative opportunity to investigate an exhibit that she is interested in. Ash (2004) considered children's interactions with family members at a natural history diorama in light of Vygotsky's zone of proximal development, a social construct where children can achieve more with assistance from more advanced others than can be managed alone (Vygotsky, 1978; Daniels, Cole and Wertsch, 2011). This point regarding the adults' role in furthering understanding is of relevance here in that the children's own spontaneous questions communicated their 'zone of proximal development' in relation to a particular object or subject. As with the Sophia example above, these glimmers of interest were stifled or quickly dealt with rather than probed or encouraged. Weier (2004, pg. 114) makes the point, in relation to preschool children in art museums, that it is valuable for accompanying adults to listen carefully and to acknowledge *'... children's talk with a genuine response*'. Povis and Crowley (2015) comment on the benefits of fostering joint attention in encouraging learning talk. These questions often represent fleeting moments when these conditions of joint attention are present. This is not to say the parents did not ask, with varying success, their own questions of the children. These could range from asking for a name of an exhibit, about an animal behaviour, or

linking to wider shared experiences but the opportunities for prolonging joint attention that were initiated by the children was often lost. Therefore, from the perspective of the children, along with their exploratory movement, their own signals of interest were sometimes passed over and replaced by the accompanying adults' assumptions about what it is best to pay attention to.

6.3.3 Enjoyment in finding things

All the children became involved either of their own volition (e.g. Edward joining in with his sister's trail) or because their parents initiated an activity that involved finding things. They all enjoyed and were engaged by these activities. These activities took on a variety of different guises, such as finding games initiated by parents e.g. Sophia and her dad looking for a plate in F5.3.13 or Noel looking for a peacock mantis in a tank (F5.4.19). Or child-initiated hunting activities such as searching for listening points (F5.6.26), or Bill hunting for the queen bee (F5.5.34). What is consistent is that they all involved looking for something in the exhibitions or within a particular exhibit. To some degree they also included interacting with their family members either in the sense the finding activity was initiated by a family member or family members were involved in the activity itself. For example, Edward joining in with his sister finding the dog figurine (F5.2.3) or Sophia and her dad looking for a plate (F5.3.13). Fidler et al (2011) note that 'hunting' based games encouraged deeper engagement with the exhibitions. Although predominantly with a focus on older children, Harris and Winterbottom (2018) also suggest that games such as treasure hunts encouraged dialogue beyond naming and emotional responses.

In contrast these games did not encourage any great depth of engagement beyond what was common during the rest of the children's visits. In other words, for the children, the thrill seemed to be very much in the chase. For example, both Wilbur and Una enjoyed finding the listening points in which they could insert a piece of plastic tubing to listen to a recording, but only actually listened for a very short period of time before moving on to find the next one (F5.7.18 and F5.6.12). That this particular activity is not used entirely as it was intended, is consistent with comments made by Piscitelli et al. (2003) that museum exhibits are often not used by young children as designers intended. Bill commented in interview that one of his favourite things in the museum was '*following the queen bee'*. When asked why, he just commented '*I found it interesting ... it had a yellow back on it'.* Although only cursory comments, they do, in tandem with his engagement and excitement at looking for the bee during the visit itself, indicate that he was particularly interested in the activity of finding her rather than anything about the queen bee herself other than that she was clearly marked with yellow paint (F5.5.34). This theme links with discussions about the children's exploratory instincts in section 6.2 in that it is reasonable to assume that finding things harnessed the children's instinctive exploratory drive. Piscitelli et al. (2003, p. 65: 65) note that a treasure hunt in an art gallery *'... was a highly motivating experience for the children*'. In a similar way, these children found that finding things was a particularly engaging family activity whether initiated by parents or by themselves personally, but not in a way that guaranteed greater depth of engagement.

6.4 Affective reactions

Table 6.3: A table to show common themes relating to the children's affective reactions

	Edward	Sophia	Bill	Noel	Una	Wilbur
Variation of affective reactions during the visit	Yes	Yes	Yes	Yes	Yes	Yes
Wonder	Yes	Yes	Yes	Yes	Yes	Yes
Excitement	Yes	Yes	Yes	Yes	Yes	Yes
Curiosity	Yes	Yes	Yes	Yes	Yes	Yes
Playfulness (with props and others)	Yes (camera)	Yes (camera)	Yes (Camera, T-Rex)	Yes (Camera, T-Rex)	Yes (Toothbrush, camera)	Yes (Tea-set, toothbrush, camera)
Impatience/frustration (negative influence on attention)	Yes	Yes	Yes	Yes	Yes	Yes
Boredom (negative influence on attention	Yes	Yes	Yes	Yes	Yes	Yes
Humour (positive influence on attention)	Yes	Yes	Yes	Yes	Yes	Yes

6.4.1 Variation of affective reactions

The general consensus from previous research is that young children consider museums as happy and exciting places to be (e.g. Kirk, 2014; Piscitelli and Anderson, 2001; Piscitelli, Everett and Weier, 2003). Kirk (2014, p. 147), although noting in a minority of observations the children were not enjoying themselves, points out:

> *'... the children were happy to be in the museum, had enjoyed the company of their families, ... had delighted in looking at and interacting with the objects*

that were around them, and were even having fun taking part in the research.'

Contrastingly Zapri (2004, p. 66) criticises the assumption that young children are *'... happy and enthusiastic museum visitors.*' As outlined in Chapter 5, and concurring with the majority (e.g. Piscitelli and Anderson, 2000; Kirk, 2014), the children in this research are mostly happy during their visits. Importantly however, they are all sometimes unhappy or disgruntled. This might be communicated by brief periods of impatience, frustration or boredom that are likely to be linked to minor conflicts with their caregivers (often related to exploration) as discussed in section 6.3.1. The children's fluctuations in mood were characteristically variable throughout, although the negative affective reactions did tend to be more prevalent in the second half of their visits. In other words, these children tended to be generally *'... happy and enthusiastic...*' visitors, but not always happy and enthusiastic.

The following sections will address the affective reactions (and their impacts) that are common amongst all the children during their visits. I categorise affective reactions such as wonder, curiosity, excitement and playfulness as positive as they tended to foster engagement with the museum spaces. These will be outlined first. I will then address negative affective reactions such as boredom, impatience and irritation. I class these as negative as they tended to interfere with engagement with the museum spaces. It is acknowledged that each of these reactions exists on a spectrum and are unique to each individual and context.

6.4.2 Wonder

Although wonder has not received much attention in the literature, it has not gone entirely overlooked. For instance, Piscitelli (1997, p. 20), notes that young children enter museums with '*a sense of wonder*', and Allen (2003) (remarking that verbal indicators are at best crude indicators of affective impact) coded similar comments e.g. 'woah', 'wow', as markers of intrigue which she defined as expressions of fascination and excitement. More recently Degotardi *et al*. (2017) noted that children who were visiting for the first time demonstrated a sense of wonder and awe at exhibits they saw for the first time.

Amongst the children in this study a common reaction to seeing an object or area of interest was an excited exclamation of wonder (often accompanied by a sense of excitement) such as 'wow', 'woah' or 'huuhh'. This was sometimes followed by pausing, moving closer or taking a photograph (See F5.2.5). This was more popular in the first-time visitors. Although still common for repeat visitors (Sophia and Una), they less often expressed themselves in this way. This was probably because they had encountered some of the spaces before. By wonder I refer to a state of astonishment induced by a perceived novelty or incongruity (Schmitt and Lahroodi, 2008) that might provoke a reaction such as 'wow'. These exclamations did not necessarily seem to trigger in the children a need to ask or engage further; it was often enough to just momentarily wonder (maybe take a photograph) and then move on as illustrated in F5.2.5. This point is underlined by Schmitt and Lahroodi's (2008) comment that while curiosity may accompany wonder, a desire to know always accompanies curiosity. They continue that if this desire to know is indeed present in

wonder, it does not usually lead to a desire to relieve any cognitive dissonance that may arise. This was the case with these children; a sense of wonder did not commonly precede curiosity. Although on a few occasions it did (See F5.4.11). Langley, the creator of the Children's Room in the Smithsonian Institution, paraphrasing Aristotle, asserted 'knowledge begins in wonder' (Swigger, 2018). In the case of these six children, in the moment at least, wonder did seem to draw attention to things. However, it did not seem to (during the time of the visit at least) universally induce a desire to know more which, according to Schmitt and Lahroodi (2008) always accompanies another of the children's affective reactions 'curiosity'.

6.4.3 Curiosity

Curiosity can be defined as '*... a desire for information in the absence of extrinsic reward' (Pekrun and Linnenbrink-Garcia, 2014, pg. 835)*. This trait is often implicitly associated with young children in museums, but the extent of their curiosity is rarely interrogated. Much previous research (Kirk, 2014; Piscitelli, Everett and Weier, 2003) use the term curiosity freely to describe an innate trait possessed by children without necessarily questioning the extent to which the children actually present a curious disposition. For example, Piscitelli, Everett and Weier (2003, pg. 131) describe young children combing '… *museums to locate information, explore ideas, gain knowledge and engage their curiosity about various topics*'. I will now explain, that in relation to the experiences of the children in this study at least, this statement is something of an exaggeration.

With reference to the above definition the children are all curious about discovering the new spaces. This is illustrated by their ubiquitous and emplaced exploratory behaviour that is grounded in their comprehensive scanning of the spaces they move through in order to find out what is there. However, going a step further and actively finding out or seeking to learn something new (other than what is there) about the things on display was, in the moment, less of a priority for these young children. This is pointed out in relation to the extent of their questioning in section 6.3.2. Instead, the children often seemed most satisfied by 'naming' and describing objects (see section 6.5.4) or examining them (visually or with touch) in a cursory fashion before moving on to the next thing. This is in contrast to actively seeking new answers and exploring new ideas in relation to objects that are new as would resonate with the definition of curiosity above and Piscitelli, Everett and Weier's (2003) description of young children's curious disposition. Indeed, they are most often engaged by objects that they know something about or are familiar with from a different context. This is illustrated by the common themes of naming, describing and linking to the children's wider experiences that are addressed in S6.5.4. Children's interest in the more concrete aspects of objects (Kirk, 2014; Fidler, Bunney and Craven, 2011), and that objects linking to past experiences are particularly memorable (Piscitelli, Everett and Weier, 2003; Piscitelli and Anderson, 2000; Crowley and Jacobs, 2002), has been noted before. This research indicated that, from a child's perspective, engaging with things simply because they are familiar or have previous knowledge of them is a satisfying experience in itself and forms the mainstay of their approach to the spaces they moved through. This is not, of course, a bad thing as the connotations of these connections will be varied and likely remain after the children's museum visits. So, what might seem a superficial

connection during the visit, may well develop into further engagement at a later stage (Stocklmayer and Gilbert, 2002). In summary the children are all curious to discover (with all their senses- most overtly gaze and touch) name and describe what is in the spaces. However, it is unusual for them to want to verbally pursue further information about the objects on display.

6.4.4 Playfulness

All the children were playful, in the sense that they were light-hearted and expressed pleasure and/or amusement when engaging with others and props. This often revolved around the handheld camera, as well as props (e.g. a toy tea set or a listening tube) when they were available. Similarly, Fidler, Bunney and Craven (2011) comment that playful behaviour occurred with touchable objects, people or both and this is also true for the children in this study. For example, Sophia playfully taking a photograph of her dad (F5.3.22), and Wilbur playing with a tea set (F5.7.19). This playfulness was woven into the children's visits and represented fragments of time when they were focussed, engaged and interacting with their families. Although the children were most absorbed when playfulness occurred with others it also happened when the children were alone. This focus on playing with the camera was one of the reasons that Bill's dad confiscated it for a time (See section 5.5.2). Episodes when there was playful involvement of others were particularly memorable for the children. For example, Bill, in interview, commented on a playful episode with his dad and the T-Rex head cast (see F5.5.23): '*I think I liked that one because my dad put my head inside it*'.

Another example is Wilbur enjoying during his visit and later commenting on playing with the toy teapot in interview (F5.7.19). I will now consider this point in light of Fidler, Bunney and Craven's (2011, p. 46) comment that there was no evidence in their study that '*creative/purposeful play, storytelling or playfulness with 'own truth' happened'* even though they had provided opportunities for this to occur. They put this down to the parents being more concerned with engaging the children with facts and 'truths' about the objects on display. This resonates with the findings of Shine and Acosta (2000) who suggested that parents inhibited pretend play because they were more concerned with facilitating the children's learning. In this research, all the children engaged with their caregivers in light-hearted episodes of play. During these episodes the children appeared most focussed and at their happiest. They were not necessarily 'hot and sweaty' as described by Piscitelli, Everett and Weier (2003) but certainly engaged and cheerful as illustrated by the examples in Chapter 5. In this study the children were not inhibited by the parents during or before episodes of pretend play, except perhaps in the case of Bill when his Dad took the camera away from him. However, the opportunities provided by parents for these episodes varied between the museum types. The children in Museum C were supported in pretend play the most, and the children in Museum A and C were supported the least. The reason for this is a matter of speculation but considering Museum C is advertised as a playful space for children, provides props to support this, and the well-known benefits of pretend play for literacy (Lillard *et al.*, 2013), means that this finding is perhaps not surprising. This corresponds with Dooley and Welch's (2014) point that in interview children from both family and school groups all said they were visiting a children's museum with the aim to play. From the children's point of view in this study the type of museum did not seem to

matter. They all arrived with a playful attitude. The differentiating factor for them was concerning opportunity. So if the opportunity arose to interact with props and their family members in a playful way then this is something that was immensely enjoyed and particularly memorable.

6.4.5 Humour

All the children experienced periods of humour during their visits which corresponded with attention to objects. This is most often indicated by outbursts of laughter. This is often a spontaneous reaction to a particular exhibit, for example, Noel laughing at his confusion of the words 'sticks' and 'six' when looking for a peacock mantis (F5.4.19) or Sophia's laughter when she encountered an unclothed statue (F5.3.8). The different types of scenarios that the children found amusing were those that were characterised by a degree of incongruity or wrongness (Paine *et al.*, 2019; Hoicka, Jutsum and Gattis, 2008). Referring back to the two examples above, this might apply to the confusion between two similarly sounding but different meaning words, or surprise that the statue was naked. An amused interaction with something tended to encourage attention on an object, but this was often short-lived.

6.4.6 Negative affective reactions

There were three negative affective reactions that were common across the cases. These were impatience, frustration, and boredom. As noted in section 6.4.1, these negative reactions are not given a great deal of attention in the literature. Kirk (2014)

for example briefly mentions that mood fluctuates during a visit but does not expand on this presumably because these emotions were evidenced in her observations but not discussed by the children in interview. To some extent there was overlap between the three, so I will not address them separately.

All the children showed signs of impatience, frustration and boredom on many occasions during their visits. This was most often linked with micro-conflicts that resulted from a clash of the children's exploratory instincts with their parents' educative agendas (section 6.3.1). Incidences of this trio of emotions became more evident in the second half of five out of the six children (not Wilbur, perhaps due to his shorter visit). This was perhaps coinciding with the onset of museum fatigue (Melber, 2008). However, incidents of all three occurred after the first 10 minutes of the visit and throughout the visit. Signs of impatience might include persistent requests to move on and becoming restless (see Sophia in F5.3.2 and Wilbur in F5.7.8). Impatience is often coupled with a sense of frustration in all the children. Frustration might be exhibited in a child's raised or irritated tone. Frustration might also be linked to difficulties with engaging with exhibits due to physical issues, for example when Una tried to clamber up onto a large bed to join her dad (F5.6.13). The children also all exhibit short periods of time when they appear bored. The children demonstrate a sense of boredom by a failure to find something they are doing or introduced to as interesting, perhaps attending to something else when being read to, or fidgeting or repetitively doing something, for example Wilbur playing with the 'story tube' when being read a story (F5.7.14). These three affective reactions to situations the children find themselves in all resulted in their attention being fixated, sometimes only briefly on overcoming the issue that is creating the

dissonance. For example, moving onto something different (F5.6.3), or overcoming the physical difficulty with help or otherwise (F5.5.15). What this meant in practice is that the children were not focussed on the museums' collections. Instead, their focus is, rather egocentrically, on resolving their feelings of psychological discomfort. It was apparent that the children were persistent in expressing these emotions and were consciously or not using it as a means to encourage their accompanying adults to change what they were doing to suit their mainly exploratory tendencies (see F5.3.3 and F5.3.5). This finding, perhaps gives a degree of insight into Tolmie et al's (2014) point that adults are often obliged when in the presence of young children to move on before they are ready.

6.5 Patterns of attention

Table 6.4: A table to show common themes relating to patterns of attention

	Edward	Sophia	Bill	Noel	Una	Wilbur
6.5.1 Varied/idiosyncratic	Yes	Yes	Yes	Yes	Yes	Yes
Aspects of the building itself	Yes	Yes	Yes	Yes	Yes	Yes
Linking to wider experience and knowledge	Yes	Yes	Yes	Yes	Yes	Yes
6.5.2 Objects that break with expectation	Yes	Yes	Yes	Yes	Yes	Yes
Large objects	Yes	Yes	Yes	Yes	Yes	Yes
Small objects	Yes	Yes	Yes	Yes	Yes	Yes
Aspects of the building itself	Yes	Yes	Yes	Yes	Yes	Yes
Bright and shiny objects	Yes	Yes	Yes	Yes	Yes	Yes
Objects that are funny	Yes	Yes	Yes	Yes	Yes	Yes
Animals/animal representation	Yes	Yes	Yes	Yes	Yes	Yes
3-D representations of human form	Yes	Yes	Yes	Yes	Yes	Yes
6.5.3 Naming not necessarily correctly (link to above point)	Yes	Yes	Yes	Yes	Yes	Yes
6.5.4 Description	Yes	Yes	Yes	Yes	Yes	Yes
6.5.6 Touch	Yes	Yes	Yes	Yes	Yes	Yes

6.5.1 Varied and Idiosyncratic

These children's attention was, similarly to previous findings, idiosyncratic, varied and personal (Kirk, 2014; Anderson, Piscitelli and Weier, 2002). There are certain properties possessed by things in the museum that past research has considered to be more salient to young children than others and the same was found to be the case for these children. For example if they are large (including relative size) or indeed small in size (Kirk, 2014; Jenkins, Lisk and Broadley, 2013; Piscitelli and Anderson, 2001; Dockett, Main and Kelly, 2011), aesthetically pleasing (e.g. bright, shiny, sparkly, patterned), related to animals or link to their wider experience (Kirk, 2014; Piscitelli, Everett and Weier, 2003) and aspects of the buildings themselves (Hackett, Procter and Kummerfeld, 2018).

6.5.2 Object properties: breaking with expectations

Building on the above, the context provided by the children's FPV traces allowed a further point to be made. The children, in contrast to things that are familiar to them, are drawn to objects that break with their expectations, prompting the children to express surprise, wonder, fascination and sometimes humour when they see something that is not expected or unusual. This break in expectation manifested under a number of different guises. For example, it might be that something was visually contrasting in terms of the local context or in their wider experience such as something particularly small or large. For example, Noel's excitement when he spotted a pygmy shrew which is substantially smaller than other animals in the

display case (F5.4.12). On this occasion he exclaimed to his grandmother in an excited and surprised tone emphasising its size exclaims, '*Oh I can't even see it through the camera, look*' before taking a photograph (F5.4.22). This reaction combined the playful enjoyment of his interactions with the camera with his incredulous reaction to the size of the shrew.

Physical properties that struck the children in this manner were not limited to the visual. For example, an object's haptic qualities also drew attention, particularly when it contrasted or broke with expectations. For example, Noel exclaiming '*Do not feel his claw ... ow, my hand oh my*.' when he felt a bear's paw. Clearly struck by this, in interview, he commented '*And the claws felt very sharp. I could squeeze my finger under them and it was really sharp.*' Kirk (2014) links responses concerning claws and teeth to children being instinctively drawn by aspects of predatory animals that might harm them. Although this may be true, there is no evidence here to suggest that this is the case. Instead, Noel communicated a degree of surprise at how sharp the claws were, as he did a few moments earlier concerning the feel of the bear's fur when he commented *'... and he's so soft.*' Similarly, children when feeling inanimate objects such as a sofa had similar reactions to their engagements. In other words, their excitement was in the novel sensation rather than any great association with the utility of the objects they were engaging with. For example, Edward exclaimed *'...cause that bench is so soft'* (F5.2.26). Unexpected sounds also drew attention, for example Wilbur, stopping when he heard unexpected recorded birdsong when he moved into a new exhibition space (F5.7.20).

This break in expectations could also relate to encountering things that triggered an unexpected consideration of concepts such as death. For example, Bill thought a skull belonged to a small child in a photograph that was positioned above it (F5.5.17). Bill's momentary shock and sadness indicated that this was not something that he expected or was used to encountering.

Alternatively, it might be in relation to seeing something that breaks with what a child might perceive as normal in a broadly cultural sense or indeed just unusual. For example, both Edward (F5.2.24) and Sophia (F5.3.19) being struck by the nakedness of the statues that they encountered. Although the exact reason for their curiosity cannot be discerned from the FPV footage, it is reasonable to surmise that they do not usually encounter naked representations of adults, therefore the sights are unusual and intriguing. In interview Noel commented '*I don't find them … I don't really see them in museums very often.*'. He was referring to his photograph of the black bear that he wanted to show me. He clearly enjoyed touching the bear as noted above but his comment also alludes to its unusualness as a quality that attracted him to it.

6.5.3 Naming

It is well-established that young children in natural history and science museums have a predisposition to name things in relation to what is known to them (Bates, 2018; Kirk, 2014). This behaviour is less well documented in other museum contexts (Dooley and Welch, 2014). This is usually animals in natural history museum

exhibits (Kirk, 2014; Reiss and Tunnicliffe, 2011; Tunnicliffe and Scheersoi, 2009). To extend findings focussed on natural history museums the children in all three museums demonstrated a predisposition for naming things that they recognised. Often naming seemed satisfying in itself with the children keenly blurting out names of things to others and, under their breath, to themselves. As noted by Kirk (2014), the children sometimes made mistakes, used close approximations or referred to generic categories, instead of a specific species. For example, Wilbur mistakenly commenting '*Wow snakes*' when he saw some wooden sticks (F5.7.16), Edward blurting out '*the Queen*' before taking a photograph (F6.1 and 6.2) of a painting of an aristocratic lady, and Noel chanting '*a bug and a bug and a bug*' when walking down a corridor with the museum's entomology specimens on display. The satisfaction came from their ability to tie a name to an object, rather than a curiosity to find out more.

Figure 6.1: Edward's photograph of the 'Queen'.

