Chapter 7
Life, Living and Lifelessness in Taxidermy

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7.1 Introduction

This chapter extends and further develops a recent paper by two of the authors, Sanders and Hohenstein, by both drawing in a curatorial perspective and examining potentials of specific taxidermic displays for learning conversations. In the aforementioned paper we drew attention to research on the ways taxidermic display is currently used, the ways children learn through family conversation, and the types of understandings children are known to have about life and death. Our belief that these collections represent potential research spaces for understanding the impact of parental communication on children's understandings of life and death underscores a guided reflection on the merits of taxidermic display for demonstrating ways in which families discuss concepts of life, and death. Furthermore, we maintain that such studies might facilitate new interdisciplinary relationships between museum curators and researchers, thus contributing to wider debate on the place of natural history collections in society.

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7.2 Beyond Mute Skins

Taxidermic exhibits are both culturally and experientially complex (see for example discussions in Alberti 2005, 2008; Baker 2014; Burt 2008; Patchett and Foster 2008; Poliquin 2008, 2012; Sanders and Hohenstein 2015). In the context of life, living and lifelessness, Poliquin notes that 'if taxidermy can no longer be unproblematically read as nature, neither can taxidermied animals be simply understood as mute mounted skins.' (Poliquin 2008, p. 125). In the following extract Poliquin makes the materiality of nineteenth-century taxidermy and its narratives extant:

> In spite of the death, the skinning, dismemberment, and refashioning, the animal form holds. The eyes may be glass, but the animal stares back. An animal – even if taxidermied – is not an arbitrary object, materiality indistinguishable from a bowl or a painting. The astounding realism of the Blaschkas' glass flowers is not the same as that of the animals in the African Hall's dioramas since the verisimilitude of the latter is not technically verisimilitude: these are the actual animal skins. This uncanny animal-thingness of taxidermy has the power to provoke, to edify, and even to undermine the validity its own existence. (Poliquin 2008, p. 127)

It is the liminal, uncanny quality of taxidermy, the flickering switch between life and death, nature and culture, which is always remarked upon (e.g. Andrews 2012; Patchett and Foster 2008; Poliquin 2008, 2012). Engaging with taxidermic exhibits can be perceived as being as much about life and living as about death, and, thus, as Burt observes, can equally be framed as 'an aesthetic of livingness' (Burt 2008). Furthermore, 'because death is so striking it is easy to overlook the state of livingness' in such museological contexts (Burt 2008, p. 9). However, some commentators have argued that 'not all dead animals are seen as equally dead' (Baker 2014, p. 290). Poliquin, for example, posits the view that those taxidermic displays which present 'just heads', are considered to be 'decidedly deader' (Poliquin 2012, p. 151).

In this chapter, in particular, we are interested in the following questions:

(a) In what ways are family visitors with small children affected by encountering something 'at once lifelike yet dead'? (Poliquin 2008, p. 127)
(b) How might display influence family visitor perception of the 'fine lines between life and death'? (Patchett and Foster 2008, p. 110)
(c) What is the potential for further research among visitors and developments in curatorial practice?

To address these, we use examples from two museum collections in the UK, Birmingham Museums Trust and the Horniman Museum, and frame our reflections with theoretical approaches drawn from both learning research and museum studies.

7.3 In What Ways Are Visitors Affected by Encountering Something "At Once Lifelike Yet Dead"?

Everyone who has worked in a museum containing taxidermy has probably, at some point, watched a person arrested in their tracks at the sight of a taxidermy display or an individual specimen, which appears to captivate them. Poliquin categorises encounters with taxidermy into descriptive, biographical, cautionary and experiential narratives. 'Experiential narratives arise not from textual accompaniments but from the physical encounter between viewer and thing' (Poliquin 2008, p. 129). Similarly, Bencard writes that some objects have *presence*, an impact that does not derive from narrative but 'lies in what happens when you actually see it' (Bencard 2014, p. 29). Often, when watching people approach taxidermy, 'it is as if such potential stories run at a different voltage than the immediate impact on the observer of the objects themselves' (Bencard 2014, p. 29). Experiential narratives and presence effects are both ways of conceptualising the arresting encounter with taxidermy and the unconscious meeting with life and death that may accompany it. We suggest that the opportunity to make such unconscious encounters conscious is one of the values of taxidermic display.