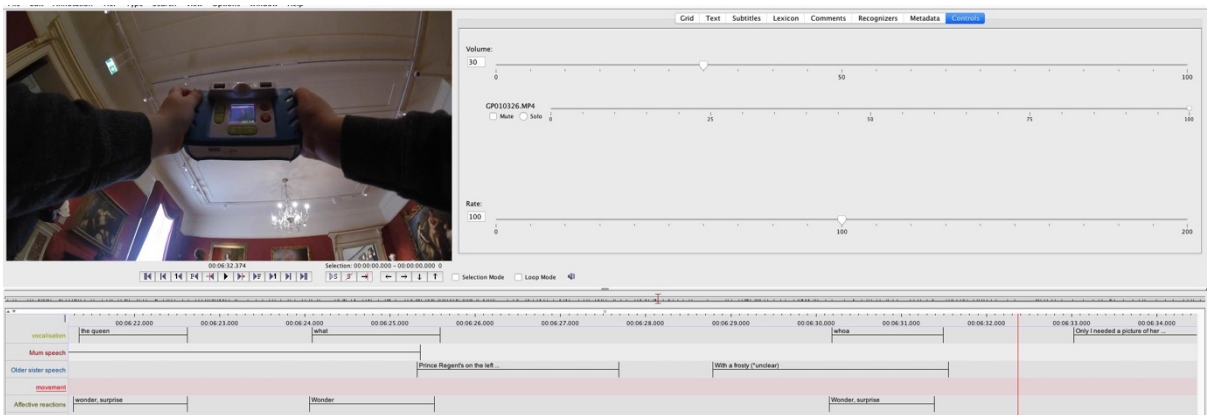


Figure 6.2: Edward naming the ‘Queen’ and taking a photograph (Figure 6.1)

Although naming activity was particularly common in the natural history museum (museum B), it also extended to the other museum contexts. In the other museum contexts, animals were again a favourite as were everyday items such as pots and teapots for Edward and Wilbur. Not surprisingly the children named things that they were familiar with from their everyday lives or experiences such as digital media (Kirk, 2014). For example, Noel made the point in interview that he was familiar with diamonds from the computer game Minecraft (see section 5.4.4). This is likely to explain the divergence in naming between the contexts. For example, the children were much more likely to name things in Museum B, the museum of natural history because its collections contained many objects they were likely to have some knowledge of, whereas Museums A (art and archaeology) and C (children’s literature) did not. Correspondingly in interview there were fewer examples of discussing the names of things from the children visiting museums A and C.

It could be that the linguistic development of the individual children could explain these differences, especially considering Edward and Sophia (Museum A) are both

only just four in comparison to Noel and Bill (Museum B) who are both five. Anderson et al. (2002) make a relevant point in their study. They speculate that in contrast to a science and an art gallery, a natural and social history museum and an art-social history museum held either direct or indirect experiential relevance to the children resulting in rich description in post-visit interviews. They attribute this to the children being able to culturally identify things via their experiences of toys, books, popular media and classroom environment. The children do periodically indicate where they know about things from (Noel and the computer game Minecraft) and Una's familiarity with a book from school. So it is reasonable to assume this is the case for these participants too. I would also add everyday items (pot, teapot, toothbrush) from the children's home environment to this list too.

Tunnicliffe and Scheersoi (2009) go as far as to say naming is a basic human need. As others' point out, (Dooley and Welch, 2014; Kirk, 2014) naming can be used as a means to initiate praise from those around them by demonstrating knowledge, or as means to 'collect' a cognitive record of the specimens around them (Dooley and Welch, 2014; Kirk, 2014). In this study the indications are that even though the children wanted to demonstrate knowledge to their caregivers and enjoyed receiving praise for this, there was still an underlying instinctive desire to name present. The reason for this conclusion is that naming by all the children was sometimes done under the breath or when some distance away from their parents (Edward, when several metres behind his mum and his sister, quietly stopping in front of a display case and saying '*wow, teapot'* before quickly moving on (F6.3). Similarly (and often in accompaniment) to affective expressions of wonder, naming in all contexts was

often satisfying in itself and did not necessarily trigger further discussion (Fidler, Bunney and Craven, 2011; Kirk, 2014) or indeed pursuit of information.

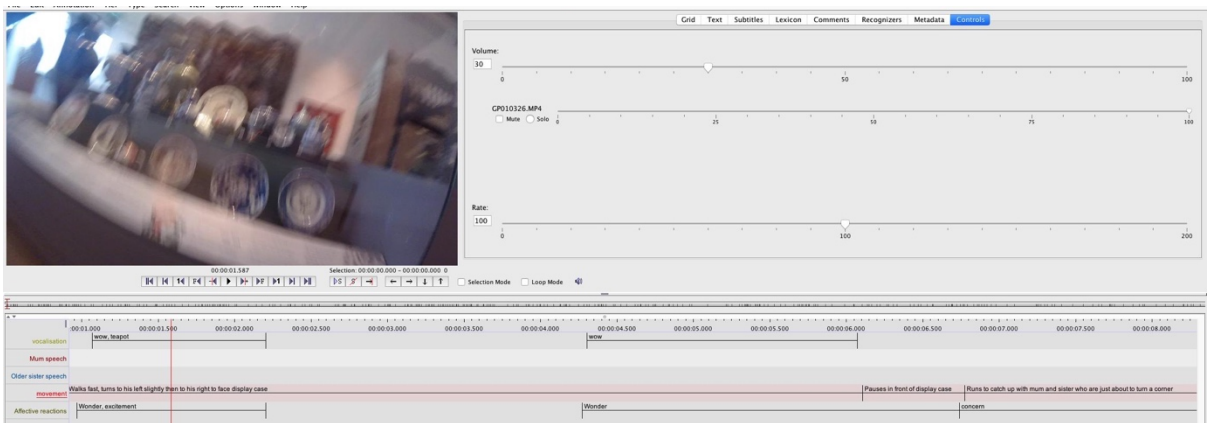


Figure 6.3: Edward naming a teapot

This project's findings suggested that the children's naming is a key, instinctive and personally satisfying way in which all the children interact with objects during family visits This is mediated by the opportunities provided by the context.

6.5.4 Describing

The children all spontaneously but infrequently go beyond the naming discussed above to briefly describe things they encountered during their visits. Description during the visits often involved describing a salient feature of an object e.g. its size, feel, surface features or body parts (Tunnicliffe and Scheersoi, 2009; Kirk, 2014). For example, when Sophia pointed out that a stone sphinx had *'sharp nails'* in F6.10. Interestingly Kirk (2014) noted that colour was commonly used in children's descriptions. In this study it was unusual for the children to mention colour, with size

being the descriptive term most often used by all participants during their visits. This resonates with Fidler, Bunney and Craven's (2011) observation that unless encouraged by parents, young children did not often mention colour.

Using descriptive language was markedly more common for Noel and Bill during their visits to Museum B and in their post visit interviews. As noted above this could be due to more advanced linguistic development. Kirk (2014) noted that boys were more likely to use descriptive language than girls and that this language tends to be more concerned with the function of objects. In contrast when girls use descriptive language it tends to be focussed on aesthetics. Although it is not possible to make any assertions regarding gender in a project with so few participants, it is possible that a combination of gender and linguistic ability could be factors that contribute to the disparity in the amount of description. During their visits, and in interview the boys in this study did not focus more than the girls on shape, size and body parts as noted by Kirk. In fact, they were just as concerned to comment on surface features such as texture as the girls. Examples of this were Noel's comment about his photograph of a snake in interview '*It's just a big curl of stripes'* and Edward's comment about the 'soft' sofa fabric (F5.2.26). Building on a similar point made in the naming section, it is likely that because Museum B's context was rich with links to the children's wider experiences, hooks to connect the objects on display to the children were readily available, thus encouraging descriptive comments. This point will be expanded on below.

Similarly to others' findings, children's descriptions also related to creatively connecting or interpreting an object in relation to each child's wider experience (e.g.

Kirk, 2014). For example, Noel described (and photographed) a taxidermy fish as a '*plate fish*', presumably connecting the flat fish (plaice) to either something that might commonly be bought in a shop and cooked or that it was flat and round resembling a plate (F6.4). Or Edward describing an ancient Egyptian chariot wheel as a '*tyre wheel*' (F6.5).

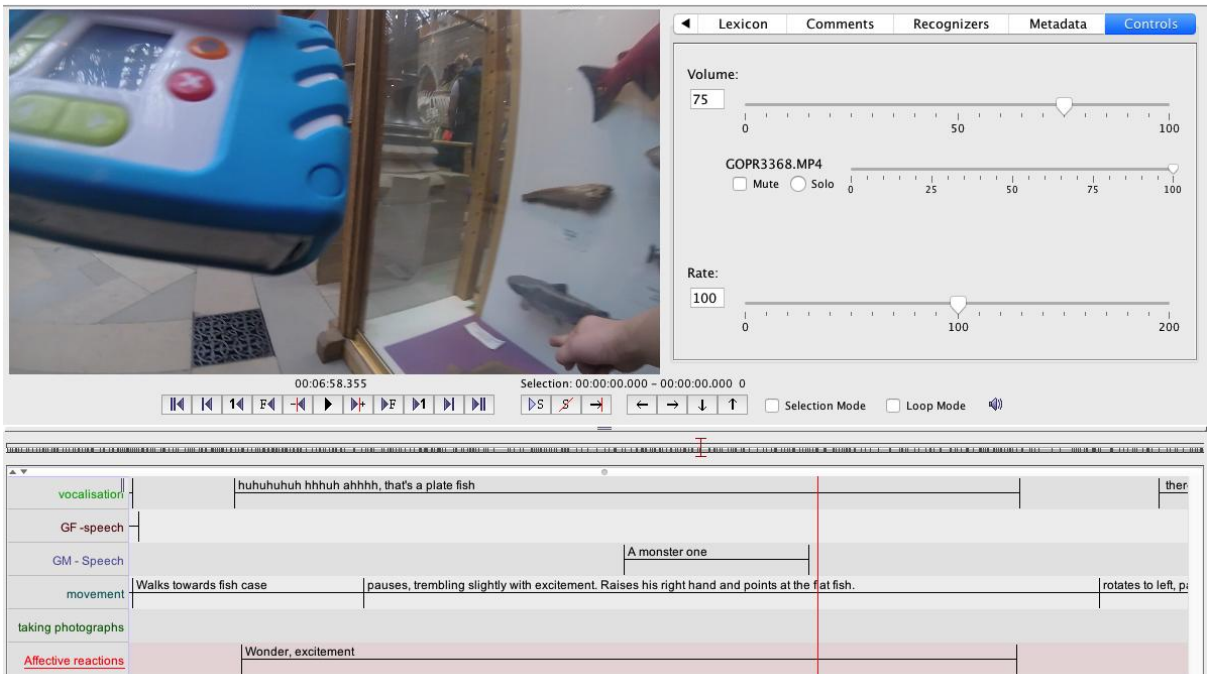


Figure 6.4: Noel excitedly pointing out the 'plate fish'.

Bill when he first saw a small struthiomimus skeleton cast, commented '*Oh yeah, it looks like she's doing a ballet*', thus interpreting the dinosaur's stance and, in the words of his dad, her '*...dainty...*' frame with a type of dance familiar to him. These creative connections appeared to be examples of the children incorporating their past experiences and knowledge to things they engaged with in the museum and subsequently creating new understandings. This is a process that Kirk (2014), drawing on Rinaldi's (2006) articulation of learning as a creative process, calls connecting. Although the children did on occasion make erroneous connections

(5.7.16) which are highlighted in Kirk's (2014, 2018) research as creative, it seemed that during the visit the children were much more likely to try and make sense of what they saw by drawing on what they were familiar with.

Kirk (2014) noted that children in interview rarely made connections between objects within the museum but when they did they tended to relate to comparisons. In this research the findings are slightly different. For example, while the children did not in interview make connections between objects, they did, as discussed in 6.5.1 notice contrasts between objects during their visits. This in a sense is making a connection between objects, yet it also paradoxically served to draw focus on to a particular object.

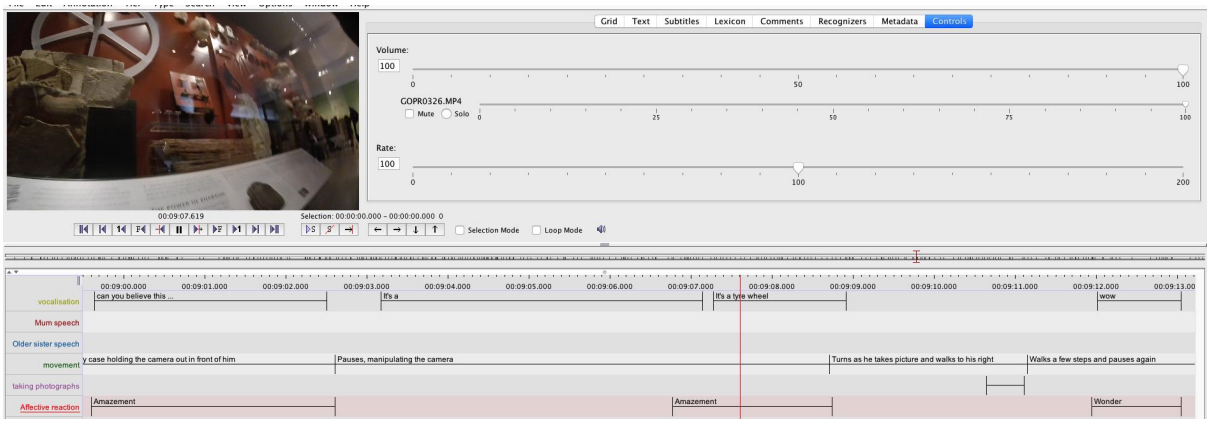


Figure 6.5: Edward naming an Egyptian chariot wheel replica a 'tyre-wheel'.

6.5.5 Considering the children's naming and describing behaviours together

The naming and describing behaviours communicated by the children in all contexts chimed with Borun et al's (1996) first two stages of family learning that happens at science exhibits. These are first identification and then describing (linking to personal experience based on visible characteristics not concepts). These findings indicate that this approach is a consistent reaction to encountering things regardless of the type of museum. There was only one occasion across the cases that a child moved into Borun et al's (1996) more abstract third stage 'interpretation' where children might spontaneously link abstract concepts to life experiences. This occurred when Bill (although mistakenly) associated a photograph of a child with a 'dead' skull (5.5.17).

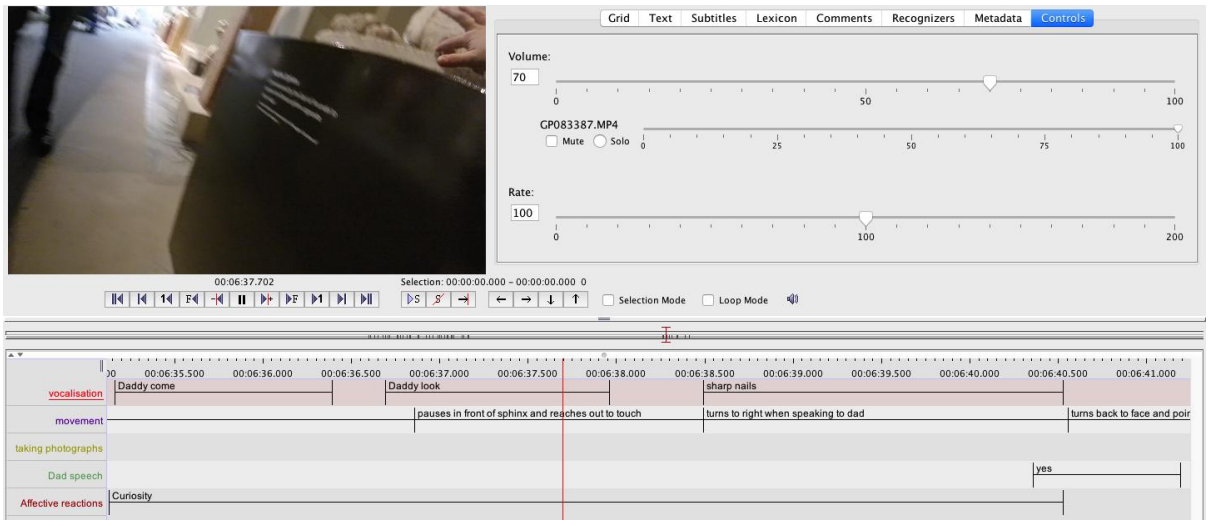


Figure 6.6: Sophia reaching out to touch the claws of a sphinx

Although, of course focussing on the children's experiences in three different museums, it is interesting to consider the predominance of naming and describing in light of Tunnicliffe and Scheersoi's (2010) finding that there is typical biological diorama interaction sequence (not necessarily in this order) (Reiss and Tunnicliffe, 2011). First a specimen is identified or named. Secondly interest is shown perhaps by commenting on a salient feature, behaviour or by making an affective comment. Thirdly if their interest is captured, they start interpreting the scene based on their knowledge and understanding. Fourthly they might investigate with questions and by making hypotheses. The children, when engaging with exhibits in all contexts, mostly focussed on the first stage 'identify' where they might name an object and then 'interest' when they might describe it in terms of salient features, behaviours as described above, or make affective comments such as expressions of wonder. As discussed in sections 6.3.2 and 6.4.3 the progression to an investigative approach was not common for the children, and when they did their questions were often met with closed answers preventing them from pursuing things they found of interest any further.

Whether or not the children in this study (other than Bill) were capable of more advanced interpretation is a matter of speculation. However, both the studies referenced above incorporated data from children older than five years old therefore perhaps, in relation to this study, over emphasising the ability of four and five-year-old children. While this might be the case, the children themselves communicated (with their movement and actions) a desire to explore the spaces that tended to override their motivation to engage more deeply with the exhibits. Instead, they

seemed most satisfied with the acts of naming and description that complemented their desire to move quickly from one thing to another.

Another reason possibly exacerbating this is that the exhibits themselves may not encourage more than basic naming and description. For example, Museum B included only a few small isolated scenes that could be part of a much larger diorama. For example, a bird of prey with its wings spread perched on a branch. This scene, for example, prompted some interpretation from Bill, when commented *'... it looked like it was actually flying*' (See section 5.5 and F5.5.1). The majority of objects, however, are displayed on individual shelves without context. Museum A's exhibits are again mostly displayed individually with a label and without context, and Museum C's exhibits are immersive scenes which are designed with the expectation that visitors fill the spaces with their own imaginings.

In summary across the cases the children spontaneously name and describe, sometimes with an interpretive element, objects in relation to their salient features and wider knowledge and experience. This rarely progressed to any real investigation of objects due to the children's attention being more focussed on exploration of the spaces.

6.5.6 Touch

In common with other studies all the young children irrespective of their context instinctively enjoyed touching objects (Kirk, 2014; Dockett, Main and Kelly, 2011). For example, Sophia reached out and felt '*sharp nails*' (F6.6) and Una reached out to

touch the dressing gowns in F5.6.7. For the most part their touch appeared brief and exploratory.

Sometimes the children's intensity when engaging with touch resonated with MacRae's (2007) point (drawing on Merleau-Ponty) that the hand is like an extension of the brain that brings us closer to an object, connecting us more intimately to the material than gaze can alone (F5.4.21). Another common means of interaction included reaching out to touch the glass of a display case in lieu of the object itself (see Figure 5.5.6, part four). Hackett, Proctor and Kummerfield (2018, p. 9) comment that '*... young children seemed to experience a sense of touching objects even when they were behind glass*'. The instinctive nature of the children's touch was not restricted to the hands and included moments when they draped their whole bodies or lent on top of exhibits or display cases (see Sophia pouring over a hoard of coins in Figure 5.3.11). These attempts to get as close to objects that caught their attention as possible with their hands and indeed whole bodies indicated an uninhibited sense of freedom to act on whim and instinct that is unfamiliar to many adults. The range of ways in which the children engaged their bodies with the material environment showed that they sometimes wanted to actually feel involved in the material spaces around them rather than separate from them.

Analysis of the FPV trace and interviews suggested that touching is both meaningful and memorable for all the children during their visits. This is supported by two main points. Firstly, it is typical for the children to dispute when they are prevented from touching an object (i.e. Bill's dad stopping him touching a dinosaur cast in 5.5.14). In this example Bill's protestation suggested that touch is something he really

desired to do. Secondly the children (in interview) either indicate that touch was important to them or mention objects where touch was an integral part of the interaction. For example, Noel said that he was interested in the black bear specifically because he could touch him (Section 5.4.5) and Wilbur (Figure 5.7.1) referred to a teapot as his favourite thing in the museum (something he interacted with mostly by handling). These findings resonate with Kirk's (2014) comments that as touch was mentioned in the majority of her interviews it was clearly of value to the children.

In a comparable sense to verbal interactions often beginning with naming and progressing to describing when interest is whetted, the children's engagement often began with an outstretched hand and brief touch as in the example of Edward's fleeting touch of the sofa as he moved past. However, if their interest is further engaged, this might progress to a more comprehensive exploration of the object like Noel's handling of the black bear (F5.4.21). That said, similarly to the children's verbal engagement, their touch interactions tended to be brief rather than prolonged. This again seemed symptomatic of their overarching need to explore further. As noted by Kirk (2014), touching exhibits was not something the children do all the time or with every interaction, but it was certainly a mode of exploration of the material environment that formed an instinctive part of their repertoire.

Kirk (2014) comments that children approached touching taxidermy animals in a social way, for example stroking a cheetah and pretending to feed a fox. Bill and Noel's interactions in Museum B with the taxidermy touch exhibits were in contrast very similar to the other children's interactions with exhibits and architecture. They

appeared exploratory rather than social: a means to experience the feel of the 'soft' fur (F5.4.21) or the sharp claws (F5.5.29) in a similar manner to how Edward experienced the soft material on the sofa (F5.2.26) A reason for this contrast might be the way the taxidermy was displayed. For example, the 'black bear' touch exhibit in Museum B was on a raised platform and the children could not easily reach its head or back area which might encourage a more social, stroking interaction. Another reason might be that some species of animal induce a social reaction more than others, for example Kirk (2014) refers to a pony and a fox which might be perceived by young children as more akin to a pet than a large bear.

In summary, touch is an instinctive, exploratory 'tool' that the children all use to explore their environment. It is often fleeting but sometimes when interest is whetted might lead to a more thorough appraisal of the thing being touched.

6.6 Summary

In response to RQ 2 this chapter has discussed a number of commonalities of experience that are drawn from the experiences of six children. They represent the final stage of the IPA analysis that demonstrate a move from the particular to the more holistic whilst remaining grounded in the children's individual experiences. While the commonalities above resonate with some of the literature, they also diverge from it and build on it as might be expected from a unique combination of young children's family visit experiences across three different museum contexts. The commonalities were addressed under the headings: movement, family interactions, affective reactions and patterns of attention. Commonalities of

movement included the children's predisposition to explore. This exploration was more comprehensive than might be expected, yet also cursory in nature. The young children also communicated that they moderated their own behaviour in relation to their distance from their parents. Connected to this the children also appeared to take the architecture of doorways as a cue to stop unless they were closely accompanied by caregivers or siblings. It was also found that the children had a predisposition to synchronise their movement with rhythmic vocalisations particularly when bored or restricted in terms of movement but also sometimes when happy. Commonalities in the way in which the children interacted with their families included their agenda of exploration tending to be the root cause of minor conflicts within the family group. On the rare occasions these children demonstrated their interest by asking questions about the exhibits, they were met with a clipped response from their caregivers. All the children showed interest in finding things, however this rarely encouraged any greater depth of engagement. Although predominantly happy the children's affective reactions varied throughout the visit. They approached the exhibits with a sense of wonder, curiosity, playfulness and humour. In addition, they were sometimes impatient, frustrated and bored which communicated to their caregivers that they wanted to change what they were doing. The children were often drawn to objects that break with their expectations, spontaneously named and less often described objects that were familiar to them from their past experiences. The children also engaged through touch but not all the time (Kirk, 2014). These moments, although sometimes fleeting were often engaging and memorable (MacRae, 2007).

7 A reflection on the implementation of First Person Museum Ethnography

7.1 Introduction

The previous two chapters outlined the themes identified by the analysis. First, in terms of the individual visits (Chapter 5) and second in terms of the commonalities across the cases (Chapter 6). Specifically, Chapter 6 addressed RQ 1 and Chapter 7 addressed RQ 2.

This chapter will now address RQ 3:

RQ3 Is the use of the novel methodology 'First Person Museum Ethnography' effective in providing insights into young children's (aged 4 and 5) experiences of unstructured family museum visits?

This chapter will reflect on the use of the original and minimally disruptive methodological approach 'First Person Museum Ethnography' and the degree to which it allowed me to explore the young children's experiences during unstructured everyday visits. I outlined this methodology in detail in Chapter 4. To begin I will reflect on the three modes of data collection indicating how the photographs and photo-elicitation interviews complement the FPV trace. I will then turn to empathy and intersubjectivity and their role in my engagement with the research data. Due to

its primacy in this project, this will be with a focus on the FPV trace (the footage recorded by the GoPro). I will then reflect on the degree to which the FPV trace allowed an engagement with the children's emplaced experience. I will frame this discussion in terms of the social, sensory, and material contexts (Pink, 2015a). I will then focus on the use of IPA and how successful this approach was in addressing the aims of the research.

7.2 The FPV trace and how it is complemented by the photographs and interviews

First, I will address the nature of the FPV trace and then examine how it is complemented by the photographs and the photo-elicitation interviews.

7.2.1 FPV trace

This thesis represents the first time that FPV has been considered as an expression of young children's experiences. The theoretical basis of this conceptualisation has been outlined in detail in sections 4.8 and 4.9. As outlined, the GoPro camera itself can be considered as capturing a trace of a child's emplaced experience. It is not providing a view of the context; rather, it can be considered as part of, or entangled in the ecology of the place (Pink, 2015b) the child is moving through. As the child is wearing the camera, it is possible to consider the trace as an expression of the child's in-the-moment experience. Or, indeed, one of their 'hundred languages' (Cagliari *et al.*, 2016).

The extent to which the FPV trace has allowed me to engage with the children's experiences will be examined in more detail in sections 7.5 to 7.7.

On a practical level one of the interesting things about the children's interaction with the GoPro camera was that they did not seem to pay much attention to wearing it except for brief occasions when they might put their hands on it, or have their attention drawn to it by family members (Burbank, McGregor and Wild, 2018). One example being when Noel's grandfather drew his attention to the fact that he had put his hand over the lens. During this interaction Noel seemed far more focussed on whether the pink tarantula he was looking at was alive or not (Figure 7.1). This reaction is similar to that of Edward when his mum and sister reflect on the view the camera might give the researcher (Figure 5.2.10).

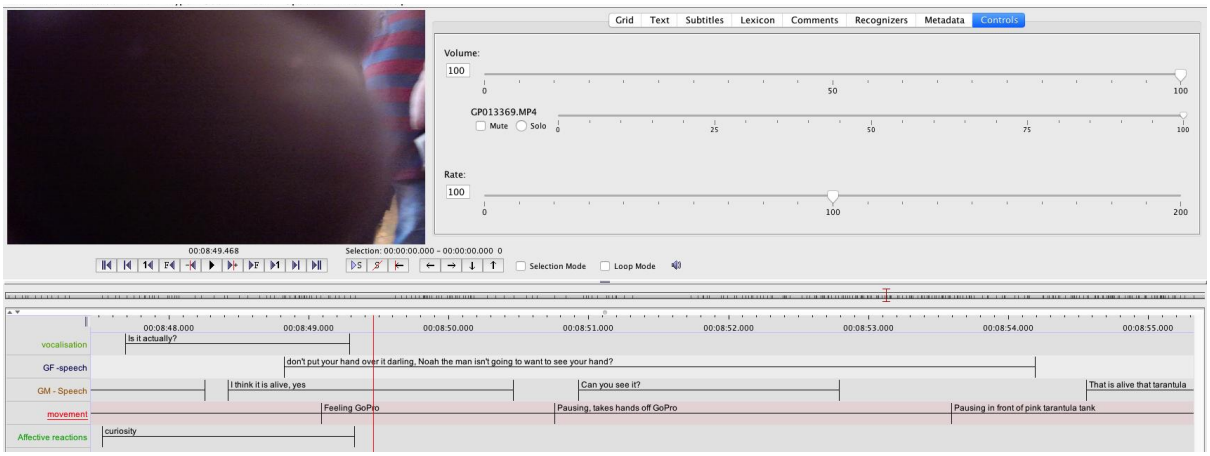


Figure 7.1: Noel's grandfather asking him to remove his hands from the GoPro lens

This is in contrast to findings concerning their use with older children who became bored wearing it after a short period and wanted to take it off (Caton and Hackett, 2019). It is also in contrast to research with adult cyclists wearing headcams who deliberately exaggerated or hammed up their own movements in order to make sure

they included things that were the object of their attention (Pink *et al.*, 2017). The reason for this may well reflect the children's age in that they did not seem particularly self-conscious. In fact, the children were much more interested in playing with the handheld camera than the GoPro™ and chest harness they were wearing. It is well documented that the authenticity of the children's reactions are affected by the presence of unfamiliar adults, especially when no trust has been established because of lack of time (Punch, 2002).

I suggest this finding means that the FPV traces produced by the children represented an authentic voice concerning their visit experiences that was not unduly affected by the presence of the researcher or of this particular research tool. That said I acknowledge that the GoPro's entangled presence would inevitably have had some impact on the children's experience (See section 7.6). This impact is perhaps more in relation to family members' involvement in the visit. For example, the adults and older children were clearly more aware of the GoPro's presence and potentially adjusting their behaviour as a reaction to it (as illustrated by the examples above). Feasibly this could explain why all of the parents (except Edward's mum who perhaps came to an understanding that the research was focussed on the child and did not want to interfere) were concerned with engaging their children with the exhibits. However, an educational agenda is also considered common for someone in a parenting role to bring to a museum visit with young children (Falk and Dierking, 2012).

7.2.2 Photographs

When conceptualised in the same way as the FPV the children's cameras also captured a trace of the children's experiences in the less complete form of photographs or 'snapshots' (Kirk, 2014). Photographs have long been considered as a means to empower children, in terms of giving them autonomy over when and what to photograph (Einarsdottir, 2005). While this is to an extent true here and the children all demonstrably enjoyed the independence of using the camera (see Chapter 5), there are certain caveats that should be appreciated concerning the notion or assumption of autonomy. These will be outlined below.

Although the photographs did provide some insight into a child's perspective, for example indicating what the children are interested in and their physical perspective (Kirk, 2014; Mizen, 2005), they can be easily misinterpreted without the insight provided by the FPV trace (e.g. Burbank, McGregor and Wild, 2018). The FPV trace additionally provided an insight into the social fabric surrounding the moment the children take their photographs (Burbank, McGregor and Wild, 2018). An appreciation of the social context is key to understanding why (and even by whom) the photographs are taken. For example, there were times when the children were encouraged to take a photograph by their parents or siblings (5.2.1), and there were times when they were 'playing' photography rather than specifically taking photographs of things they are interested in (5.3.22 and 5.3.23). Additionally, with the FPV trace it is possible to, for example, appreciate that an object was not initially noticed by a child but that they consequently showed interest in it after a parent drew it to their attention. Without this contextual information it would be easy to assume

that an object is spontaneously of interest to a child and that the child is fully autonomous in their choice of what to photograph at all times. These points do not necessarily affect the integrity of this research, as the photographs, being part of a 'trace' of the children's experiences inevitably includes the social fabric (Fasoli, 2003; Kirk, 2014).

In addition, the children tended to not take photographs during activities when they were physically engaged or particularly focussed (Burbank, McGregor and Wild, 2018), for example Bill looking for the queen bee or Wilbur searching for listening points. A lack of light also affected photography in Museum C, and both children made comments during their visits that this affected their photography. For example, Una's frustrated comment, '*no it's too dark!*' when she was asked by her cousin to take a photograph of some stars (See Figure 7.2 below). This is an issue with children's photography that has been raised before (Kirk, 2014).

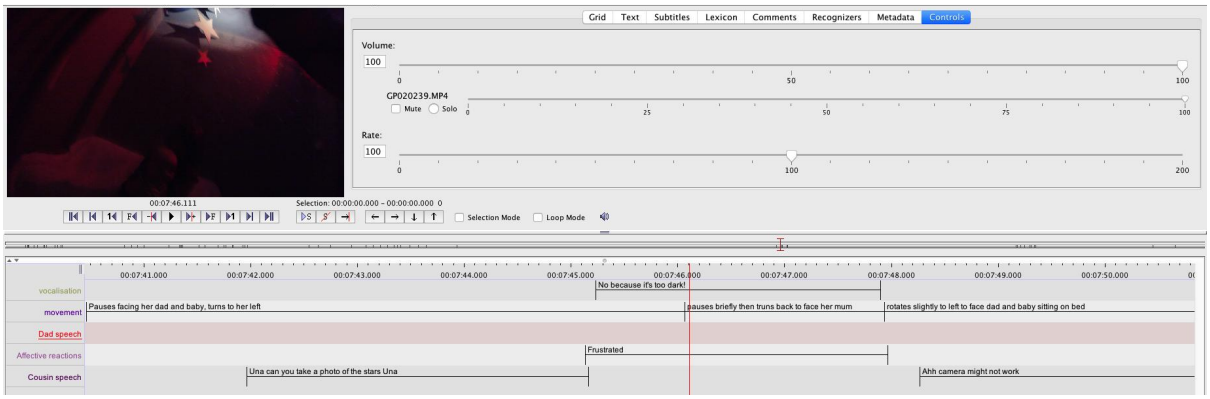


Figure 7.2: Una saying she will not take a photograph because it is too dark.

On reflection the photographs proved to be useful in three main ways:

1) Illuminating or confirming the focus of a child's attention at a particular moment in time. For example, capturing an image of something that a child is focussing on that is obscured from the FPV trace. In other words, they provided at specific moments further depth, detail and context to complement my empathetic engagement with the FPV trace

2) As outlined in Chapter 5, an enjoyable means for the children to participate in the research and be involved in the data collection

3) As prompts for the children in interview

The photographs were in essence a complementary method that when triangulated with the FPV supported effective and empathetic insights into the children's experiences.

7.2.3 Photo-elicitation interviews

The post visit interviews were of mixed length (see table 4.2), and although there was a schedule with questions such as asking for a child's age, address, ethnicity and whether they had visited the museum before my approach was deliberately unstructured and child led (see Chapter 4 for details). This approach was designed to be flexible and foreground the children's own voice so that they could choose both what to photograph and consequently what will be talked about (Einarsdottir, 2005).

This also resonated with the IPA approach to data collection (Noon, 2018). This point will be addressed further in section 7.9.

All the interviews provided some insight into the children's perspectives or reflections on their visit experiences suggesting that they were successful in prompting memories of their museum visit (Kirk, 2014). It should be remembered that the children are likely to be influenced by my involvement (Punch, 2002), which made it pertinent to reflect on the children's interview comments when viewing the FPV (where I was not physically present) post visit. This is a point I will return to later in this section.

Although the children's interview comments are idiosyncratic in terms of the social context and objects discussed it was noticeable that they predominantly focussed on categories of their visit experiences that are well established in the literature (see Chapter 2 for detail). For example, large objects and things that relate to the children's wider experiences (Kirk, 2014; Weier and Piscitelli, 2003). The interviews also focussed on things the children photographed and what they thought about them. They focussed rather less often on the physical nature of the children's engagement with them and the spaces. If I were to repeat this project, based on the centrality of exploration and the children's emplaced experience to my findings, I feel it would be valuable to pursue this avenue further. In other words, to probe what the children felt when they touched things, moved through the museum, or played with things. It is certainly a possibility due to language constraints that the children would struggle to articulate such feelings, but it is also possible such discussions may be illuminating.

Kirk (2014) made the assumption that family interactions during interview reflected interactions during the visit. In support of this, these interviews, when read in light of the FPV traces certainly provided some inferences or clues concerning the social nature of the children's museum experiences. For example, Wilbur's mum's directness reflected her interactions with Wilbur during the visit itself (see Chapter 5.7) and Sophia's dad, in taking a relaxed, encouraging and supportive role in interview reflected his interactions in the museum, (for example asking encouraging questions such as '*What about your plate Soph?*' when she appeared tongue tied). However, it is difficult to discern whether or not I would have reached the same conclusions if I did not have the FPV to triangulate my interpretations. In order to address this, I would need to gauge other people's opinions who have not watched the FPV, or in another piece of research make character judgements based on the interviews before engaging with the FPV trace.

Although I deliberately allowed the children to lead discussions and they were encouraged to choose which photographs to discuss, it was sometimes necessary (in order to keep the conversation flowing) to suggest a few photographs to talk about. The objects photographed, and therefore most often the objects discussed, also tended to be things that the children considered to 'fit' or would fit in the camera viewfinder or were typically photographable such as family members. Noel for example showed a direct concern for this when he tried to photograph a Moa (Figure 5.4.23) articulating that, as it did not '*... fit in the camera I'm just going to take a picture of its head'.* A focus on things that are typically photographable tended to exclude (but not always) elements of the building itself or things in the shop or café

thus skewing the discussion away from things the children might otherwise address in more detail. It also explains why a number of the children's photographs were focussed on the heads of animals in Museum B. As a number of the photographs were not of the entire specimen or of a discrete item then this again might have prioritised the children's comments towards things they could see in their photographs rather than considering them in a wider context.

Kirk (2014) points out that a strength of using photography is that it is an everyday activity in a museum setting. I agree, but also add that as the children were often 'playing' photography (particularly when imitating an adult's approach such as focussing the camera or asking someone to pause and 'say cheese') then this is likely to have skewed the children's choice of objects to photograph away from what they might have paid attention to without the camera as a prop. This therefore affected the nature of the photographic prompts available for discussion in interview. As discussed in section 7.2.1 this is in contrast to the GoPro™ camera that did not seem to greatly affect the children's behaviour during the visit.

These points meant that the interviews were not, even with the best of intentions, without bias. Although they were child led in the main, they were, from a practical point of view not entirely child directed.

Returning to the point about interpreting the interviews in relation to the FPV it was conspicuous that aspects of the children's visit experiences such as negative emotions and their drive to explore were not clearly articulated in this format. Contrastingly these aspects emerged as part of their experiences from the IPA of the

FPV as illustrated in Chapters 5 and 6. In addition, although the children's interview comments might suggest that a child was interested in a particular object in a photograph if they chose to talk about it, the children's vocalisations were often limited in terms of description and only a sense of the event or their engagement could be established. This highlighted a child's limitations in terms of verbal expression (Clark and Moss, 2011) and ability to accurately recall past events (Cordón, Silberkleit and Goodman, 2016). It is also likely that the children's ability to describe or name objects influenced their choice of photographs to discuss. In other words, it is entirely possible that the children skewed the discussion towards objects and events they knew they could talk about or describe accurately, rather than things they could not. This might, in part, account for the children's focus on large objects, animals and things they have prior experience of which did not entirely reflect the diversity of experience during the children's visits.

While this articulated 'sense' is of importance (as it is the child's own reflection on their experience), it was considerably more illuminating to allow the interview data to complement the FPV rather than the other way around (Burbank, McGregor and Wild, 2018). This is because the FPV provided a much more nuanced and holistic expression of the children's visit experiences than the interviews.

Kirk (2014) suggests that photo-elicitation interviews provide favourable circumstances for children to share their experiences. Einarsdottir (2005) adds that the responsibility of using a camera forges trust between the researcher and children. While these points are, to an extent, supported by this project it is also clear that the topics the children chose to talk about tended to be focussed on the more positive

aspects of their experience. While these arguably might be more memorable for a child, it is not providing a balanced picture of their visits. This is further exacerbated when the children's limited attention span during interview is taken into account meaning a thorough discussion of their visit and all their photographs was impractical.

Kirk (2014) having experienced success with photo-elicitation in one natural history museum setting speculates about whether the efficacy of this approach is likely to be context specific. Dunn (2012) also reported success with this method in a museum of anthropology and natural history in Sydney, Australia. This suggests that this method might be successful in different settings. This research in part supports this view, indicating that although photo-elicitation is productive across all three contexts, its productivity does vary based on the nature of the context. The interviews were most productive for the children in Museum B (the natural history museum), and least productive in Museum A (the museum of art and archaeology). As Chapter 5 illustrates this is not to say that the children's visits to Museum A and Museum C were not enjoyable and varied for the children. The most likely explanation for this variation is the contrast in the nature of the collections and the children's interactions with them. For example, the children in Museum B often encountered animals and other objects with which they were familiar (and were able to name) whereas the children visiting Museums A and C did not. It is logical to suggest that this link to past experience made it easier for the children to connect to and consequently to articulate their discoveries in interview thus accounting for their more productive nature. Contrastingly the art and archaeology exhibitions in Museum A and the immersive exhibitions in Museum C did not often link to the

children's wider experiences and knowledge therefore making it more difficult for the children to convey their experiences post visit. With such a small number of participants it is of course possible that individual differences account for this variation.

In summary the interviews, like the photographs on which they were based, were used as a source of data to complement the FPV. The interviews in themselves were illuminating and in combination with the photography provided an age-appropriate platform for the children to talk about their visits (Kirk and Buckingham, 2018; Dockett, Main and Kelly, 2011; Dockett, Einarsdottir and Perry, 2017).

I argue that together with the FPV they provide the children with a more powerful voice, through which I could empathise and understand their museum experiences. I will now discuss the extent to which this combination allowed me to engage with the children's visit experiences.

7.3 A reflection on empathy

The understanding of the FPV as a trace or expression of the children's experience, supported by the photographs and interviews, provided me with the opportunity to empathetically imagine (See Chapter 4 for more detail) what it is like for the children during their museum visits in terms of their entangled social, sensory and material interactions.

The difficulty here was establishing the extent and accuracy of my imaginings, and therefore the degree to which I can actually understand a child's situatedness (Pink, 2015b). I am not a child therefore I can never hope to experience the world exactly like a child (Kirk, 2014). For this reason, I have been conscious to provide some reference points from which my empathetic engagements are based. For example, I defined the different affective reactions expressed by the children (see table 4.3) and outlined my understanding of the degree to which the video trace is illustrative of a child's field of vision (See section 4.17).

Despite the strengths of this approach, there is an inevitable degree of subjectivity when I try to empathetically engage with the child's emplacement (Sumartojo and Pink, 2018). This is especially the case considering the FPV trace, although rich in detail, is rather arbitrary (Lahlou, 2011). To explain further, the field of vision and sound recorded by the GoPro is limited, therefore obscuring some of the wider context and leaving the viewer rather like a driver in a car with 'blind spots'. For example, it may not be clear what the children can see if they are up close to a display case, or a parent's voice may fade out if the child is moving away from them (Burbank, McGregor and Wild, 2018). As discussed in 7.2.2 the photographs sometimes help with these points by clarifying elements of the trace. Others have used multiple perspective video set ups to go some way to account for these blind spots. For example, the use of a tripod mounted camera to survey an 11-month-old child wearing a headcam (Elwick, 2015) and an aerial view of chest-mounted GoPro wearing children in a playground (Potter and Cowan, 2020). In addition, Degotardi *et al.* (2017) using chest-mounted GoPro cameras in a museum environment tasked a researcher to follow the group wearing an additional camera to provide a third-

person perspective. I decided this multiple perspective approach was just not practical in the museum spaces the children were visiting with the resources available to me whilst also keeping researcher intrusion to a minimum. Although it might be feasible to do this in a single exhibit, the aims of the project were to engage with the experiences of the children during an entire museum visit where they had the freedom to roam as they would during any other visit and without the researcher's presence affecting the children's behaviour. As a result, the GoPro data that I worked with was interpreted cautiously armed only with my intimate knowledge of the spaces and the knowledge I gleaned from the literature as outlined in section 7.4.

Even with these caveats in mind the FPV together with the photographs and interviews provided a unique opportunity to empathise with each child's unique and varied museum experiences.

I will now address how the site of intersubjectivity between myself and the children diverges from a classic ethnographic approach.

7.4 Intersubjectivity

In usual circumstances during an ethnographic study intersubjectivity would take place in person. Pink (2015) points out that the site, nature and quality of the intersubjectivity changes when FPV is involved. The intersubjectivity between the researcher and the participants takes place away from the field through a digital medium, and after the event (site), rather than in the field like a traditional

ethnography (Pink, 2015b; Hackett *et al.*, 2016). The time lapse between the children's actual experience and our intersubjectivity has several constraints and also several benefits. For example, not actually being with the children during their visit will likely have blunted my empathetic engagement to an extent but not entirely. For example Garrett (2011, p. 12) suggests that video can help generate *'... a multisensual facsimile of experience*'. However, it is noted in the literature that FPV can amplify movements, for example conjuring a sense of danger which is not experienced by the wearer (Pink *et al.*, 2017). The amplification created by the first-person perspective has also been noted as drawing attention to things that might otherwise go unnoticed using third person video perspectives (Elwick, 2015). In this research the children's movements, especially surreptitious checks for caregivers, were emphasised or foregrounded by the FPV trace. In order to go some way to counter this potential bias, I revisited the routes in the museums that the children moved through on multiple occasions, familiarising myself with the context, size of objects, and the scale and nature of the physical environment. Although I can never experience the museum like the individual children this did provide some perspective on which to base my empathetic engagement with the children's experiences via the FPV trace. This was even though I was not with them at the time.

A strength of using the FPV as the medium through which to engage with the children's experience is that it allowed me to repeatedly revisit the digital traces with an intensity (Knoblauch, 2005) that is just not possible during a short in person visit. This provided me with opportunities to reflect on my interpretations of an experience, photograph or interview comment by revisiting the actual trace of that

experience rather than being restricted to in-the-moment interpretations that are more usual in traditional covert observation techniques such as those used by Kirk (2014). This reflection allowed me to develop a more nuanced understanding of what the children were experiencing or how they were feeling that is just not possible via one quick engagement. An example to illustrate this is Wilbur's exploration of the Jungle Book room in Museum C described in 5.7.2. At first glance his movement appeared rather random, but when viewed repeatedly (in tandem with a movement map) it became apparent that firstly he was conscious of keeping his mother close by and secondly that his exploration was in fact rather comprehensive (see Chapter 6) and covered the whole space albeit quickly.

Another strength is that using FPV has the advantage of removing me physically from the children's visits. As discussed in section 7.2.1 the fact I was not accompanying the children in person reduced the high levels of researcher intrusion that might impact on the authenticity of a child's visit were I filming in person (Punch, 2002).

However, as Pink (2015b) points out, it is not that FPV entirely eliminates intrusion, it is that the site, nature and quality of the researcher-camera-participant intersubjectivity shifts. The site in this research being after the event, the nature being an empathetic engagement via a digital medium, and the quality being the degree to which the opaque nature of the trace impacted on the inter-subjectivity between researcher and participant. Although this was, to an extent tempered by the intimate knowledge I developed of the research sites, and my meeting with children and families before and after their visits, it still needs further examination.

In the next section I explore the quality of the FPV trace and how it impacted on the nature of my engagement with it. For example, the degree to which it allowed me to empathise with the children's emplacement. It is important in this instance to consider both the emplacement of the child and the emplacement of the researcher during the research process and how this might contribute to the ethnographic place that is represented in this thesis. My own emplacement has been addressed above in the discussion about intersubjectivity in that I was not present during filming, and subsequently engaging digitally via a laptop computer. This engagement was usefully without the time pressures associated with the field, with access to library resources and advice from my supervisors. In other words, I was not physically there in person to share the children's social, material and sensory experiences but I was still very much entangled with them via the introduction of the research instruments and interactions before and after the visit in interview. I was still a constituent of the places they were emplaced in and an agent in its production (Pink, 2015a) and representation in this thesis.

I will frame this discussion via the notion that when thinking about emplacement which is key to Pink's understanding of ethnographic place, I need to account for the interrelationships between the mind, body and the materiality of the environment (Pink, 2015a; Howes, 2005).

To this end I divide the following sections into a focus on the social (mind), sensory (body) and material (environment) contexts. Although I am separating these aspects

of a child's experience for clarity, it is acknowledged that these are inextricably entangled during the flow of experience when moving through place.

7.5 FPV trace and the social context

The analysis demonstrated that each individual is entwined in a unique family unit with all its inherent connotations, and ongoing power relations. The FPV provides insight into numerous instances of these which are reported in Chapters 5 and 6, such as agendas (6.3.1), differing levels of support with the camera, or parenting approaches. For example, Wilbur's mother being concerned to engage him with the exhibitions (5.7.3), whilst Edward's mother tended to leave him to his own devices (5.2.3). In particular the FPV trace allowed me to be privy to the moment-by-moment nature of a child's social interactions, such as the micro-conflicts that emerged from a child's exploratory activities (for example between Wilbur and his mum). This allowed me to empathetically identify themes that were consistent or pertinent in the context of the visit itself rather than just relying either on an after the event interview comment or covert observations e.g. Kirk (2014).

Although the FPV trace allowed me the opportunity to empathise with a child's social context during the visit, it did not provide a complete picture. There are a number of questions that are left unanswered. For example, relationships within the participant families have developed before the visit began, with certain understandings and ways of doing things already established. Although it would be useful to have more information in this regard, the integrity of the children's behaviour during their visits is likely to be more intact if there is no prior

involvement with the researcher before their visit. This is because my prior involvement might stimulate a desire to prepare or consider what I might want to see or hear by both the children and parents. There are also moments when the children's past experiences with their wider family are flagged during their visits. For example, Bill and his sisters pointing out a 'flying fish' that their aunt had told them she saw on holiday (6.4.3).

Illustrative of the open nature of place, the FPV trace revealed that digital devices such as mobile phones served to socially implicate or entangle people who are not physically present during the children's own visit experience. One example being when Sophia's dad made her wait while he took a photograph and video, which he then messaged to her mum. On this occasion this interaction with someone who was not physically present exacerbated Sophia's frustration at not being able to continue her exploration of the spaces (5.3.2).

When considering the constantly 'occurring' place that the children move through as open, the social context of the visit is not restricted to the children's family, it also extended to strangers, the museum staff and the researcher even if they are not physically present. For example, my involvement began before the GoPro was turned on and continued after it was turned off. It was evident on a few brief occasions that my presence was sensed by the children during the visit. For example, Noel's grandfather commented '*The man does not want to see your fingers*' when he briefly rested his hands over the GoPro lens. This innocuous comment served to illustrate my entanglement in the social context of the visit. However, the extent to which the children remained cognizant of this appeared to be minimal (Burbank,

McGregor and Wild, 2018). This is an important distinction when some researchers consider the presence of a video camera as distorting the behaviour of those that are aware of its presence to such a degree that its usefulness is negligible (Jewitt, 2012).

Strangers on a few occasions crossed paths with the children, for example Sophia meeting and conversing with people inside and outside the lifts (F5.3.21). Sophia seemed to enjoy this social time, often initiating the conversations herself. This social aspect to her lift experience likely contributed to the positive experience that made her want to return again and again. Even though interactions with other visitors were unusual during the children's visits they were certainly a small part of, and entangled in their ongoing experiences even on the level of children having to weave through a throng of much larger adults (F5.2.1).

With reference to the open nature of place (Massey, 2005) museum staff and their educational agendas were also entangled in the FPV trace of the children's experiences even if they were not there in person. For example, the ways in which the exhibitions are organised or a museum trail sheet initiating conversations between parents and the children are all examples of the museum educators' involvement in the children's visit experiences without being physically present (See 5.5.2).

7.6 The FPV trace and the sensory context

If perception is considered as primary in the experience of place (Casey, 1996) and place is experienced via the interrelated senses then it makes sense to consider the

extent to which the FPV trace allows empathy with this element of a child's experience. The children's own sensory experience needs to be considered (e.g. section 4.26) in light of my own interrelated senses. For example, that I can, to a degree, empathise with a child's haptic, visual or indeed olfactory experiences via the FPV using my own experiences as a reference point, even if I am not present. For example, (see F5.6.11) it is possible to imagine the sensations associated with Una's hands manipulating a soft toy while imitating her older cousin, or a child's perspective of size when standing next to an adult (Burbank, McGregor and Wild, 2018). It has been noted before that an adult's FPV video can act as a mimetic medium for evoking sense memories (Pink *et al.*, 2017) and I suggest that this is no different for young children.

The FPV trace provided an illuminating window on (albeit a rough approximation) the children's visual experience (See section 4.17). The window is arbitrary in that it is dependent on the capabilities of the GoPro lens, and the movements of the child controlling the camera. It is at times, for example when a child is up close to an object or jumping up and down, more unclear than at others (Burbank, McGregor and Wild, 2018). These points contribute to an understanding of the physical limitations of the FPV trace.

To explore further, it is worth considering Grasseni's (2011) concept of skilled vision. Grasseni (2011, pg. 20) proposes that *'... learning a skilled way of looking, therefore involves senses and emotions as the apprentice becomes proficient in carrying out a form of expertise*'. This learned knowledge over time becomes part of the children's incrementally learned embodied experience of that vision (Pink,

2015b). The FPV footage at times gives some indications of what this learned knowledge might be. For example, when the children moved forward through the museum spaces, they appeared remarkably comprehensive in their visual scanning of the spaces they moved through presumably because they have learned that there might be exciting things to see in a museum that they do not want to miss (see section 6.2.1). Pink (2015b) makes the point that what cannot be discerned is the children's actual emplaced, culturally constructed visual experience. Although I agree it is impossible to actually experience what a child experiences, I diverge slightly from Pink's assertion. For example, I suggest the FPV trace does provide some clues or hints that allow the viewer to imaginatively engage with aspects of the museum's spaces in a way that is similar to the child themselves. These hints do need to be treated with caution and require further research. One example of this might be an empathetic engagement with the sense of wonder or curiosity experienced by a young child when they see something they are interested in (See F5.6.9 for an example). Whilst recognising the incomplete and digital nature of the FPV trace, it does provide the opportunity for empathetic engagement with these moments. A specific example might be Edward spotting a naked figurine, pointing and commenting in a surprised tone '*Look that man is naked*!' (F5.2.24). In appreciating that Edward is struck by the nakedness of the statue, something that as an adult I would not pay much attention to, allowed me to understand something of his interactions with it. The indications are that it broke with his expectations in that he does not usually see representations of this sort and therefore was struck when he did.

This concept of skilled vision can be applied to the children's other sensorial experiences. For example, the children's haptic experiences are something that the FPV allowed me to have some empathy with (especially when considered in light of their verbal utterances, movement and affective reactions). For example, I could sense Edward's enjoyment when he put his hand gently on some soft fabric after commenting '*'cause that bench is so soft*' (F5.2.26). When I visited the same bench, my own sensations were of a soft fabric, but it did not provoke any enjoyment or desire to repeat the experience as it did with Edward. Similarly, when Wilbur heard recorded bird song (F5.7.20) his excited reaction indicated that it was not something he expected to hear. Contrastingly my own first experience of the same birdsong recording on a separate occasion was much more tempered as I was aware that it was a recording, and that there were no live animals in the exhibition. In these two examples the trace allowed me to empathetically engage with the children's skilled sensory engagements that were different from my own reactions to the same spaces.

An interesting insight from the FPV is that it provides an empathetic route to understanding the interrelated nature of the children's senses during their exploration of the museum. For example, in section 6.5.6 it is noted that the children sometimes reach out to touch the glass of cases, seemingly in lieu of touching the objects themselves. A similar observation has been made by Hackett, Procter and Kummerfield (2018). This suggested that the children's visual and haptic experiences are entwined; in this case their visual acuities enabling them to imaginatively 'touch' the object through the glass. This aspect of the trace allowed me to get a little closer to how the child might actually experience the museum. In a similar vein the intensities of the children's humming, singing and movement (and

proprioception) outlined in section 6.2.5 indicate that the children's visual, auditory and sometimes haptic sensations are interwoven into moments when they are all synchronised, complementary and experienced as one. These clues derived from the FPV trace suggest that, although a particular sense might have primacy at any one time, the children interact with their surroundings using an interrelated sensory system. This point is made with an acknowledgement that it is never possible to feel and sense what a child actually experiences.

When addressing the extent to which the FPV allows an insight into the ways in which a child perceives museum spaces it is important to acknowledge that a child's 'skilled' sensory perception is entwined in their experience of emotions. Themes relating to a child's affective reactions are outlined in Chapters 5 and 6 The extent to which the flow of these intangible affective reactions are recorded on the FPV trace varies. There are several ways in which the trace enables me to empathise with the children's emotions. This might be via the timbre of the child's voice when communicating to another or in instances of self-talk. For example, when Sophia had a hoard of coins pointed out to her, the character of her voice changed to a hushed but excited tone that communicated to me a sense of wonder (F5.3.11, part one). It also might be via the child's body language. For example, in the fragment of trace referenced above Sophia in addition to her tone, moved closer to the display case and pressed herself forward onto it, wanting to engage with the materiality of the case as much as its visual affordances. It is impossible to discern exactly how Sophia felt but the trace does provide some clues with which I can imaginatively engage with her emplacement at that particular point. When considering the emotions as part of the FPV trace, I am considering them as emotions-in-the-world (Gieser, 2008). By this I

refer to an emotion as not only being an internal state but also as having a ‘context of involvement’ (Heidegger and Krell, 1993). For example, when someone experiences fear there must be something that induces that state of fear, therefore fear arises from this involvement of contexts. This is why a mood or emotion can be felt as an atmosphere one can enter (Gieser, 2008). Leading on from this the state of wonder, excitement or impatience felt by the children was exuded as an ‘atmosphere’ that was then captured and communicated to me via the FPV trace. This ‘atmosphere’ is complemented by, for example, tone of voice, a child draping their body over a display case or reaching out with curiosity towards an object.

There are times when a child’s emotional response may be obscured or ambiguous. For example, when a child is not moving or speaking. Although it needs to be remembered that these actions, when taken in context of the whole trace and my knowledge of the research site, might communicate a stunned silence or a developing sense of awe. In order to provide a degree of transparency, I present definitions of the key affective reactions that I identified (see table 4.3). I found that using these definitions provided me with a degree of consistency with which I could base my interpretations, however as discussed in Chapter 4 emotions are not easily defined (Izard, 2013). On reflection I suggest that my experience as a father, and a teacher might allow me to more accurately empathise with children of this age group than if I did not have this experience. The reason for this is that I have a range of experience interacting with children of this age which means I am better equipped to tune in and gauge reactions than someone who does not.

7.7 FPV trace and the material context

The material context is also key to understanding the children's entanglement with the spaces they are moving through. This point is well illustrated by the content of the preceding sections that the material context is inevitably an integral part of. Other than the cameras themselves, the perspective of the trace often foregrounds the children's interactions with the material world (Caton and Hackett, 2019). For example, when Noel reached out to touch and explore the black taxidermy bear (F5.4.21) his tactile engagement with the texture of the fur and the bear's claws was foregrounded. Beyond the actual exhibits, and as discussed in Chapters 5 and 6, the children's interactions with display cases, furniture and the buildings themselves were also highlighted by the FPV trace.

In addition, the FPV trace suggested that the children interact with the material environment beyond a purely visual and haptic level; illustrating the material environment can be imbued with past associations and emotions. For example, a doorway presenting as an intangible barrier for Una's (and others') movement (F5.6.3 parts two and five). This barrier combined the material elements of the doorway itself with its cultural connotations of an entry or exit point, the ongoing social context, and memories or imaginings of what it might feel like to be separated from a caregiver.

Together the social, sensory and material contexts provide a rich and provocative window into these young children's moment-by-moment experiences. This

highlights, as pointed out by Weier (2004, pg. 107) in respect to young preschool children in art museums, that *'... as well as their minds, young children use their senses and bodies as tools of exploration, engagement, and interpretation ...*'.

I will now reflect on the mode of analysis used in this thesis. i.e. the novel use of IPA to 'give voice' and 'make sense' of the children's lived experiences (Noon, 2018) of their museum visits.

7.8 Were these data appropriate for taking an IPA approach?

In order to answer the question above it is pertinent to establish whether or not the FPV trace, complemented by the children's photographs and interviews provided appropriate data for an IPA approach to the analysis. As outlined in section 4.10, IPA can be used to explore the flow of everyday experience or the lifeworld of an individual, and not just after the event reflections on an experience (Smith, Larkin and Flowers, 2009). However, there are a number of concerns that need to be addressed when considering the use of IPA with young children. I will now examine whether this project's data created suitable material/text for its use.

Noon (2018) writes that IPA may be a particularly useful methodology to research individuals whose voices may otherwise go unheard. He specifically excludes young children from this list on the basis that their language ability is too much of a barrier to producing rich data. I suggested in Chapter 4 that the use of IPA as part of the methodology in this project is justified when FPV is considered as an expression of

the children. Building on Malaguzzi's concept of a hundred languages (Cagliari *et al.*, 2016) and Pink's (2015) theorisation of place, the FPV trace as discussed in this chapter can be considered as a rich expression of the children's lived experiences as they move through the museums. Therefore, when considering the FPV trace (complemented by the interviews and photographs) as data, I argue this study demonstrates that IPA can be adapted to a study with young children.

Smith et al. (2009) suggests that when you are immersed in the flow of everyday experience then often you are not necessarily aware of it, just immersed in it. This is in contrast to when (during the flow of experience) you first enter some cold water or when you take your shoes off and consequently begin to feel the pebbles on a beach. At these times you might become mindful of your flow of experience. Similarly, it is reasonable to assume that young children are sometimes not mindful of the flow of their experiences, but there are moments when their experience intensifies and they do become aware. For example, as illustrated in Chapters 5 and 6, when they encountered something that contrasted with their previous experiences or engaged with something that they have previous experience of. It is these experiences that the photo-elicitation interviews (in context of the caveats discussed in 7.2.3) were most successful at providing access to. In other words, the experiences that struck and were consequently memorable to the children.

I will first discuss the photo-elicitation interviews in relation to an IPA analysis and then the FPV trace. The interview schedule was deliberately open and intended to be child led. For example, I let the children pick out photographs on which to comment, and I deliberately allowed the conversations to follow the direction the child wanted.

As Noon (2018) points out this loose structure gives an opportunity to understand participants' worlds with more sophistication than a more directive schedule. Concerning the young children in this study, this produced richer data with some (e.g. Noel) more than others (e.g. Sophia) (see section 7.2.3). Regardless of the richness of the respective interviews, the interview data, when considering that IPA demands a rich and detailed first-person account of their experiences (Smith, Larkin and Flowers, 2009), is inadequate for the purposes of conducting an IPA analysis.

Contrastingly the FPV trace (as discussed in sections 7.5 to 7.7) provided infinitely richer data than the interviews alone. I suggest, after considering all the caveats outlined above, that the FPV trace allowed the children to powerfully communicate their emplaced experiences during their visits. The findings presented in this thesis demonstrate that, together with the photo-elicitation interviews and photographs, the FPV trace provided a means by which the young children could communicate their moment-by-moment experiences and enter into an intense and empathetic engagement with the researcher of a nature that could never be emulated in an interview situation alone. In essence it allowed the children to communicate something of their everyday flow of experiences in addition to just memorable or easily articulated incidents.

As Willig (2013) points out, interviews are not the only way to create data for an IPA analysis and it is possible to ask participants to produce accounts of their experiences through alternative means. In addition, Smith et al. (2009, p. 56) states that there is *'... great room for imaginative work in collecting data for IPA.*'. The authors continue to say that it is a method that benefits from *'... accessing the chosen*

phenomenon from more than one perspective, … and from creative and reflective efforts from participants.' The data collected in this study fulfils these criteria: there are six participants' perspectives, and the FPV trace, photographs and interviews together enable the children to both creatively, and (in the interviews) reflectively communicate their visit experiences. Considering that the twin aims of IPA are to give voice to and make sense of the lived experiences of the participants then what better way of doing this than to have a trace of the actual experiences themselves with which to work?

Furthermore Noon (2018, p. 76) proposes that for an IPA approach *'... active listening, empathy, and the ability to build trust and rapport with the participants were all crucial to the production of rich data*'. He is commenting on adult participants, so it needs to be considered that these building blocks are more difficult to foster in young children and therefore different approaches need to be applied in order to tap into their competencies (Punch, 2002). The role of GoPro cameras provides a bridge to establishing children's trust and rapport without spending considerable amounts of time with them. They allow the children to communicate their experiences in an environment free from the researcher's physical presence, and in the company of the caregivers that they trust. The tenets of active listening and empathy is something that repeated watching of the FPV trace allowed me to develop. Active listening refers to deciding whether the process of listening to what another person says can lead to insight into your own feelings which in turn can lead to greater empathy (Haley *et al.*, 2017). One of the strengths of the FPV footage is that it allowed repeat viewing, which in turn provided me with the opportunity to reflect on and empathise with the children's social, sensory and material experiences

as they moved through the museum. I argue this provided the opportunity for a more nuanced form of listening, beyond the children's verbal articulations, than more usual tools used to facilitate young children's communication (for example, photographs, drawings) allow.

The preceding discussion and the findings presented in this thesis illustrate that the FPV trace (complemented by the photographs and photo-elicitation interviews) provided a synergy of children's voice that created appropriate data for an IPA analysis.

7.9 Reflecting on the implementation of IPA

Smith et al. (2009) write that the IPA researcher is trying on the one hand to adopt an 'insider's perspective' and on the other hand ask questions and try to interpret a participant's experience of a particular phenomenon. These two positions account for two of the foundational aspects of IPA; the phenomenological endeavour of trying to get as close as possible to the experiences of the children yet at the same time recognising this as a hermeneutic or interpretative exercise. These two strands required a different or layered approach to the analysis, firstly empathy with the individual in order to 'get into their shoes' and secondly an interpretative stance that allowed me to move away from the superficial levels of the children's communications to uncover a greater understanding of how the children might make sense of something. An example of this might be my empathetic engagement with Sophia's sometimes humorous, sometimes earnest but always intrigued reactions to

encountering unclothed statues (see section 5.3.5). This is followed by my interpretation in Chapter 6 that the nakedness of the statue broke with her expectation of what she was likely to see in everyday life, triggering her intrigue. In this way I have developed an understanding, as Smith et al. (2009) puts it, grounded in my empathetic engagement with the trace of her experience, of how Sophia experienced a particular aspect of her visit.

In summary, there are three main things that sets this analysis apart from a more traditional IPA. The first is that this project is working with young children, something that has been deemed inappropriate because of children's language abilities (Noon, 2018). However, one of the key tenets and strengths of IPA is its flexibility (Smith, Larkin and Flowers, 2009). Therefore, I argue that harnessing the FPV trace as a vehicle with which the children can express their experiences in a rich and detailed form transcends this difficulty.

The second is that the site of intersubjectivity is away from the research site and not reliant on in person engagement. As discussed in section 7.4 this acts as a strength of the method, allowing active listening and consequently my empathy with the children's experience to develop over time. It also allows the children to experience their visits accompanied by adults they know and trust and not in the presence of an unfamiliar adult which is likely to affect the authenticity of the visit (Punch, 2002).

The third is my theoretical conceptualisation of the FPV, interviews and IPA as part of an emergent ethnographic place. The idea that video can be used to create empathetic encounters with the experiences of others is established in existing

literature (Pink *et al.*, 2017; Sumartojo and Pink, 2017). For example, Garrett (2011) suggests that video footage can invoke multisensory experiences, and Pink (2007) contends that video can help us generate understandings of others' experiences of their environments. As discussed in section 7.3, the FPV trace can invoke an empathetic engagement with the emplacement of the children as they move forward through the world. When considering the FPV trace as an ongoing part of an entanglement that forms part of the ethnographic place represented in this thesis, then the empathetic process that I engage in and develop with the children via the FPV (complemented by the photographs and interviews) can also be considered as open and emergent.

To develop this further, the reflexive form of empathy that I am engaging with is not as a witness of the experience of others, from which I discover objects of knowledge. Instead, it is a means to imaginatively engage with the participants rather than do research on them (Pink *et al.*, 2017). This *'... foregrounds how our own embodied experiences, emotional responses and empathising emerge in relation to ...*' the FPV footage (Pink *et al.*, 2017, p. 379). This resonates with IPA's idiographic commitment in that it emphasises a duty to understanding how an individual makes sense of a given phenomenon, while at the same time being transparent that the knowledge production that I have engaged with is an ongoing and relational enterprise that supports the imaginative emergence of '*closeness, intimacy and understanding*' (Pink *et al.*, 2017, p. 374) of the participants' experiences.

In conclusion, the methodological approach 'First Person Museum Ethnography' that I developed in order to provide a vehicle to answer RQs 1 and 2 met its aims.

Although not without limitations, as discussed throughout this chapter, it provided a means to listen closely to the young children and allowed me to begin to understand their experiences during everyday visits. Therefore, in response to RQ 3 it is effective in providing fresh insights into young children's experiences of unstructured family visits.

7.10 Summary

In order to address RQ 3 this chapter began by discussing the nature of the FPV trace, photographs and photo-elicitation interviews. Subsequently I addressed the role of empathy and intersubjectivity in my engagement with the FPV trace. This discussion included a consideration of how my use of FPV differed from alternative video perspectives. I conclude that although there are 'blind spots', the trace and the focussed nature of the research provided an opportunity to empathetically engage with the children's emplacement. Following on from this I discussed the extent to which the FPV trace allowed me to engage with each child's entwined social, sensory and material experiences during their visit. I then reflected on the use of IPA as an approach to engaging with the FPV trace (complemented by the photographs and photo-elicitation interviews). To finish I concluded that this approach provided data that gave an appropriately rich voice to the young children that warranted the use of an IPA approach as an integral part of the methodology.

8 Concluding remarks: An entanglement of trajectories

8.1 Introduction

This final chapter will begin by outlining the contributions to understanding young children's museum experiences that have been gleaned from the children's expressions (beyond purely verbal articulations) of their time during their visits. It will then turn to the novel First Person Museum Ethnography (FPME) approach and the methodological contributions that are made by this thesis. I will address each contribution in relation to its associated research question. This chapter will then outline some limitations of this study and corresponding avenues for further research. Following on from this, I will suggest some recommendations for practice. I will draw some final conclusions which will be framed through the lens of ethnographic place (Pink, 2015a) which is at the heart of FPME as discussed in Chapter 4.

8.2 Individual visits

RQ 1: How do young children experience museum spaces during unstructured family visits?

This thesis documents six young children's communications (beyond the purely verbal) of their unstructured family museum visit experiences. Two children visited

a museum of art and archaeology, two a museum of natural history and two a museum that is dedicated to children's literature.

With a view to remain loyal to the idiographic, hermeneutic and phenomenological concerns of an IPA approach to analysis, the children's visits (documented in Chapter 5) represent the unique, fine-grained and deeply personal nature of each individual child's experiences of their visit. Quirky engagements with the exhibitions and museum spaces abound, for example Wilbur's exclamation '*wow snakes'* when he sees some sticks and Edward's interpretation of a marble statue as a fireman. Kirk and Buckingham (2013) drawing on Calvino's (1978) book 'Invisible Cities', make the epistemological point that each child will perceive the same museum differently. In order to illustrate this they make comparisons with the unreliable storyteller Marco Polo reporting back multiple and exceptional versions of the same city. This certainly resonates with the individuality inherent in each child's museum visit reported in Chapter 5. A similar point has been made by Hackett, Procter and Kummerfield (2018). Drawing on Massey's (2005) concept of the chance of space, they point out that when the emplaced child moves through the environment there is always potential for the entanglement of a child with the human and the non-human to produce unexpected results. By the term emplaced I refer to the interrelationships between the mind, body and sensoriality of the environment (Pink, 2015a). The richness and variety of the children's visits discussed in this thesis bear both these two points out, especially considering the evidence provided by the FPV in relation to the social, sensory and material contexts as discussed in Chapter 7. One example, out of many, to illustrate this intersection or entanglement of contexts might be Una explaining to her uncle how to use the listening stick in F5.6.14. Una, having seen

that her uncle was a little unsure about how to use the black tubing or 'listening tube', began to demonstrate its use. In brief the social nature of the encounter, the sensory engagement with the material of the listening tube and her encounter with the spaces around her all coincided to create a unique experiential event for Una. As such it is not surprising that there are variations between the visit experiences that are associated with the type of museum that they are visiting as well as within the same museums. The different material spaces that the children are visiting provide a particular element of the entanglement of contexts that come together to create each child's ongoing experience of place. Examples of differences in experience that might be attributed to the nature of the space might be opportunities for play (for example Museum C providing props such giant toothbrushes), or openings for the children to link aspects of the exhibitions to their own personal understandings and knowledge (for example Museum B containing many exhibits that are recognisable from children's literature and other media such as dinosaurs).

Still grounded in the individuality of each of the children's experiences, as made clear in Chapter 6, there are a number of commonalities that emerged from the across case stage of the analysis.

8.3 Commonalities of experience

RQ2 To what extent do there appear to be commonalities of children's experiences during unstructured family visits to museums?

As noted in Chapter 4, although there is a tension between IPA's idiographic pledge and looking for commonalities between participants, documenting the nature of common elements of the children's experience is still a recognised and valued element of an IPA approach (Noon, 2018). As Smith, Larkin and Flowers (2009, pg. 29) point out that:

> '*... idiography does not eschew generalisations, but rather prescribes a different way of establishing those generalisations. It locates them in the particular, and hence develops them more cautiously.*'

As such, this analysis does not seek to uncover what happens in all settings, but rather present the perceptions and understandings of particular individuals in their setting (Noon, 2018). Their setting, in the case of this research, being an unstructured family museum visit. I will now summarise the main commonalities that emerged across the cases. As in Chapters 5 and 6, I will categorise these under the headings: movement, family interactions, affective reactions and patterns of attention. At the end of each section, I will also provide the appropriate section number in Chapter 6 where each of these commonalities are discussed in more detail.

8.3.1 Movement

i) It was clear that exploration was central to the young children's experience of their museum visits. This exploratory motivation continues throughout the visit. This is in contrast to suggestions in the wider literature that young

children tend to set off to explore in the first stages of their visit before settling to investigate specific areas more closely (e.g. Rounds, 2004; Kirk, 2014). The reason for this may be that, although there might be some local repetition of movement, all the children were involved in a journey from beginning to end, and therefore, for the most part, moving into fresh space and encountering new things. In addition, the children's exploration, although often cursory, is more comprehensive in terms of area covered than might be expected. For example, using predominantly gaze, associated body rotations and occasionally touch to examine the spaces they are moving through. They might then home in on things or areas that they were interested in before moving quickly on (Hackett, 2014b).

ii) The findings also document the children exploring the museum in a characteristically stop-start fashion (Piscitelli, Everett and Weier, 2003) which I call 'stuttering through the museum'. They move from exhibit to exhibit or space to space, stopping briefly if interested before moving onto the next thing of interest. (section 6.2.1 and 6.2.2)

iii) The analysis gave some insight into how the children felt when they moved away from their parents. In particular it was noticeable that the children were moderating their own movement in relation to their parents with quick backward glances, pausing if they were too far ahead, or rushing to catch up. I call this 'invisible ties'. Connected with this is another finding that I called 'architectural traffic lights'. This refers to the way in which the architecture

of doorways acted as a cue for the young children to stop unless caregivers or siblings were in close attendance. This indicated that the children felt they needed support to move into new areas and the architecture itself was entangled in this process. (section 6.2.3 and 6.2.4)

iv) The children, often repetitively, synchronise their movement with vocalisations, indicating a sense of absorption and satisfied engagement with their body's physical and verbal activity. This appeared to be an instinctive reaction to a range of situations including boredom (e.g. Noel), and impatience (e.g. Sophia) at being restricted to one area, but also when enjoying themselves (e.g. Bill). (section 6.2.5)

8.3.2 Family interactions

i) The children's exploratory tendencies seemed to consistently be the root cause of minor conflicts with other family members. (section 6.3.1)

ii) On the rare occasions the children asked questions indicating interest in something, their caregivers' answers tended to be closed and succinct. Therefore, the children's own expressions of what was important to them were often passed over and what the adults' thought was of interest or of value was prioritised. (section 6.3.2)

iii) All the children showed great enjoyment in finding things. Children became involved in finding things either of their own volition or by parent-initiated activities. Although these games sometimes encouraged naming or description and fostered a common bond between children and accompanying family (See Sophia, F5.3.13) they rarely encouraged any greater depth of engagement (e.g. Fidler, Bunney and Craven, 2011) with the exhibitions. Instead, the thrill seemed to be very much in the chase for these children. (section 6.3.3)

8.3.3 Affective reactions

i) Although concurring with other research in that young children's visits were mostly happy (Kirk, 2014; Piscitelli and Anderson, 2001), the unique perspective of the FPV allows the children to express when they were not so happy. This did not tend to be explicit in interview. In sum the children's fluctuations in mood were characteristically variable, and negative moods associated with tiredness and boredom did tend to be more prevalent in the second half of their visits. (section 6.4.1)

ii) All the children entered the museum with a sense of wonder (Piscitelli, Everett and Weier, 2003) although it was slightly less prevalent in the two second time visitors (Sophia and Una). It was a common reaction to seeing an object or area of interest. What this approach allowed is a more fine-grained look at the children's expressions of wonder and what it meant to

them. For example, a sense of wonder did not seem to trigger in the children a desire to know more during their visits. It was often just enough to wonder and then move on. (section 6.4.2)

iii) The children were curious about discovering what is in new spaces, this might be in the sense of scanning the area or moving closer to something and reaching out to touch. In other words, their curiosity tended to be satisfied by the simple acts of exploring the spaces and objects visually and sometimes via touch. Although they might ask for a name or describe something, beyond this it is unusual for them to want to verbally pursue further information about an object on display. (section 6.4.3)

iv) As reported by Fidler, Bunney and Craven (2011) the children were all playful when in the museum, in the sense they expressed pleasure and amusement when engaging with others and props. Episodes of playfulness when they were with their families were particularly enjoyable and consequently often memorable in interview for the children. The degree to which this was expressed seemed to be contingent on opportunity or the affordances of the space they were in. (section 6.4.4)

v) The children all engaged with the exhibits with humour (Dockett, Main and Kelly, 2011). The things the children found particularly amusing were those characterised by a degree of incongruity or wrongness (Paine *et al.*, 2019). (section 6.4.5)

vi) The three negative affective reactions that were common across the cases were impatience, frustration and boredom. These emotions, although common, were often briefly experienced. While the children were experiencing these emotions their attention was fixed on overcoming the issue that initiated the dissonance affecting their engagement with the exhibitions. The children were persistent in expressing these emotions and were consciously or not using them as a means to communicate their discomfort and encourage their caregivers to change what they were doing. (section 6.4.6)

For reference I defined the above affective reactions in Chapter 4. The reason for this is that affective reactions are commonly mentioned in the young children in museums' literature (See Chapter 2) but are not defined. I suggest this thesis makes an additional contribution in that it provides a transparent starting point for my empathetic engagement with the children's affective reactions. This is of particular value considering emotions are such ambiguous entities (Scheff, 2015). (Section 4.26)

8.3.4 Patterns of attention

i) The children's patterns of attention were varied as discussed in section 8.2 however they were often drawn to objects that break with their expectations. For example, this could relate to an object's physical properties. For example, if it was particularly large, bright or small. In addition, this could also relate to an object's cultural or social properties.

For example, if a photograph is unexpectedly connected by the child to death or if a statue depicts a naked body. (sections 6.5.1 and 6.5.2)

ii) Across all three contrasting contexts the children spontaneously named objects that were familiar to them from their everyday experiences, including media, sometimes making mistakes or generalisations (Kirk, 2014). This naming was sometimes incorrect (Kirk, 2014). This resonates with previous work in science, natural history museums and zoos that suggests children often name animals (e.g. Kirk, 2014; Kirk and Buckingham, 2018; Bates, 2018; Tunnicliffe*, Lucas and Osborne, 1997) and the few studies that report this in different museum contexts as a key form of attention (e.g. Dooley and Welch, 2014; Fidler, Bunney and Craven, 2011). Although animals featured in all the contexts the children's naming extended to things they recognised more generally from their past experiences (e.g. Queen, pot, teapot). Naming was, for the most part, instinctive and satisfying in itself. (section 6.5.3)

iii) Less often, but occasionally accompanying naming, the children across the cases spontaneously described objects. As noted in research emanating from natural history museums (e.g. Kirk, 2014) description was, most often, something to do with the salient features of an object, for example its size, feel, surface features or body parts. This also extended to connecting or interpreting an object in relation to their wider experiences. Although present in all six children's visits, naming and describing was more ubiquitous in the natural history museum context

presumably because the children were more able to link the collections to their wider experiences. (sections 6.5.4 and 6.5.5)

iv) Although touching (sometimes with the whole body) was not something that the children did all the time (Kirk, 2014), it was something that the children in all the contexts appeared to find absorbing and memorable (MacRae, 2007). This was illustrated by the children's comments in interview and their engagement during the visits. In a loosely comparable sense to verbal interactions such as naming and describing, an initial outstretched hand indicated an instinctive and satisfying expression of interest (like naming) that might develop into a slightly more comprehensive appraisal (like describing) if their interest is whetted. (section 6.5.6)

8.4 Methodological contributions

RQ3 Is the use of the novel methodological approach 'First Person Museum Ethnography' effective in providing insights into young children's (aged 4 and 5) experiences of unstructured family museum visits?

This thesis outlines a novel methodological approach that aimed to allow a close and nuanced listening to the children's expressions (vocalisations, affective reactions, movement) and reflections of their time during their museum visits. I suggest (as discussed in Chapter 7) that the findings presented in Chapters 5 and 6 demonstrate

that the FPV trace (complemented by the children's photographs and their photo-elicitation interviews), provided a means by which these six young children could effectively communicate their moment-by-moment experiences. This allowed me to enter into an intense and empathetic engagement with the children of a nature that could never be emulated in an interview situation alone.

FPME is built on a unique theoretical configuration that allows for the novel use of an IPA approach to analyse the young children's expressions of their visit. The implementation of IPA is outlined in detail in Chapter 4. FPME begins from the position that young children are competent actors and that their views are worth listening to (Qvortrup *et al.*, 1994; Prout and James, 1997). FPME draws on elements of a focused ethnographic approach (Knoblauch, 2005) in that it has a short term engagement with the field and data collection with the FPV, photographs and interviews is intensive. The data collection is also relatively light touch in that the children and their families are not contacted before or again after their visits and the researcher did not accompany the children during their visits. Drawing on Pink's (2015a) theorisation of ethnographic place, the FPV trace can be considered as part of, or entangled in (Ingold, 2008), the ecology of the places that the child is moving through, thus capturing a trace of the child's emplaced experience as they move through the museum. Considering that children are instrumental in creating the video as it is their bodies that cause the camera to travel with them, I can conceptualise the FPV trace as an expression of the child that creates it. In other words, one of their hundred languages (Cagliari *et al.*, 2016). Sitting comfortably with the aims of this research this conceptualisation enabled me to trial the novel use of IPA as an approach to analyse these data.

This thesis also contributes a number of insights into the use of FPV in combination with children's own photographs and photo-elicitation interviews. In particular the photographs and photo-elicitation usefully complement the FPV, rather than the other way around as was considered the case in the early stages of this project (Burbank, McGregor and Wild, 2018). For example, the photographs provide an additional 'snapshot' of the child's experience that can strengthen my empathetic engagement with the FPV trace. The FPV trace, although not without constraints, provided a much more nuanced and balanced (particularly concerning movement and affective reactions) expression of the children's visit experiences than the photo-elicitation interviews alone. In addition, the limited attention these young children gave to wearing the chest-mounted GoPro™ cameras gives authenticity to the FPV trace as data. Uniquely this thesis also provides some discussion into the degree to which the FPV trace allows an empathetic engagement with young children's museum experiences. This is complicated by the consideration that the site of intersubjectivity is away from the field and through a digital medium. For example, I examined the extent to which it is possible to engage with a child's 'skilled' vision (Grasseni, 2011), or sense the trace of 'atmospheres' (Gieser, 2008) that are created by the children's experiences of emotion.

In summary, I suggest the FPV trace complemented by children's photographs and photo-elicitation interviews together create a more powerful expression of the children's time during their visit than any of the methods would do alone.

This is the first time to my knowledge that an IPA approach to analysis has been used with young children, or indeed specifically young children in museums during unstructured family visits. One of the key methodological issues addressed by this thesis was whether or not the FPV trace complemented by photographs and photo-elicitation interviews was appropriate data for this type of approach. After detailed discussion the conclusion that I reached in Chapter 7 was that together they provided a synergy of children's voice that was sufficiently rich in nature to allow a nuanced listening to children that developed over time and took place away from the research site. This active listening, recognising the limitations in the children's verbal abilities, went beyond their verbal utterances and photographs to extend to affective reactions, movement and sensory engagements. The form of empathy that I engaged with while listening, allowed an imaginative engagement with the participants' own emplacement. I recognise that the knowledge produced is therefore an ongoing and relational enterprise that supports the imaginative emergence of a close understanding (Pink *et al.*, 2017) of the participants' experiences that remains true to IPA's idiographic, phenomenological and hermeneutic foundations.

8.5 Limitations of First Person Museum Ethnography and avenues for future research

As discussed in detail in Chapter 7 there are of course limitations to my empathetic engagement with these data, not least that I am not a child and therefore cannot experience the world exactly like a child (Kirk, 2014). I will not repeat these discussions here. Instead, I will address some more general limitations of the approach. In the spirit of Kirk's (2014) work the FPME approach is designed to be

minimally invasive concerning the participants' time and visits. Therefore, I did not collect any data from the children and parents before or after the visits. This does not give me any perspective on how the children's museum visits are influenced or affected by the broader context of their everyday lives that might be achieved by taking a more ecological approach like Zapri (2007; Kirk, 2014). I have made the point that some of the value of this particular approach is that not engaging with the participants before the visit meant that they did not have time to plan their visit to suit what they think the researcher might want to see or hear. Therefore, in order not to compromise the integrity of the FPME approach it might have been productive to collect data from the children and their families (e.g. parents, grandparents and siblings) after their visit rather than before. Although the data provided considerable insight, the lack of knowledge that I had into the children's wider lives became increasingly apparent the more I lived with the data. There were, for example, a number of unanswered questions. Most pertinently, to what degree was their behavior in the museum affected by the research intervention? My assumption is not a great deal, however insight into the children's day-to-day experiences might act as an interesting point of comparison.

Although not a limitation as such, examining these data through different theoretical lenses might prove to be of value. Kirk (2014) makes an interesting link to evolutionary psychology, concerning the young children's fascination with predators. She suggests that this trait might have allowed them to stay safe. Thinking along these lines it would be of value, I feel to examine these data and findings through the lens of evolutionary psychology. For example, the question 'is there evolutionary value in the primacy of exploration in the young children's

experiences?' would be an interesting starting point. Perhaps linked to this, children's imitation of their family members when engaging in museums would be a valuable area to explore in more detail. Examining the young children's visits through a developmental psychology lens would also be of value. For example, understanding more about how their engagement with the museum's spaces fits into current understandings of young children's sensory, emotional and cognitive development could be a productive starting point. Of particular interest here would be to examine in more detail the children's combining of rhythmic vocalisations and movement. From a methodological point of view, there is much that could be done to further explore the utility of FPV with young children in this age group. Constraints of the FPV trace, photographs and interview data have been discussed in Chapter 7. Some points that arose from this discussion is that the FPV trace can exaggerate movements (Sumartojo and Pink, 2018) and the lens capabilities (although impressive) provide an arbitrary view or 'damastic cut' (Lahlou, 2011). These limitations in apparent context make the trace difficult to interpret at times. Although a tricky enterprise due to limitations in language ability (Noon, 2018) it would be of value therefore to pursue research that looks closely at the ways in which FPV trace is interpreted versus how the context is experienced by the participant children. This might involve video-elicitation, which is likely to be more feasible in the context of this research with ever improving and accessible digital equipment. I was also, for the most part, working alone. Although I did share episodes of the FPV trace and my corresponding interpretations with my supervisors, it would be of value in further research of this nature to corroborate interpretations across teams of researchers, educators of young children or parents.

It was notable that the young children in this study did not pay a great deal of attention to wearing the camera whereas a study with slightly older children (Caton and Hackett, 2019) reported that the children quickly grew bored of wearing the chest harness. However this was in a school setting rather than a museum, as a result it would be of interest to examine whether a FPME approach is transferable to different age groups and settings.

8.6 Recommendations for practice

It is not the purpose of this research to provide a set of directions for working with or visiting with young children in museums. Indeed this is likely best avoided as it might serve to stifle the unexpected ways in which young children engage with museum spaces (Hackett, Procter and Kummerfeld, 2018; Clayton and Shuttleworth, 2018). This research does, though, highlight that displays of genuine creativity (Olsson, 2013) were rarer than might be expected during these children's unstructured family museum visits. This finding concurs with Deleuze's point that to get a truly original idea is rather like a party in that it does not happen often (Olsson, 2013). The young children in this study eagerly attend to (often by spontaneously naming or describing) that which is familiar in their lives or paradoxically react with incredulity or interest to that which is strikingly different. That said, this research also demonstrates that all three museums presented opportunities for creative connections. These opportunities (for these six children at least) are most often grounded in, or piggyback on the familiar. For example, Wilbur excitedly pointing at some sticks and interpreting them as snakes, Bill describing a petite dinosaur skeleton-cast as being like a ballet dancer. These original connections are, I would

argue, evidence of the children trying to make sense of their surroundings and to fit them into their wider understandings. However by doing this they have to make imaginative and often original leaps.

There are also times when the children show fleeting moments of interest, maybe in the form of cues such as questions, moving towards objects of interest such as a screen, or reaching out to touch something. These moments were often passed over or not pursued by adults. This sometimes seemed like opportunities missed. Therefore I would stress that these findings highlight the importance of adults (working or visiting with this age group) listening closely and sensitively to the children in their charge and resisting rigidly imposing their own agendas on proceedings. By this I mean listen (in the widest sense of the word) closely to these cues of interest highlighted above. By doing this they might foster opportunities for the children to begin to engage with the exhibitions at the children's own levels of interest on which they can then build. This type of approach requires improvisation and skill, however it is likely to support the children's engagement.

All children entered the museums with a desire to be playful with the adults and children they were with. This, without encouragement from accompanying adults materialised in a variety of ways. For example Una pretending to brush her teeth with a giant toothbrush or Noel pretending to take a photograph of his grandmother. As a result it would be of value for museums to build opportunities (including suitable props) for playful interaction into their exhibitions as this is likely to encourage the children's enjoyment, engagement and positive social interactions with their families (DfE, 2021).

Lastly but definitely not least, the children communicated that exploration was central to their visits. They were there to look around and discover what was in the spaces or around the next corner. This tendency created friction on occasion with family members. Understanding that this is likely an instinctive urge, and appreciating that children are likely not to stray too far unaccompanied, it would be of value to build opportunities to find things into visits and to give young children the opportunity to look around of their own accord rather than become frustrated that they are not concentrating on the displays. I need to add here that I am not advocating that parents do not pay attention to where children are in museums, as it is clearly important that they do. I am instead suggesting allowing children sufficient space and time to explore unhindered.

As a result I would recommend working into exhibition spaces opportunities for children of this age group that promote exploration, are potentially familiar (related to the everyday), potentially playful including the provision of props, or contrast with what is likely to be familiar to a young child. These opportunities are likely to provide the seeds and the emotional connections needed to stimulate curiosity, imaginative thinking, and foster warm and reciprocal relationships with their caregivers. I suggest, in concurrence with Kirk (2014, 2018), that listening closely to what the children themselves value from their museum visits could therefore add to the impact of the three different but equally valuable museums on young children.

In summary the young children's experiences presented in this thesis suggest the children entered the museums with a predisposition to explore and to engage with

the objects and spaces around them. This is often in a fleeting manner with expressions of wonder or exclamations communicating recognition. They tended to do this in idiosyncratic yet broadly predictable ways. It is of equal importance that these museum visits, although peppered with different emotions, were warm and reciprocal social occasions for the families involved. I would suggest this is all to be celebrated. The creative enterprise of developing FPME to document what is of value to six young children during their museum visits is one way of allowing those children to communicate how they felt about their visits and subsequently to contribute in some small way to their own wellbeing, and perhaps the future wellbeing of others in their age group. Moving forward, it is my hope that both these experiential and methodological findings, in combination with other work in the field, might provide the basis for developing other creative ways of working with and understanding young children and their experiences during unstructured family visits to museums.

8.7 Final remarks: a note on ethnographic place

Ethnographic place is not the places actually experienced by the children (Pink, 2015a) instead it is the place that I have created in order to communicate this research and the children's experiences to others. Pink (2015a) points out that one of the main challenges for ethnographic researchers is the act of intentionally bringing together the unique trajectories of things, theory, people, experiential knowing, discourses and more in such a way that invites consumers of the research to imagine themselves into the places of others. This is '*... while simultaneously invoking theoretical and practical points of meaning and learning*.' (Pink, 2015a, pg. 49) This

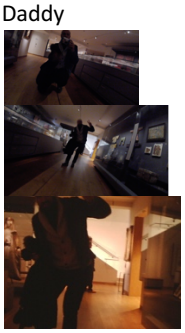
of course has been the challenge for this thesis, presenting the young children's experiences of their museum visits in a loyal and hopefully accessible way, whilst also drawing from those experiences and the routes by which they were engaged with some points of learning that might be considered as useful for museum professionals, educators, parents and academics. It has certainly been a challenge to try to achieve this.

Throughout the thesis I have tried to be explicit about my own entanglement in terms of my engagement with and analysis of these data, my use of theory, my own personal and professional history. Going beyond these things there are numerous other trajectories that have intersected with the study as it has moved towards completion. Some of these are fleeting such as personal conversations with family and friends and snippets of knowledge received from people at conferences, others more involved such as advice from my supervisors, and my engagement with theory. It is important not to forget here the influence of the digital on this project, for example the GoPro™ cameras, handheld cameras and Elan software in helping me to gather and make sense of these data. Together all these factors and more (some more salient than others) are intimately interwoven within and inseparable from the process of creating ethnographic place. It is also important to note that if this thesis is to be considered as part of ethnographic place, then the place being discussed continues to be open and emergent. For example, even though this thesis is now written, when it is read, its contents are being interpreted and developed by the reader meaning that it and its implications are still very much part of a continued entanglement with others. Simply speaking ethnographic places never end, they are

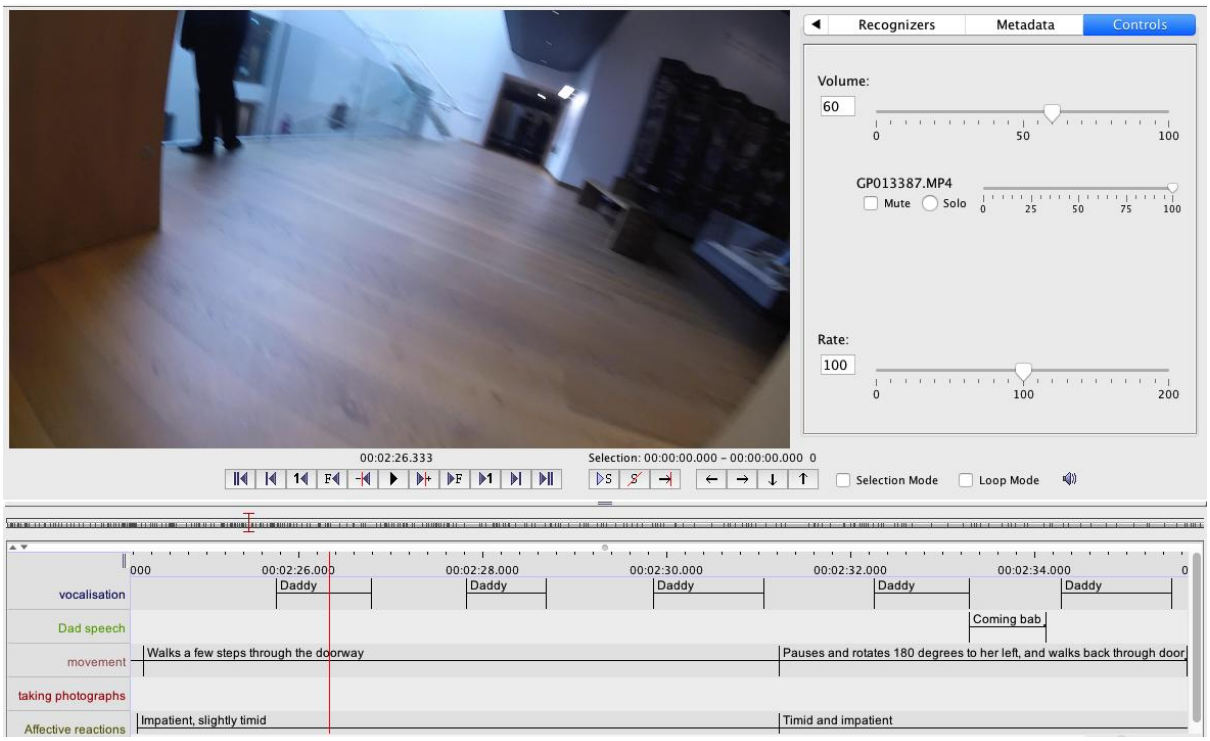
an ‘ongoing’ and often unpredictable coming together of trajectories that are always moving forward.

Appendices

Appendix 1: An extract of video log

Screenshots/photographs of what Sophia is indicating she is paying attention to	Chapter/Time	Brief overview	Location	Comments
Tapestry/painting Medieval king and two queens and a tent scene – bright colours. Sophia's photograph top right.	Chapter 1 2.39 -2.46	S walking, pauses then turns, holds camera up, she then backs up presumably focussing the camera and takes a pic.	Ground floor	Is this Sophia indicating she is attracted to the bright colours of the illustration?
Daddy 	Chapter 1 2.53-3.26	S asks D to 'Daddy, Daddy stand here and when I press say cheese' Dad tells her about the viewfinder again demonstrating how to take a pic. Takes camera and 'Daddy say cheese, and she takes a pic'	Lower Ground floor, Textile Gallery	An example of Sophia enjoying playing with the camera
Multi-coloured/patterned children's dresses/jackets from around the world	Chapter 1 3.50- 4.15	Dad, 'Look at these, these could be clothes you could wear' S 'yeah' D ' you got a choose, which country they come from'. "yeah, I wanna have this one.' She moves to the glass and points. S 'actually I wanna wear the spotty one.' Dad 'China sweetie, which one's the Egypt one - over there.'	Lower Ground floor, Textile Gallery	Sophia enjoying finding a jacket she likes. Linking the collections to her own experiences of wearing clothes?

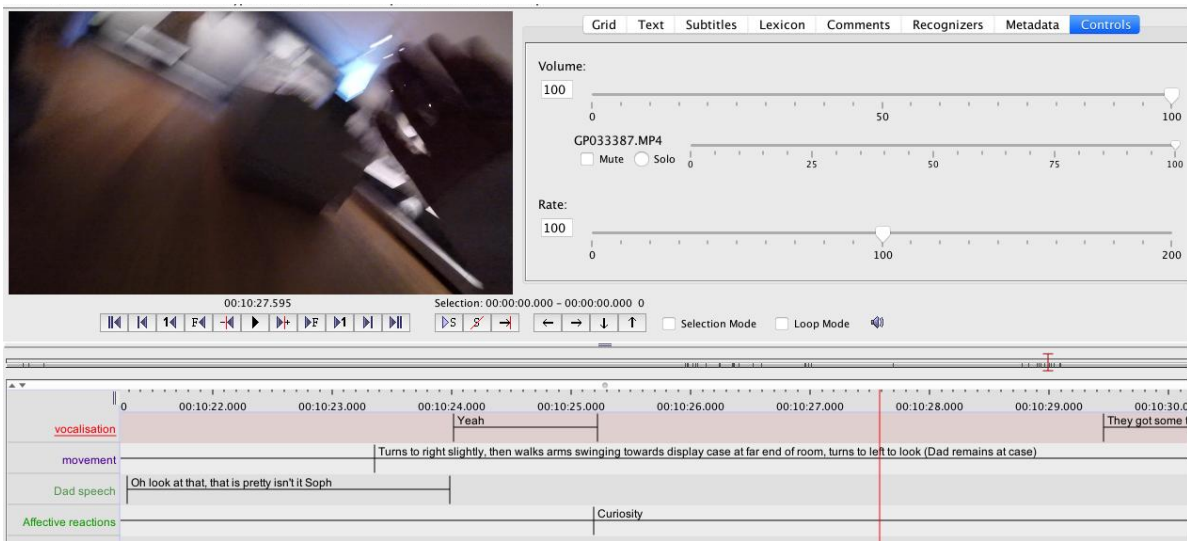
Appendix 2: An example of note-taking underneath a corresponding extract of Elan transcript.



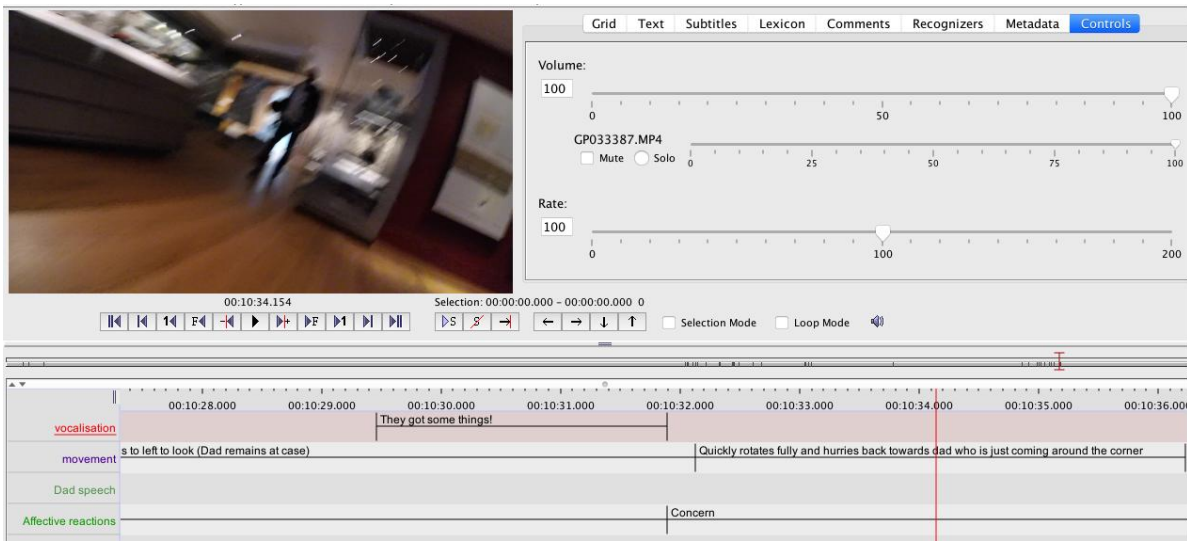
Episode Synopsis	Notes to emerging theme	Emergent theme
Sophia leaves her Dad behind and moves a short way through the doorway into a new area of the museum. While she does this she impatiently calls out 'Daddy, Daddy, Daddy'. After a few seconds she turns around and returns back through the doorway.	Sophia is powerfully and persistently trying to communicate to her dad that she wants to move onto the next space (her dad is talking on the phone to her mum). She does this using a combination of repetitive movements and vocalisations. When she moves through the doorway she is, on the one hand making a point to her dad and at the same time exploring. She seems reluctant to move too far away from her dad, turning around after a few seconds to return to him. Her initial bravado a little cowed.	Reluctance to move through doorways unaccompanied

	The architecture of the doorway seems to represent for Sophia an invisible barrier. She appears conscious on the one hand that she should not move forwards alone, however her desire to explore pushes her to briefly pass through the barrier. There is no mention of this in the interview.	

Appendix 3: Two extracts of Elan transcript and a table showing my notes to the emerging theme 'invisible ties' including how it connected to the now subordinate theme 'reluctance to move through doorways'.



Elan transcript (part one) Illustrating a connecting theme



Elan transcript (part two) illustrating a connecting theme

Episode Synopsis (see Figures 4.6 (parts one and two above)	Notes to emerging theme	Emergent theme	Connecting themes
Sophia's dad draws her attention to a coat in a display case. She briefly looks before striking out towards the other side of the room without him, enthusiastically swinging her arms. Her dad stays at the display case. She exclaims 'they got some things' in a sing song voice, reaches the case, has a quick look to her left and her right and instead of moving on further, quickly turns around and hurries back towards her dad.	Sophia is demonstrating a desire to explore away from her dad. She is exerting her agency. She enthusiastically strikes out away from her dad, but it is evident that she checks herself when she reaches the other side of the room. At this point she has the choice to either continue further away from her dad or to return to find him. She shows a concern for the latter, hurrying back to the safety of his presence.	Invisible ties, keeping a close eye on parent's whereabouts.	This theme connects to the 'reluctance to move through doorways' theme. Which appears to be a subordinate theme

A table showing my notes to the emerging theme 'invisible ties' including how it connected to the now subordinate theme 'reluctance to move through doorways'.

Appendix 4: Sophia table of themes

Patterns of movement	Family interactions	Affective reactions	Patterns of attention
Exploration Surprisingly comprehensive Rotations Allowed to lead Varied locomotion but predominantly walking Stop-start movement Returning to objects of interest **Invisible ties** keeping close eye on dad's whereabouts Reluctance to move through doorways **Combining sound and movement**	**General relationship** S's enjoyment central to visit Warm and reciprocal relationship Gendered language from dad **Clash of agendas** Dad encourages her to lead which she enjoys, however steers her when he deems necessary Sophia contests her dad upholding the museum's 'no touch' rules.	**Varied** Wonder Curiosity Excitement Happy Content Humour Bored Demanding Frustration Impatience	**Means of engagement are varied** Via a combination of touch, photography, whole body movement, humour, gaze and talk, affective reactions, photography, sometimes in combination **Focus of attention** Varied and often conforms to well-recognised patterns e.g. size, bright lift 3-dimensional representations of the human form

When in locomotion When movement restricted e.g. waiting for dad	Sophia frustrated/impatient when Dad does not follow **Dad encouraging engagement** Dad encourages engagement via gameplay e.g. find a plate to have dinner on Dad reads labels to find out what an object is, or where it is from. Sophia cannot read Dad patiently offers help with camera		**Verbal attention** Describing e.g. Naked/categorising gender Naming (predominates) Links to own experience/knowledge

Appendix 5: A table showing the commonality 'synchronisation of movement and vocalisations' across the participants

	Edward (A)	Sophia (A)	Bill (A)	Noel (B)	Una (C)	Wilbur (C)
6.2.4 Synchronisation of movement and vocalisations	Yes Edward jumping up one stair at a time and chanting in time to his jumps (5.2.2)	Yes Channelling her impatient energy into circular twirls and chanting (5.3.2)	Yes Bill circling a large display case while humming (5.5.2)	Yes Rythmically humming and knocking against a display case as he moved down a corridor (5.4.2)	Yes Moving down a corridor reaching out to touch some dressing gowns in time to her chanting (5.6.2)	Yes Knocking a piece of tubing rhythmically against his hand while swaying his torso from side to side 5.7.2

Appendix 6: Noel interview extract: Museum B

Researcher: Let's see how many you took. Oh wow.

Noel: Too many.

Researcher: Did you take all the photographs yourself?

Noel: Yeah

Researcher: Oh my goodness.

Noel: I took too many pictures. I went right up the stairs with them and I've got a bad leg.

Researcher: You've got a bad leg?

Noel: Yes.

Grandfather: You said yesterday that it was all right.

Noel: You know I banged it right there .

Researcher: Yes. Okay, so you're moving pretty well.

Grandmother: Yes, he does, just the steps gave him a bit of pain. We were a bit slow going up but we did it without being carried.

Noel: Yes. It was cool.

Researcher: So what did you enjoy most about your visit?

Noel: Looking at diamonds.

Researcher: Looking at diamonds? Have you any photos of these?

Noel: Yes, they're right near the bottom.

Grandfather: They're last aren't they?

Researcher: Can you point them out. Cool, there are. What did you think about them?

Noel: I just like them

Researcher: If there's anything else you want to talk about as we go through, just tell me.

Grandmother: He was very interested in the snakes, weren't you?

Noel: That is actually gold because I knew that from school.

Researcher: Okay, so let's look a little closer?

Noel: Yes. I actually know that's gold because I see it in my classroom

Researcher: Ah, right, you have gold in your classroom? Sounds like a good school.

Grandfather: Are you allowed to touch it? Bring some home for Aba haha.

Researcher: That's interesting …

Noel: Yes.

Researcher: That you remember the gold colour from school.

Noel: Yes, yes, I learneeeed about gold, so many things are covered in gold, so many … *(I moved him on too fast here)*

Researcher: Yes? And you learnt about it, so what about these other things …

Noel: I actually know what that's called emerald …..

Researcher: Emeralds? Ok well done.

Noel: I actually know all of these … I actually knew I'd seen it …

Grandfather: You've started it now.

Noel: I actually only call them ores.

Researcher: You actually call them what? Ore?

Noel: Yes and I know every single one. I actually know the one is really to find and it's diamond.

Researcher: That's true. It's really hard to find diamonds. Yes, I guess that's quite right.

Noel: You dig down in the ground, deep down

Researcher: So where did you learn about that?

Noel: Because I play tons of Minecraft and it's on every single ore.

Researcher: Yes, you know, that's quite interesting, yes.

Noel: Coal is Easy peasy, lemon squeezy to find.

Researcher: Right okay.

Noel: Sometimes you just find it on a mountain, then you just find it on the stones side of the mountain.

Researcher: Yes, yes.

Noel: Yes. It's easy peasy to find.

Researcher: Absolutely.

Noel: I'd love to find some.

Researcher: What? Coal.

Grandfather: You actually see it sometimes on trains.

Noel: Okay.

Researcher: I suppose you do see coal being transported.

Noel: Yes.

Researcher: So what about … are there any other photographs … are there any photographs that you'd like to show me? Any in particular?

Noel: Yes.

Researcher: Which ones?

Noel: The black bear.

Researcher: Okay, let's see if we can …

Noel: I don't find them very … I don't really see them in museums very often.

Researcher: In where? Museums? Museums, okay.

Noel: Yes, I don't see them in museums very often.

Researcher: Quite unusual. So, where's the black bear?

Noel: That's the brown bear.

Researcher: Right.

Grandmother: The black bear was nearly at the beginning, wasn't it?

Noel: Yes.

Grandfather: Yes, it was near the beginning, I think.

Researcher: Can you spot him?

Interviewer: No, it's not there.

Researcher: Yes, you took a photograph did you?

Noel: Yes, I think it's near the end because I think it's somewhere in the middle, somewhere (bit of a bored tone)

Researcher: Okay.

Noel: That's the brown bear.

Researcher: Yes. Well, maybe it was one of those that you maybe got close to, something like that?

Noel: No I didn't. I didn't actually get close. Actually near.

Researcher: Maybe you'll see it somewhere here. Have you got sharp eyes, can you spot it?

Noel: I have sharp eyes but I can't see it.

Grandfather: You talked abo all about the snake in the Everglades, didn't you?

Noel: Yes.

Wow: Wow.

Noel: I actually knew everything about the snakes.

Researcher: I actually can't see it so tell me what was interesting about the black bear?

Noel: Because I could touch him.

Researcher: Did you touch him?

Noel: Yes.

Researcher: You did? What did he feel like?

Noel: And the claws felt very sharp. I could squeeze my finger under them under and it was really sharp.

Researcher: You did … do you think it's a real bear?

Noel: No. It's just a model.

Researcher: Yes. you wouldn't do that to a real bear would you?

Noel: No because it would just bite your head off.

Researcher: Possibly. Yes, what about the … anything else that you want to tell me about here?

Noel: The snake is somewhere in there. It's just a big curl of stripes, it's not that one there.

Researcher: I spotted that on the way through, it was … but you're right.

Noel: Go slowly, the slowly the better. It wasn't the little silly one, it was the other one. It was the big, fat, one.

Researcher: Oh I think I can spot it. Was it this?

Noel: No it was the … it wasn't …

Researcher: It wasn't the thin snakes here?

Noel: No, it was the fat one.

Researcher: This one?

Noel: Yes, the fat one and I know no something about them

Researcher: And what did you know?

Noel: When the babies hatch, they stay in their eggs for a few days.

Researcher: Yes, okay.

Noel: They hatch and they live in the Everglades.

Researcher: Oh, do you know what type of snake it is?

Noel: Anaconda.

Researcher: Anaconda?

Noel: Yes.

Grandfather: Did you see the …

Grandmother: We saw that in the Everglades.

Grandmother: I forgot what he said.

Grandfather: It doesn't matter.

Researcher: Is that where you …?

Noel: I actually learnt on Octonauts

Researcher: On Octonauts

Noel: Yes, they actually went to the Everglades and seen one.

Researcher: Oh, have you been to the everglades?

Noel: No but I knew something about the Everglades. That's where you find them. There's actually wildfires

Researcher: Right okay and where did you hear that from?

Noel: Octonauts

Researcher: Octonauts as well?

Noel: The only Everglades video I ever watched was on Octonauts. That's the only Everglades video I can find.

Researcher: Okay, that's very interesting.

Noel: I put them on at Grandmas and Grandpa's.

Researcher: Do you?

Noel: Yes.

Appendix 7: Ethics approval letter

OXFORD BROOKES UNIVERSITY

Professor Deb McGregor
Director of Studies
School of Education
Faculty of Humanities and Social Sciences
Oxford Brookes University
Harcourt Hill

26 July 2016

Dear Professor McGregor

UREC Registration No: 161024
[redacted]

Thank you for the email of 10 July 2016 outlining the response to the points raised in my previous letter about the PhD study of your research student Ben Burbank and attaching the revised documents. I am pleased to inform you that, on this basis, I have given Chair's Approval for the study to begin.

The UREC approval period for this study is two years from the date of this letter, so 26 July 2018. If you need the approval to be extended please do contact me nearer the time of expiry.

Should the recruitment, methodology or data storage change from your original plans, or should any study participants experience adverse physical, psychological, social, legal or economic effects from the research, please inform me with full details as soon as possible.

Yours sincerely

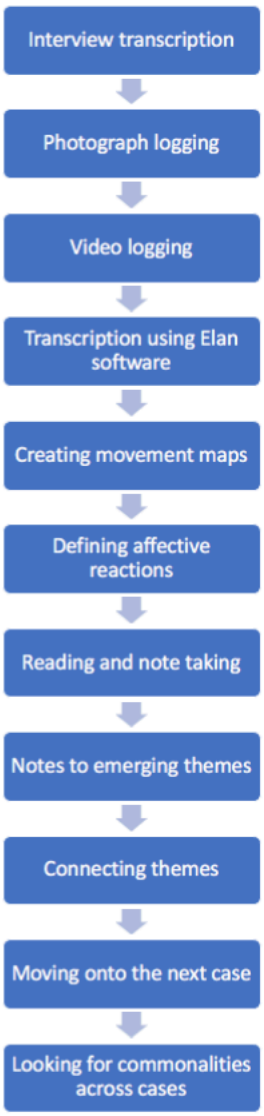
Dr Sarah Quinton
Chair of the University Research Ethics Committee

cc Mary Wild, Second Supervisor
Ben Burbank, Research Student
Maja Cederberg, Research Ethics Officer
Jill Organ, Research Degrees Team
Louise Wood, UREC Administrator

INVESTORS IN PEOPLE | Gold

www.brookes.ac.uk

Appendix 8: A flow chart illustrating the process of analysis



Reference List

Acosta, D. I., Polinsky, N. J., Haden, C. A. and Uttal, D. H. (2021) 'Whether and how knowledge moderates linkages between parent–child conversations and children's reflections about tinkering in a children's museum', *Journal of Cognition and Development,* 22(2), pp. 226-245.

Adams, M. and Luke, J. (2005) 'From heart to head to hand: A synthesis of issues & strategies raised at the From Content to Play symposium'. In Report on the From Content to Play symposium. Los Angeles: J. Paul Getty Museum.

Allen, S. (2003) 'Looking for learning in visitor talk: A methodological exploration', in Leinhardt, G., Crowley, K. and Knutson, K. (eds.) *Learning conversations in museums*: Routledge, pp. 259-303.

Alt, M. B. (1980) 'Four years of visitor surveys at the British Museum (Natural History) 1976-79', *Museums Journal,* 80(1), pp. 10-19.

Anderson, D., Piscitelli, B. and Everett, M. (2008) 'Competing agendas: Young children's museum field trips', *Curator: The Museum Journal,* 51(3), pp. 253-273.

Anderson, D., Piscitelli, B. and Weier, K. (2002) 'Children's Museum Experiences: Identifying Powerful Mediators of Learning', *Curator,* 45(3), pp. 213-231.

Anderson, D., Piscitelli, B., Weier, K., Everett, M. and Tayler, C. (2002) 'Children's museum experiences: Identifying powerful mediators of learning', *Curator: The Museum Journal,* 45(3), pp. 213-231.

Ash, D. (2002) 'Negotiations of thematic conversations about biology', *Learning conversations in museums*, pp. 357-400.

Ash, D. (2004) 'How families use questions at dioramas: Ideas for exhibit design', *Curator: The Museum Journal,* 47(1), pp. 84-100.

Ash, D., Crain, R., Brandt, C., Loomis, M., Wheaton, M. and Bennett, C. (2007) 'Talk, tools, and tensions: Observing biological talk over time', *International Journal of Science Education,* 29(12), pp. 1581-1602.

Balling, J., Falk, J. and Aronson, R. (1980) 'Pre-trip Orientations: An Exploration of Their Effects on Learning from a Single Visit Field Trip to a Zoological Park" *Final Report to National Science Foundation, Grant# SED77,* 18913.

Barad, K. (2007) *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning.* Duke University Press.

Barrett, H.C., 2005. Adaptions to Predators and Prey. In *The Handbook of Evolutionary*
Psychology. John Wiley & Sons, pp. 200–223.

Barnett, L. A. (2007) 'The nature of playfulness in young adults', *Personality and individual differences,* 43 (4), pp. 949-958.

Bates, E. (2018) 'Can natural history collections support a connection to nature for young children and families?', *Museum and Society,* 16 (3), pp. 369-382.

Bench, S. W. and Lench, H. C. (2013) 'On the function of boredom', *Behavioral sciences,* 3(3), pp. 459-472.

Bezemer, J. and Mavers, D. (2011) 'Multimodal transcription as academic practice: a social semiotic perspective', *International Journal of Social Research Methodology,* 14(3), pp. 191-206.

Birch, J. (2018) 'Museum spaces and experiences for children–ambiguity and uncertainty in defining the space, the child and the experience', *Children's Geographies*, pp. 1-13.

Borun, M., Chambers, M. and Cleghorn, A. (1996) 'Families are learning in science museums', *Curator: The Museum Journal,* 39(2), pp. 123-138.

Borun, M., Cleghorn, A. and Garfield, C. (2011) 'Family learning in museums: A bibliographic review', *Curator: The Museum Journal,* 38(4), pp. 262-270.

Bronfenbrenner, U. (1979) 'The ecology of human development Cambridge', *MA: Harvard*.

Brule-Currie, M. (1996) 'When three-to-five-year-olds and adults look at modern and abstract art together.', in Lefebvre, B. and Allard, M. (eds.) *Le musee: un projet educatif*. Montreal: Editions Logiques, pp 109-126

Bryman, A. (2015) *Social research methods.* Oxford university press.

Bunce, L. (2016) 'Dead Ringer? Visitors' Understanding of Taxidermy as Authentic and Educational Museum Exhibits', *Visitor Studies,* 19(2), pp. 178-192.

Burbank, B. 2016a. *RE: Informal Interview with Deputy Head of Learning of Museum C*

Burbank, B. 2016b. *RE: Informal interview with Director of Museum C.*

Burbank, B., McGregor, D. and Wild, M. (2018) '‘My special, my special thing, and my camera!’Using GoPro™ as a complementary research tool to investigate young children’s museum experiences', *Museum and Society,* 16 (3), pp. 311-333.

Byrne, D., Doherty, A. R., Jones, G. J., Smeaton, A. F., Kumpulainen, S. and Järvelin, K. 'The SenseCam as a tool for task observation'. *Proceedings of the 22nd British HCI Group Annual Conference on People and Computers: Culture, Creativity, Interaction-Volume 2*: BCS Learning & Development Ltd., pp. 19-22.

Cagliari, P., Castagnetti, M., Giudici, C., Rinaldi, C., Vecchi, V. and Moss, P. (2016) *Loris Malaguzzi and the Schools of Reggio Emilia: A Selection of His Writings and Speeches, 1945-1993.* Routledge.

Callanan, M. A., Jipson, J. L. and Soennichsen, M. S. (2002) 'Maps, globes, and videos: parent–child conversations about representational objects', *Perspectives on object-centered learning in museums*, pp. 261-283.

Calvino, I. (1978) *Invisible cities.* Houghton Mifflin Harcourt.

Carr, M., Clarkin-Phillips, J., Beer, A., Thomas, R. and Waitai, M. (2012) 'Young children developing meaning-making practices in a museum: the role of boundary objects', *Museum management and Curatorship,* 27(1), pp. 53-66.

Carr, M., Clarkin-Phillips, J., Soutar, B., Clayton, L., Wipaki, M., Wipaki-Hawkins, R., Cowie, B. and Gardner, S. (2018) 'Young children visiting museums: exhibits, children and teachers co-author the journey', *Children's Geographies,* 16(5), pp. 558-570.

Casey, E. (1996) 'How to get from space to place in a fairly short stretch of time', in Feld, S. and Basso, K. (eds.) *Senses of Place*. Santa Fe: School of American Research Press, pp. 13-52.

Caton, L. and Hackett, A. (2019) 'The methodological potentials of a GoPro camera and ontological possibilities for doing visual research with child participants differently', *The Routledge International Handbook of Learning with Technology in Early Childhood*, pp. 362-375

Chalfen, R. (2014) ''Your panopticon or mine?' Incorporating wearable technology's Glass and GoPro into visual social science', *Visual Studies,* 29(3), pp. 299-310.

Christensen, P. and O'Brien, M. (2003) *Children in the city: Home neighbourhood and community.* Routledge.

Christensen, P. and Prout, A. (2005) 'Anthropological and sociological perspectives on the study of children' in Greene, S., and Hogan, D. (eds), Researching Children's Experience: Approaches and methods. Sage: London, pp 42-60

Christensen, P. M. and James, A. (2000) *Research with children : perspectives and practices.* London: Falmer Press.

Clark, A. (2005) 'Ways of seeing: Using the Mosaic approach to listen to young children's perspectives', in Clark, A., Kjorholt, P., Moss, P., Kjorholt, A.T., *Beyond listening: Children's Perspectives on Early Childhood Services*, pp. 29-49.

Clark, A. and Moss, P. (2001) 'Listening to young children: the Mosaic approach' National Children's Bureau Enterprises Ltd, London.

Clark, A. and Moss, P. (2011) *Listening to young children: The mosaic approach.* 2nd ed., National Children's Bureau Enterprises Ltd, London

Clarkin-Phillips, J., Carr, M., Thomas, R., Waitai, M. and Lowe, J. (2013) 'Stay behind the yellow line: Young children constructing knowledge from an art exhibition', *Curator: The Museum Journal,* 56(4), pp. 407-420.

Clayton, E. and Shuttleworth, J. (2018) 'Spaces In-between', *Children's Geographies,* 16(5), pp. 539-542.

Colebrook, C., (2002) 'Understanding deleuze'. Routledge

Cook, T. and Hess, E. (2007) 'What the camera sees and from whose perspective: Fun methodologies for engaging children in enlightening adults', *Childhood,* 14(1), pp. 29-45.

Cordelois, A. (2010) 'Using digital technology for collective ethnographic observation: an experiment on 'coming home'', *Social science information,* 49(3), pp. 445-463.

Cordón, I. M., Silberkleit, G. and Goodman, G. S. (2016) 'Getting to Know You: Familiarity, Stereotypes, and Children's Eyewitness Memory', *Behavioral sciences & the law,* 34(1), pp. 74-94.

Corsaro, W. 2015. *The Sociology of Childhood*. Sociology for a New Century Series. Fourth Edition55 City Road, London: SAGE Publications, Inc.

Cowan, K. (2014) 'Multimodal transcription of video: examining interaction in Early Years classrooms', *Classroom Discourse,* 5(1), pp. 6-21.

Cowan, K. (2018) *Visualising young children's play: exploring multimodal transcription of video-recorded interaction.* PhD thesis, UCL (University College London).

Crowley, K. and Callanan, M. (1998) 'Describing and supporting collaborative scientific thinking in parent-child interactions', *Journal of Museum Education,* 23(1), pp. 12-17.

Crowley, K. and Jacobs, M. (2002) 'Building Islands of Expertise in Everyday Family Activity', in Leinhardt, G., Crowley, K., & Knutson, K (eds) *Learning conversations in Museums*, Mahwah, New Jersey: Laurence Erlbaum Associates, pp. 333-356.

Crowley, K., Pierroux, P. and Knutson, K. (2014) 'Informal learning in museums'. *The Cambridge handbook of the learning sciences*, 461-478.

Csikszentmihalyi, M. 1990. Flow, The Psychology of Optimal Experience, New York: Harper & Row

Custodero, L. A., Calì, C. and Diaz-Donoso, A. (2016) 'Music as transitional object and practice: Children's spontaneous musical behaviors in the subway', *Research Studies in Music Education,* 38(1), pp. 55-74.

Dallmayr, F. (2009) 'Hermeneutics and inter-cultural dialog: linking theory and practice', *Ethics & Global Politics,* 2(1), pp. 23-39.

Daniels, H., Cole, M. and Wertsch, J. V. (2011) *The Cambridge companion to Vygotsky.* Cambridge: Cambridge University Press.

Danko-McGhee, K. (2006) 'Favourite artworks chosen by young children in a museum setting', *International Journal of Education through Art,* 2(3), pp. 223-235.

Danko-Mcghee, K. (2006) 'Nurturing Aesthetic Awareness in Young Children: Developmentally Appropriate Art Viewing Experiences', *Art Education: Novices and Veterans,* 59(3), pp. 20-35.

Dardanou, M. (2019) 'From foot to pencil, from pencil to finger: Children as digital wayfarers', *Global Studies of Childhood,* 9(4), pp. 348-359.

De Jong, M., Kamsteeg, F. and Ybema, S. (2013) 'Ethnographic strategies for making the familiar strange: Struggling with ‘distance’and ‘immersion’among Moroccan-Dutch students', *Journal of Business Anthropology,* 2(2), pp. 168-186.

Degotardi, S., Hadley, F., Little, H., Colliver, Y. and Highfield, K. (2017) *'Let's go to the museum' An investigation of the expectations and learning engagement of prior-to-school aged children and their families,* NSW Australia: Macquarie University.

Department of Education (1989) *National Curriculum*.

Department of Education (2008) *Statutory Framework for the Early Years Foundation Stage*, avaliable at https://dera.ioe.ac.uk/6413/7/statutory-framework_Redacted.pdf

Department of Education (2021) *Statutory Framework for the Early Years Foundation Stage*, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974907/EYFS_framework_-_March_2021.pdf

Diamond, J. (1986) 'The behavior of family groups in science museums', *Curator: The Museum Journal,* 29(2), pp. 139-154.

DiBianca Fasoli, A. (2014) 'To Play or Not to Play: Diverse Motives for Latino and Euro-American Parent–Child Play in a Children's Museum', *Infant and Child Development,* 23(6), pp. 605-621.

Dierking, L. D. (1989) 'The family museum experience: Implications from research', *Journal of Museum Education,* 14(2), pp. 9-11.

Dockett, S., Einarsdottir, J. and Perry, B. (2017) 'Photo elicitation: reflecting on multiple sites of meaning', *International Journal of Early Years Education,* 25(3), pp. 225-240.

Dockett, S., Main, S. and Kelly, L. (2011) 'Consulting Young Children: Experiences from a Museum', *Visitor Studies,* 14(1), pp. 13-33.

Dooley, C. M. and Welch, M. M. (2014) 'Nature of Interactions among Young Children and Adult Caregivers in a Children's Museum', *Early Childhood Education Journal,* 42(2), pp. 125-132.

Dudley, S. H. (2014) 'What's in the Drawer? Surprise and Proprioceptivity in the Pitt Rivers Museum', *The Senses and Society,* 9(3), pp. 296-309.

Dunn, R. (2012) 'A Vision of History: Young Children's Perspectives on a Museum', in Whiteman, P. and De Gioia, K. (eds.) *Perspectives, Places and Practices*: Newcastle upon Tyne: Cambridge Scholars, pp. 151-152

Dunn, R. and Wyver, S. (2019) 'Before 'us' and 'now': developing a sense of historical consciousness and identity at the museum', *International Journal Of Early Years Education,* 27(4), pp. pp360-373.

Eberbach, C. and Crowley, K. (2017) 'From seeing to observing: How parents and children learn to see science in a botanical garden', *Journal of the Learning Sciences,* (just-accepted).

Eckhoff, A. (2008) 'The importance of art viewing experiences in early childhood visual arts: The exploration of a master art teacher's strategies for meaningful early arts experiences', *Early Childhood Education Journal,* 35(5), pp. 463-472.

Einarsdottir, J. (2005) 'Playschool in pictures: children's photographs as a research method', *Early Child Development and Care,* 175(6), pp. 523-541.

Ellenbogen, K. M., Luke, J. J., Dierking, L. D., Falk, J., Dierking, L. and Foutz, S. (2007) 'Family learning in museums: Perspectives on a decade of research', *In principle, in practice: Museums as learning institutions*, pp. 17-30.

Elwick, S. (2015) ''Baby-cam' and researching with infants: Viewer, image and (not) knowing', *Contemporary Issues in Early Childhood,* 16(4), pp. 322-338.

Falk, J. H. (2000) *Learning from museums : visitor experiences and the making of meaning. American Association for State and Local History book series* Walnut Creek, CA ; Oxford: Walnut Creek, CA ; Oxford : AltaMira Press.

Falk, J. H. and Dierking, L. D. (2012) *Museum experience revisited.* Left Coast Press.

Falk, J. H., Moussouri, T. and Coulson, D. (1998) 'The Effect of Visitors' Agendas on Museum Learning', *Curator,* 41(2), pp. 106-20.

Fasoli, L., (2001), Preschoolers visit the art gallery: Complicating the excursion'. *10th National Biennial Conference of the Australian Curriculum Studies Association, Australian National University, Canberra*.

Fasoli, L. (2003), Reading photographs of young children: Looking at practices, *Contemporary Issues in Early Childhood,* 4(1), pp. 32-47.

Feder, M. (1989) 'Walk with My Father: The Museum', *Journal of Museum Education,* 14(2), pp. 14-15.

Fidler, Y., Bunney, A. and Craven, S. (2011) *In the Gallery: children, young people and families co-researching their experience in museums.*, MLA.

Figueroa, S. K. (2008) 'The grounded theory and the analysis of audio-visual texts', *International Journal of Social Research Methodology,* 11(1), pp. 1-12.

Finnegan, R. H. (2002) *Communicating : the multiple modes of human interconnection.* London: Routledge.

Flewitt, R. (2005) 'Is every child's voice heard? Researching the different ways 3-year-old children communicate and make meaning at home and in a pre-school playgroup', *Early Years,* 25(3), pp. 207-222.

Flewitt, R. (2006) 'Using video to investigate preschool classroom interaction: Education research assumptions and methodological practices', *Visual communication,* 5(1), pp. 25-50.

Garrett, B. L. (2011) 'Videographic geographies: Using digital video for geographic research', *Progress in Human Geography,* 35(4), pp. 521-541.

Geurts, B. (2018) 'Making sense of self talk', *Review of philosophy and psychology,* 9(2), pp. 271-285.

Gieser, T. (2008) 'Embodiment, emotion and empathy: A phenomenological approach to apprenticeship learning', *Anthropological theory,* 8(3), pp. 299-318.

Graham, J. (2011) 'Early Years: A growing audience for museums and galleries', *Journal for Education in Museums,* 32, pp. 54-62.

Graham, J. (2013) *Turning Museums into learning environments for young children*. Available at http://learning-unlimited.co.uk/page4/files/mus_as_learn_enviros4u7s.pdf (accessed 19th August 2019)

Grasseni, C. (2011) 'Skilled visions: Toward an ecology of visual inscriptions', in Banks, M., Ruby, J. (eds) in *Made to be seen: Perspectives on the history of visual anthropology*, pp. 19-44.

Green, C. (2016) 'Sensory Tours as a Method for Engaging Children as Active Researchers: Exploring the Use of Wearable Cameras in Early Childhood Research', *International Journal of Early Childhood,* 48(3), pp. 277-294.

Green, J. and Bloome, D. (2004) 'Ethnography and ethnographers of and in education: A situated perspective', in Flood, J., Lapp, D., & Brice Heath, S., *Handbook of Research on Teaching Literacy through the Communicative and Visual Arts*, pp. 181-202.

Greene, S. and Hogan, D. (2005) *Researching children's experience: Approaches and methods.* Sage.

Greenman, J. (2005) *Caring spaces, learning places: Children's environments that work.* Redmond, WA: Exchange Press

Greenslit, J., Price, A. and Malone, T. (2021) 'Aesthetic Dissonance: The Impact of Viewing Fine Art in a Science Museum', *Journal of Museum Education,* 46(2), pp. 202-215.

Groundwater-Smith, S., Dockett, S. and Bottrell, D. 2015. Participatory Research with Children and Young People. London: London: SAGE Publications Ltd.

Haas, N. T. (1997) 'Project explore: How children are really learning in children's museums', *The Visitor Studies Association,* 9, pp. 63-69.

Hackett, A. (2012) 'Running and learning in the museum: A study of young children's behaviour in the museum, and their parents' discursive positioning of that behaviour, *Childhoods Today,* 6(1), pp. 1-21.

Hackett, A. (2014a) *How do families with young children (2-4 years old) make meaning in a museum?* PhD thesis, University of Sheffield.

Hackett, A. (2014b) 'Zigging and zooming all over the place: Young children's meaning making and movement in the museum', *Journal of Early Childhood Literacy,* 14(1), pp. 5-27.

Hackett, A. (2016) 'Young children as wayfarers: learning about place by moving through it', *Children & Society,* 30(3), pp. 169-179.

Hackett, A., Holmes, R. and MacRae, C. (2020) *Working with Young Children in Museums: Weaving Theory and Practice.* Routledge.

Hackett, A., Holmes, R., Macrae, C. and Procter, L. (2018) 'Young children's museum geographies: spatial, material and bodily ways of knowing', *Children's geographies,* 16(5), pp. 481-488.

Hackett, A., Pool, S., Rowsell, J. and Aghajan, B. (2015) 'Seen and unseen: using video data in ethnographic fieldwork', *Qualitative Research Journal,* 15(4), pp. 430-444.

Hackett, A., Procter, L. and Kummerfeld, R. (2018) 'Exploring abstract, physical, social and embodied space: developing an approach for analysing museum spaces for young children', *Children's Geographies,* 16(5), pp. 1-14.

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

Hadfield, M. and Haw, K. (2012) 'Video: modalities and methodologies', *International Journal of Research & Method in Education,* 35(3), pp. 311-324.

Haley, B., Heo, S., Wright, P., Barone, C., Rao Rettiganti, M. and Anders, M. (2017) 'Relationships among active listening, self-awareness, empathy, and patient-centered care in associate and baccalaureate degree nursing students', *NursingPlus Open,* 3, pp. 11-16.

Hammersley, M. (2006) 'Ethnography: problems and prospects', *Ethnography and Education,* 1(1), pp. 3-14.

Hammersley, M. and Atkinson, P. (2007) *Ethnography : principles in practice.* 3rd edn. London ; New York: Routledge.

Harris, E. and Winterbottom, M. (2018) '‘Why do parrots talk?’co-investigation as a model for promoting family learning through conversation in a natural history gallery', *Journal of Biological Education,* 52(1), pp. 89-100.

Heidegger, M. and Krell, D. F. (ed) (1993) *Basic writings : from Being and time (1927) to The task of thinking (1964).* Rev. and expanded edn. San Francisco, Calif.: HarperSanFrancisco.

Hein, G. E. and Alexander, M. (1998) *Museums: Places of learning.* American Association of Museums, Education Committee.

Hill, M. (2005) 'Ethical Considerations in Researching Children’s Experiences', in Greene, S. and Hogan, D. (eds), *Researching Children’s Experience: Approaches and Methods.* London: SAGE Publications, pp 61-86

Hill, M. (2006) 'Children’s voices on ways of having a voice: Children’s and young people’s perspectives on methods used in research and consultation', *Childhood,* 13(1), pp. 69-89.

Hogan, S. and Pink, S. (2012) Visualising interior worlds, in Pink, S. (ed) *Advances in visual methodology,* London: SAGE Publications, pp 230-247

Hoicka, E., Jutsum, S. and Gattis, M. (2008) 'Humor, abstraction, and disbelief', *Cognitive Science,* 32(6), pp. 985-1002.

Holm, G. (2008) 'Visual research methods: Where are we and where are we going?', *Handbook of emergent methods*: Guilford Press, pp. 325-341.

Hooper-Greenhill, E. and Moussouri, T. (2000) *Researching Learning in Museums and Galleries 1990-1999: a Bibliographic Review.* Research Centre for Museums and Galleries, University of Leicester

Howes, D. (2005) *Empire of the Senses.* Berg Publishers Oxford, UK.

Ingold, T. (2000) *The perception of the environment : essays on livelihood, dwelling & skill.* New York: Routledge.

Ingold, T. (2008) 'Bindings against boundaries: entanglements of life in an open world', *Environment and planning A,* 40(8), pp. 1796-1810.

Ingold, T. (2015) *The life of lines. London:* Routledge.

Ingold, T. (2016) *Lines: a brief history.* London: Routledge.

Izard, C. E. (2013) *Human emotions.* New York: Springer Science & Business Media.

James, A. (2007) Ethnography in the Study of Children and Childhood in Atkinson, P., Coffey, P., Delamont, J., Lofland., J and Lofland L., (eds) *Handbook of ethnography,* London: SAGE Publications, pp 246-257

Janesick, V. J. (2001) 'Intuition and creativity: A pas de deux for qualitative researchers', *Qualitative Inquiry,* 7(5), pp. 531-540.

Jenkins, S., Lisk, J. and Broadley, A. (2013) *The Popularity of Museum Galleries Evaluation for Natural Sciences Collections Association*. Jenesys Associates Ltd

Jeronimus, B. F. and Laceulle, O. M. (2017) 'Frustration', in Zeigler-Hill, V. and Shackelford, T. (eds.) *Encyclopaedia of personality and individual differences*. New York: Springer, pp 1-8

Jewitt, C. (2012) 'An introduction to using video for research'. National Centre for Research Methods Working Paper. London: Insititute of Education

Jewitt, C., Bezemer, J. and O'Halloran, K. (2016) *Introducing multimodality.* Routledge.

Jewitt, C. and Kress, G. (2003) 'A multimodal approach to research in education', in Goodman, S., Lillis, T., Maybin, J. and Mercer, N. (eds.) *Language, literacy and education: a reader*: Trentham Books in association with the Open University, pp. pp. 277-292.

Kelly, L., Main, S., Dockett, S., Perry, B. and Heinrich, S. (2006) 'Listening to young children's voices in museum spaces', *Conference of the Australian Association for Research in Education*.

Kelton, M. L. and Ma, J. Y. (2020) 'Assembling a torus: Family mobilities in an immersive mathematics exhibition', *Cognition and Instruction,* 38(3), pp. 318-347.

Kelton, M. L., Ma, J. Y., Rawlings, C., Rhodehamel, B., Saraniero, P. and Nemirovsky, R. (2018) 'Family meshworks: children's geographies and collective ambulatory sense-making in an immersive mathematics exhibition', *Children's Geographies,* 16(5), pp. 543-557.

Kindler, A. M. and Darras, B. (1997) 'Young Children and Museums: The Role of Cultural Context in Early Development of Attitudes, Beliefs, and Behaviors', *Visual Arts Research,* 23(1), pp. 125-41.

Kindt, D. (2011) 'Seeing through the eyes of the students: First impressions of recording in the classroom with a GoPro® head-mounted camcorder', *Nagoya University of Foreign Studies Journal of the School of Contemporary International Studies,* 7, pp. 179-199.

Kirk, E. (2013) 'Gaining young children's perspectives on natural history collections', *Journal of Natural Science Collections,* 1, pp. 38-43.

Kirk, E. (2015) 'Budding Photographers: Young Children's Digital Photography in a Museum', in Stylianou-Lambert, T. (ed.) *Museums and Visitor Photography: Redefining the Visitor Experience*: MuseumsEtc, pp. 237-266

Kirk, E. and Buckingham, W. (2018) *Snapshots of museum experience : understanding child visitors through photography. Routledge research in museum studies* 1st edn. London: Routledge.

Kirk, E. S. (2014) *Crystal teeth and skeleton eggs: snapshots of young children's experiences in a natural history museum.* University of Leicester.

Kirk, E. S. and Buckingham, W. (2013) 'Invisible Museums and Multiple Utopias', *Museological Review,* 17, pp. 16-25.

Knoblauch, H. (2005) 'Focused Ethnography', *2005,* 6(3).

Knutson, K., Lyon, M., Crowley, K. and Giarratani, L. (2016) 'Flexible interventions to increase family engagement at natural history museum dioramas', *Curator: The Museum Journal,* 59(4), pp. 339-352.

Kress, G. (2005) *Before writing: Rethinking the paths to literacy.* Routledge.

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

Kropf, M. B. (1989) 'The family museum experience: A review of the literature', *Journal of Museum Education,* 14(2), pp. 5-8.

Laetsch, W. M. (1982) 'Taking a Measure of Families', *Roundtable Reports,* 7(1), pp. 3-13.

Lahlou, S. (2011) 'How can we capture the subject's perspective? An evidence-based approach for the social scientist', *Social Science Information,* 50(3-4), pp. 607-655.

Lahlou, S., Le Bellu, S. and Boesen-Mariani, S. (2015) 'Subjective evidence based ethnography: method and applications', *Integrative Psychological and Behavioral Science,* 49(2), pp. 216-238.

Land, M. F. (2004) 'The coordination of rotations of the eyes, head and trunk in saccadic turns produced in natural situations', *Experimental brain research,* 159(2), pp. 151-160.

Land, M. F. (2006) 'Eye movements and the control of actions in everyday life', *Progress in retinal and eye research,* 25(3), pp. 296-324.

Langsted, O. (1994) 'Looking at quality from the child's perspective', *Valuing quality in early childhood services: New approaches to defining quality*, pp. 28-42.

Lansdown, G. (2005) *Can You Hear Me? The Right of Young Children to Participate in Decisions Affecting Them. Working Papers in Early Childhood Development, No. 36.* ERIC.

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

Lee, H., Smeaton, A. F., O'Connor, N. E., Jones, G., Blighe, M., Byrne, D., Doherty, A. and Gurrin, C. (2008) 'Constructing a SenseCam visual diary as a media process', *Multimedia Systems,* 14(6), pp. 341-349.

Lefebvre, H. and Nicholson-Smith, D. (1991) *The Production of Space.* Oxford Blackwell.

Leinhardt, G. and Crowley, K. (1998) 'Museum learning as conversational elaboration: A proposal to capture, code, and analyze talk in museums', *Museum Learning Collaborative, http://museumlearning. org/paperresearch. html (accessed March 1, 2007)*.

Leinhardt, G. and Knutson, K. (2004) *Listening in on museum conversations.* Rowman Altamira.

Leinhardt, G. and Knutson, K. (2006) Grandparents speak: Museum conversations across the generations, *Curator: The Museum Journal,* 49(2), pp. 235-252.

Lillard, A. S., Lerner, M. D., Hopkins, E. J., Dore, R. A., Smith, E. D. and Palmquist, C. M. (2013) The impact of pretend play on children's development: A review of the evidence, *Psychological bulletin,* 139(1), pp. 1.

Lomax, H., Fink, J., Singh, N. and High, C. (2011) 'The politics of performance: methodological challenges of researching children's experiences of childhood through the lens of participatory video', *International Journal of Social Research Methodology,* 14(3), pp. 231-243.

Macdonald, S. (2011) *A Companion to Museum Studies. Blackwell Companions in Cultural Studies ; 12* Malden, MA ; Oxford: Wiley-Blackwell.

MacLure, M. (2013) 'The Wonder of Data', *Cultural Studies ↔ Critical Methodologies,* 13(4), pp. 228-232.

MacRae, C. (2007) 'Using sense to make sense of art: Young children in art galleries', *Early Years an International Journal of Research and Development,* 27(2), pp. 159-170.

MacRae, C., Hackett, A., Holmes, R. and Jones, L. (2018) 'Vibrancy, repetition and movement: posthuman theories for reconceptualising young children in museums', *Children's Geographies,* 16(5), pp. 503-515.

Makanjuola, A. (2021) *A scoping review on the influence of seasonality on the 24 hour movement behaviour of children.* PhD thesis, University of Toronto, http://hdl.handle.net/1807/107658 [Online] Available at: http://hdl.handle.net/1807/107658 (Accessed September 2021)

Manning, E. (2016) *The minor gesture.* Duke University Press.

Marcus, R., Burke, C. and Dobel-Ober, D. (2009) *Creative Spaces. Children as co-researchers in the design of museum and gallery learning.*: Renaissance North West.

Marsh, J. (2017) 'The internet of toys: A posthuman and multimodal analysis of connected play', *Teachers College Record,* 119 (12), pp. 1-32

Martin, R. A. and Ford, T. E. (2018) *The psychology of humor : an integrative approach.* Second edn. London, United Kingdom: Academic Press, an imprint of Elsevier.

Massey, D. B. (2005) *For space. Ebook central* London ; Thousand Oaks, California: SAGE.

Matthews, H. and Limb, M. (2000) *Exploring the 'fourth environment': young people's use of place and views*
on their environment ESRC research report: ESRC. Available at: https://s3-eu-west-1.amazonaws.com/esrc-files/.../cESmdzCyS0aPi-syvvpm-Q.pdf (Accessed: 21st September 2018 2018).

Mazzullo, N. and Ingold, T. (2008) 'Being along: Place, Time and Movement among Sámi People', in Baerenholdt, I., and Granas, B (eds), *Mobility and Place: Enacting Northern European Peripheries*, pp. 27-38.

McIntyre, Morris and Hargreaves (2002) 'Start with the Child'. Available at https://culturehive.co.uk/wp-content/uploads/2013/04/Start-with-the-child.pdf (accessed August 2020)

Meisner, R. S. (2007) *Encounters with exhibits: a study of children's activity at interactive exhibits in three museums.* PhD thesis. King's College London (University of London).

Melber, L. M. (2007) 'Maternal scaffolding in two museum exhibition halls', *Curator: The Museum Journal,* 50(3), pp. 341-354.

Melber, L. M. (2008) 'Young Learners at Natural History Museums', *Dimensions of Early Childhood,* 36(1), pp. 22-29.

Mercer, N. (2002) 'Researching common knowledge: studying the content and context of educational discourse', *Doing educational research*: Routledge, pp. 53-70.

Merleau-Ponty, M., (2002) *Phenomenology of perception.* Translated by Smith, C., *Routledge classics* London ; New York: Routledge.

Merriam, S. B. and Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation.* John Wiley & Sons.

Millei, Z. and Rautio, P. (2017). Overspills of research with children: an argument for slow research, *Children's Geographies,* 15(4), pp. 466-477.

Mizen, P. (2005) 'A little 'light work'? Children's images of their labour', *Visual studies,* 20(2), pp. 124-139.

Moffat, H. (1992) 'The use of museum resources by young children in England', *Journal of Museum Education,* 17(1), pp. 4-6.

Mondada, L. (2007) 'Commentary: Transcript variations and the indexicality of transcribing practices', *Discourse studies,* 9(6), pp. 809-821.

Montero, B. (2006) 'Proprioceiving someone else's movement', *Philosophical Explorations,* 9(2), pp. 149-161.

Morrow, V. and Richards, M. (1996) 'The ethics of social research with children: An overview 1', *Children & society,* 10(2), pp. 90-105.

Moussouri, T. (1997) *Family agendas and family learning in hands-on museums.* PhD thesis. University of Leicester.

Mulcahy, D. (2017) 'The salience of liminal spaces of learning: assembling affects, bodies and objects at the museum', *Geographica Helvetica,* 72(1), pp. 109.

Murdock, G. R. (1987) 'The Touch and See Room: James Ford Bell Museum of Natural History', *The Journal of Museum Education,* 12(2), pp. 14-19.

Myrvang Brown, K., Dilley, R. and Marshall, K. (2008) 'Using a Head-Mounted Video Camera to Understand Social Worlds and Experiences', *Sociological Research Online,* 13(6), pp. 1.

Newell, F. and Shams, L. 2007. New insights into multisensory perception. London: SAGE Publications Sage UK

Nilsen, S. (2017) 'Use of a GoPro® camera as a non-obtrusive research tool', *Journal Of Playwork Practice,* 4(1), pp. pp39-47.

Noon, E. J. (2018) 'Interpretive phenomenological analysis: An appropriate methodology for educational research', *Journal of Perspectives in Applied Academic Practice| Vol,* 6(1), pp 75-83

Norris, S. (2011) *Identity in (inter) action: Introducing multimodal (inter) action analysis.* Germany: De Gruyter Mouton

O'Byrne, P. (2007) 'The advantages and disadvantages of mixing methods: an analysis of combining traditional and autoethnographic approaches', *Qualitative Health Research,* 17(10), pp. 1381-1391.

OED (2022) Oxford University Press. Available at: https://www.oed.com/view/th/class/133682 (Accessed 11th January 2022)

Olsson, L. M. (2013) 'Taking Children's Questions Seriously: the need for creative thought', *Global Studies of Childhood,* 3(3), pp. 230-253.

Pahl, K. (2014) *Materializing literacies in communities: The uses of literacy revisited.* Bloomsbury Publishing.

Paine, A. L., Howe, N., Karajian, G., Hay, D. F. and DeHart, G. (2019) ''H, I, J, K, L, M, N, O, PEE! Get it? Pee!': Siblings' shared humour in childhood', *British Journal of Developmental Psychology,* 37(3), pp. 336-353.

Palmquist, S. D. and Crowley, K. (2014) 'Studying dinosaur learning on an island of expertise', in Goldman, R., Pea, R., Barron, P., and Derry, S., (eds) *Video Research in the Learning Sciences*, London: Routledge, pp. 271-286.

Papatheodorou, T. and Moyles, J. R. (2008) *Learning together in the early years: Exploring relational pedagogy.* London: Routledge.

Parsons, C. (1999) 'Do self-guided groups learn any thing'. Paper given at American Zoo and Aquarium Conference, Minneapolis. *Annual Conference Proceedings*, 505-519.

Pascal, C. and Bertram, T. (2012) 'Praxis, ethics and power: Developing praxeology as a participatory paradigm for early childhood research', *European Early Childhood Education Research Journal,* 20(4), pp. 477-492.

Pekrun, R. and Linnenbrink-Garcia, L. (2014) *International handbook of emotions in education. Educational psychology handbook series*, New York: Routledge.

Piantanida, M. and Garman, N. B. (2009) *The qualitative dissertation : a guide for students and faculty.* 2nd edn. Thousand Oaks: Corwin.

Pink, S. (2007) 'Walking with video', *Visual Studies,* 22(3), pp. 240-252.

Pink, S. (2009) 'Doing Sensory Ethnography'. London: SAGE

Pink, S. (2015a) *Doing sensory ethnography.* Second edn. London: SAGE

Pink, S. (2015b) 'Going Forward Through the World: Thinking Theoretically About First Person Perspective Digital Ethnography', *Integrative Psychological & Behavioral Science,* 49(2), pp. 239-252.

Pink, S. and Morgan, J. (2013) 'Short-term ethnography: Intense routes to knowing', *Symbolic Interaction,* 36(3), pp. 351-361.

Pink, S., Sumartojo, S., Lupton, D. and Heyes Labond, C. (2017) 'Empathetic technologies: digital materiality and video ethnography', *Visual Studies,* 32(4), pp. 371-381.

Piscitelli, B. (1997) 'A challenge to enjoy: Young children as audience in art galleries and museums', *Journal of Museum Education,* 22, pp. 20-21.

Piscitelli, B. (2011) 'Young children, the arts and learning: Outside of school, at home and in the community', *Children, Meaning Making and the Arts*, pp. 158-176.

Piscitelli, B. (2020) 'Bright and Shiny: infants, toddlers, and contemporary art at the Ipswich Art Gallery', in Hackett, A., Holmes, R. and Macrae, C. (eds.) *Working with Young Children in Museums: Weaving Theory and Practice*. Abingdon: Routledge, pp. 41-52.

Piscitelli, B. and Anderson, D. (2000) *Young children's learning in museum settings.* Visitor Studies Today, 3(3), pp 3-10

Piscitelli, B. and Anderson, D. (2001) 'Young children's perspectives of museum settings and experiences', *Museum Management and Curatorship,* 19(3), pp. 269-282.

Piscitelli, B., Everett, M. and Weier, K. (2003) *Enhancing Young Children's Museum Experiences: A Manual for Museum Staff*. Brisbane: QUT Museums Collaborative

Potter, J. and Cowan, K. (2020) 'Playground as meaning-making space: Multimodal making and re-making of meaning in the (virtual) playground', *Global Studies of Childhood,* 10(3), pp. 248-263.

Potter, S. (2006) 'Children and young people in museum evaluation', in Lang, C., Reeve, J., Woolard, V.(eds) *The Responsive Museum: Working with Audiences in the Twenty-First Century*, pp. 129-131.

Povis, K. T. and Crowley, K. (2015) 'Family Learning in Object-Based Museums: The Role of Joint Attention', *Visitor Studies,* 18(2), pp. 168-182.

Prout, A. and James, A. (1997) 'A new paradigm for the sociology of childhood? Provenance, promise and problems', in James, A and Prout, P. (eds) *Constructing and reconstructing childhood: Contemporary Issues in the Sociological Study of Childhood*, pp. 6-28

Punch, S. (2002) 'Research with children: The same or different from research with adults?', *Childhood,* 9(3), pp. 321-341.

Qvortrup, J. (1987) 'Introduction', *International Journal of Sociology,* 17(3), pp. 3-37.

Qvortrup, J., Bardy, M., Sgritta, G. and Wintersberger, H. (1994) *Childhood matters: Social theory, practice and politics.* Avebury.

Qvortrup, J., Corsaro, W. A. and Honig, M.-S. (2009) 'Why social studies of childhood? An introduction to the handbook', in Qvortrup, J., Corsaro, W., and Honig, M. S., (eds) *The Palgrave handbook of childhood studies*: Springer, pp. 1-18.

Rehm, M. and Jensen, M. L. 'Accessing Cultural Artifacts through Digital Companions: The Effects on Children's Engagement'. *Culture and Computing (Culture Computing), 2015 International Conference on*: IEEE, 72-79.

Reiss, M. J. and Tunnicliffe, S. D. (2011) 'Dioramas as depictions of reality and opportunities for learning in biology', *Curator: The Museum Journal,* 54(4), pp. 447-459.

Rennie, L. and McClafferty, T. (1995) 'Using visits to interactive science and technology centers, museums, aquaria, and zoos to promote learning in science', *Journal of Science Teacher Education,* 6(4), pp. 175-185.

Rinaldi, C. (2006) *In dialogue with Reggio Emilia: Listening, researching and learning.* London: Routledge

Robson, S. (2011) 'Producing and using video data in the early years: Ethical questions and practical consequences in research with young children', *Children & Society,* 25(3), pp. 179-189.

Rose, G. (2016) Visual methodologies: An introduction to researching with visual materials. London: SAGE

Rounds, J. (2004) 'Strategies for the curiosity-driven museum visitor', *Curator: The Museum Journal,* 47(4), pp. 389-412.

Sanford, C., Knutson, K. and Crowley, K. (2007) '"We always spend time together on Sundays": How grandparents and their grandchildren think about and use informal learning spaces', *Visitor studies,* 10(2), pp. 136-151.

Savva, A. (2003) 'Young pupils' responses to adult works of art', *Contemporary Issues in Early Childhood,* 4(3), pp. 300-313.

Savva, A. and Trimis, E. (2005) 'Responses of young children to contemporary art exhibits: The role of artistic experiences', *International Journal of Education and the Arts,* 6(13), pp. 1-23.

Scheff, T. (2015) 'Toward defining basic emotions', *Qualitative Inquiry,* 21(2), pp. 111-121.

Schmitt, F. F. and Lahroodi, R. (2008) 'The epistemic value of curiosity', *Educational theory,* 58(2), pp. 125-148.

Shaffer, D. W. (2006) 'Epistemic frames for epistemic games', *Computers & education,* 46(3), pp. 223-234.

Shaffer, S. (2011) 'Opening the doors: Engaging young children in the art museum', *Art Education,* 64(6), pp. 40-46.

Shah, A. (2017) 'Ethnography? Participant observation, a potentially revolutionary praxis', *HAU: Journal of Ethnographic Theory,* 7(1), pp. 45-59.

Shine, S. and Acosta, T. Y. (2000) 'Parent-Child Social Play in a Children's Museum', *Family Relations,* 49(1), pp. 45-52.

Shure, M.B. and Spivack, G., 1979. Interpersonal cognitive problem solving and primary prevention: Programming for preschool and kindergarten children. *Journal of Clinical Child & Adolescent Psychology*, *8*(2), pp.89-94.

Siegel, D. R., Esterly, J., Callanan, M. A., Wright, R. and Navarro, R. (2007) 'Conversations about science across activities in Mexican-descent families', *International Journal of Science Education,* 29(12), pp. 1447-1466.

Siraj-Blatchford, I. (2009) Conceptualising progression in the pedagogy of play and sustained shared thinking in early childhood education: A Vygotskian perspective, *Education and Child Psychology*, 26(2), pp. 77-89

Smith, J. and Osborn, M. (2008) 'Interpretive Phenomenological Analysis', in Smith, J. (ed.) *Qualitative Psychology: A Practical Guide to Research Methods*. London: Sage, pp. 51-80.

Smith, J. A., Larkin, M. H. and Flowers, P. (2009) *Interpretative Phenomenological Analysis : Theory, Method and Research.* Los Angeles ; London: SAGE.

Sriprachya-anunt, W. (2016) *Parental scaffolding: a case study of low-income families at a children's museum.* PhD thesis. University of Illinois

Stephenson, A. (2009) 'Horses in the sandpit: Photography, prolonged involvement and 'stepping back'as strategies for listening to children's voices', *Early Child Development and Care,* 179(2), pp. 131-141.

Stocklmayer, S. and Gilbert, J. K. (2002) 'New experiences and old knowledge: towards a model for the personal awareness of science and technology', *International Journal of Science Education,* 24(8), pp. 835-858.

Sumartojo, S. and Pink, S. (2017) 'Empathetic visuality: GoPros and the video trace', *Refiguring techniques in digital visual research*: Springer, pp. 39-50.

Sumartojo, S. and Pink, S. (2018) 'Moving Through the Lit World: The Emergent Experience of Urban Paths', *Space and Culture,* 21(4), pp. 358-374.

Swigger, J. (2018) '"Knowledge Begins in Wonder": The Smithsonian Institution's Children's Room', *The Journal of the History of Childhood and Youth,* 11(3), pp. 439-454.

Taylor, R. (2014) 'Meaning between, in and around words, gestures and postures–multimodal meaning-making in children's classroom discourse', *Language and Education,* 28(5), pp. 401-420.

Tisdall, K., Davis, J. M. and Gallagher, M. (2008) *Researching with children and young people: Research design, methods and analysis.* Sage.

Tison Povis, K. (2017) *Designing for Family Learning in Museums: How Framing, Joint Attention, Conversation, and Togetherness are at Play.* PhD thesis, University of Pittsburgh.

To, C., Tenenbaum, H. R. and Wormald, D. (2016) 'What do Parents and Children talk about at a Natural History Museum?', *Curator,* 59(4), pp. 369-385.

Tolmie, P., Benford, S., Greenhalgh, C., Rodden, T. and Reeves, S. 'Supporting group interactions in museum visiting'. *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing*: ACM, 1049-1059.

Tomasello, M., Moore, C. and Dunham, P. (1995) 'Joint attention as social cognition', *Joint attention: Its Origins and Role in Development*, pp. 103-130.

Tomkins, S. P. and Tunnicliffe, S. D. (2015) 'Naming the living world: From the infant's perception of animacy to a child's species concept', *Darwin-inspired learning*: Brill Sense, pp. 147-163.

Tunnicliffe, S. (2007) 'The role of natural history dioramas in science education', *Informal Learning,* 87, pp. 11-14.

Tunnicliffe, S. and Scheersoi, A. (2009) 'The important role of Natural History dioramas in biological learning', *International Council of Museums: Natural History Committee Newsletter*.

Tunnicliffe, S. and Scheersoi, A. (2010) 'Dusty relics or essential tools for communicating biology?': MuseumsETC.

Tunnicliffe, S. D. (1995) *Talking about Animals: Studies of Young Children Visiting Zoos, a Museum and a Farm.* Doctoral thesis, King's College, University of London.

Tunnicliffe, S. D. (1996) The relationship between pupils' age and the content of conversations generated at three types of animal exhibits, *Research in Science Education,* 26(4), pp. 461-480.

Tunnicliffe, S. D. (2000) 'Conversations of family and primary school groups at robotic dinosaur exhibits in a museum: what do they talk about?', *International Journal of Science Education,* 22(7), pp. 739-754.

Tunnicliffe, S. D. (2015) 'Naming and narratives at natural history dioramas', *Natural History Dioramas*: Springer, pp. 161-186.

Tunnicliffe, S. D. and Reiss, M. J. (1999) 'Building a model of the environment: how do children see animals?', *Journal of Biological Education,* 33(3), pp. 142-148.

Tunnicliffe, S. D. and Reiss, M. J. (2000) 'What Sense Do Children Make of Three-Dimensional, Life-Sized “Representations” of Animals?', *School Science and Mathematics,* 100(3), pp. 128-138.

Tunnicliffe, S. D., Lucas, A. M. and Osborne, J. (1997) 'School visits to zoos and museums: a missed educational opportunity?', *International Journal of Science Education,* 19(9), pp. 1039-1056.

United Nations (UN) (1991) *Convention on the Rights of the Child.* New York: United Nations Department of Public Information. Available at https://downloads.unicef.org.uk/wp-content/uploads/2010/05/UNCRC_united_nations_convention_on_the_rights_of_the_child.pdf

Vandermaas-Peeler, M., Massey, K. and Kendall, A. (2016) 'Parent Guidance of Young Children's Scientific and Mathematical Reasoning in a Science Museum', *Early Childhood Education Journal,* 44(3), pp. 217-224.

Vasudevan, L. (2011) 'An Invitation to Unknowing', *Teachers College Record,* 113(6), pp. 1154-1174.

Vogel-Walcutt, J.J., Fiorella, L., Carper, T. and Schatz, S., 2011. The definition, assessment, and mitigation of state boredom within educational settings: A comprehensive review. *Educational Psychology Review*, *24*(1), pp. 89-111.

Vom Lehn, D., Heath, C. and Hindmarsh, J. (2002) 'Video based field studies in museums and galleries', *Visitor Studies Today,* 5(3), pp. 15-23.

Vygotsky, L. (1981) The genesis of higher mental functions, *The Concept of Activity in Soviet Psychology,* New York: Sharpe

Vygotsky, L. S. (1978) Mind in society: The development of higher psychological functions, *Cambridge, MA*: Harvard University Press

Vygotsky, L. S. (1986) *Thought and language.*. Cambridge, MIT Press.

Waller, T. and Bitou, A. (2011) 'Research with children: Three challenges for participatory research in early childhood', *European Early Childhood Education Research Journal,* 19(1), pp. 5-20.

Wallis, N. (2018) 'Titian, tapestries and toilets; what do preschoolers and their families value in a museum visit?', *Museum and Society,* 16(3), pp. 352-368.

Waters, P., Waite, S. and Frampton, I. (2014) 'Play frames, or framed play? The use of film cameras in visual ethnographic research with children', *Journal of Playwork Practice,* 1(1), pp. 23-38.

Wegerif, R. and Major, L. (2019) 'Buber, educational technology, and the expansion of dialogic space', *Ai & Society,* 34(1), pp. 109-119.

Weier, K. (2004) 'Empowering young children in art museums: Letting them take the lead', *Contemporary Issues in Early Childhood,* 5(1), pp. 106-116.

Weier, K. and Piscitelli, B. (2003) 'Hot and sweaty in the museum: Young children learning about nature, culture and science', *Journal for Education in Museums,* 24(4), pp. 19-36.

Wenger, E. (1998) *Communities of practice: Learning, meaning, and identity.* Cambridge university press.

Wertsch, J. V. (1984) 'The zone of proximal development: Some conceptual issues', *New Directions for Child and Adolescent Development,* 1984(23), pp. 7-18.

Willig, C. (2013) *Introducing qualitative research in psychology.* Berkshire: Open University Press.

Wolf, B. and Wood, E. (2012) 'Integrating scaffolding experiences for the youngest visitors in museums', *Journal of Museum Education,* 37(1), pp. 29-37.

Wolins, I. S. (1989) ‘A case for family learning in museums’ in Butler, B. H. and Sussman, M. B. (1989) *Museum visits and activities for family life enrichment.* The Hayworth Press: Binghampton, NY, pp. 7-15.

Wood, D., Bruner, J. S. and Ross, G. (1976) 'The role of tutoring in problem solving', *Journal of child psychology and psychiatry,* 17(2), pp. 89-100.

Worthington, M. and Paull, M. (1987) 'The growth and development of the Los Angeles Children's Museum', *Children's Environments Quarterly,* 4(1), pp. 30-35.

Wurtak, G. (1987) '" Now I Know Why Moose Antlers Clash so Loudly": The Discovery Room at the Manitoba Museum of Man and Nature', *The Journal of Museum Education,* 12(2), pp. 17-18.

Yamada-Rice, D. (2014) 'The semiotic landscape and 3-year-olds' emerging understanding of multimodal communication practices', *Journal of Early Childhood Research,* 12(2), pp. 154-184.

Yamamoto, C. M. K. and Moore, C. (2011) Beyond Words: Movement Observation and Analysis. London: Routledge.

Zapri, D. 2004. Changing perceptions of early childhood museum research. *Museological Review (University of Leicester),* 11, pp. 64-76

Zapri, D. (2007) *An ecological examination of young children's museum-related perceptions: a greek case study.* PhD thesis, University of Leicester