But in focusing on presence and experience, we should not forget narrative. Taxidermy displays both 'tell and inspire the telling of stories' and families have been shown to use dioramas in particular to craft narratives together (Reiss and Tunnicliffe 2011, p. 42). The importance of narrative may extend beyond dioramas to even the simplest individual taxidermy specimens. If you have ever conducted handling sessions with taxidermy you may have been asked by a child, 'Did you kill these animals?' or even, 'Why did you kill these animals?' This may be an example of 'narrative gravity' (Runia in Bencard 2014). In this situation the child is immediately aware of two facts: that the animal is dead and that you are here with it. We could speculate that the need for narrative is causing them to 'creatively and ruthlessly search for continuity between events' (Bencard 2014, p. 32).

It is perhaps not useful to debate whether presence or narratives drive the captivating interest observed in taxidermy, as it is probably a combination of the two. Both the experiential and narrative effects of taxidermy on visitors are surely linked to reflections on life and death. As Andrews observes, 'it could be argued that the liminal status of taxidermy is precisely what makes it so interesting to visitors' (Andrews 2012, p. 60). Taxidermy embodies the uncanny, 'something which ought to have remained hidden but has come to light' (Freud in Young in Bencard 2014, p. 36). By normal logic, dead things exhibit changes and are removed from sight, whereas taxidermy display renders them changeless and visible.

In the paper that inspired this chapter, Sanders and Hohenstein (2015) wrote about the potential of taxidermy to impact on children's understanding of life and death. They outlined studies into how children develop an understanding of death, noting that components of an understanding of death include universality, non-functionality, irreversibility, inevitability and causality (Hunter and Smith 2008; Rosengren et al. 2014). A taxidermy animal may appear to a young child to flout

these components of death, at least in part. That is, by presenting dead animals in 'life-like' scenes, they may have the appearance of functionality or even having had the death process reversed. This uncanny and potentially confusing quality of taxidermy may paradoxically aid the learning opportunity (Elwick 2015, p. 420). The life-like qualities of taxidermy may challenge young children's 'implicit learning' about death. Implicit learning may be defined as, 'learning we are not aware of, or learning which results in knowledge we do not know we possess or cannot articulate' (Elwick 2015, p. 420). Being confronted with an object that appears to violate a child's unconscious expectations about death may ironically force implicit learning to become more conscious. Moreover, children are likely to be accompanied in the museum setting by adults, and thus conversations about death may be initiated, possibly creating opportunities to explicate understandings about life and death.

As has been highlighted elsewhere (Barrett and Behne 2005; Hunter and Smith 2008; Jaakkola and Slaughter 2002; Rosengran et al. 2014), children's concepts of life and death have been documented to appear in rudimentary forms as early as the age of four and continue to develop over the course of the next several years. Parents in Western families often tend to shy away from discussing death with their children because of the attribution that young children are unable to understand. As attested in Gutierrez et al. parents who are questioned by their young children about death often respond with notions of reassurance (Gutierrez et al. 2014). In other words, they sense anxiety in their children around the possibility of death and attempt to help them to understand that what they are asking about is unlikely to occur to them or anyone they know. Given that the nature of the questions addressed in that study tended to be about media representations of death or about deaths of people or pets that were known to the children, it is likely that the parental interpretation of anxiety on the part of their children was not inaccurate.

When encountering taxidermied animals, which have no direct relation to children's, or indeed, families', experiences, the relative distance, in terms of affectionate ties, might enable a more frank conversation about the state of the displayed animals and the processes that led them to be in the museum. Moreover, the aesthetic of the displays themselves might be a factor in these attentional and emotional distances, as demonstrated in Case Studies 1 - 3. In addition, a recent study on visitor perception about the authenticity of taxidermied rabbits found that children and adults sometimes asked questions about the animal's previous state of life, particularly when they judged the displayed animal to be real (Bunce 2016). In contrast, children might spontaneously form emotional attachment to animals. Such responses are likely to be influenced by a range of factors that dictate the degree of emotion and identification felt for that particular animal. Such variables include the physical form of animal being observed (e.g. 'furry' mammals versus 'slippery' reptiles), dominant cultural perceptions of these animals (Fawcett 2014) and personification, the 'mapping of human characteristics to animals according to the perceived degree of taxonomic closeness' (Ash 2004, p. 90). Furthermore, the immediacy of the dead animal being *right there* in front of them may add emotional impact (see for example Pederson 2007). We are interested in exploring how such factors might impact on conversations.

The feelings of adults are of course also pertinent to children's learning experiences, since they interact together in the museum. We should not forget that learning about something as key as death continues throughout life. One form of knowledge is 'fully realizing things instead of just taking them for granted' (Runia in Bencard 2014, p. 31). The literature on adult's emotive response to taxidermy is surprisingly scant, although many writers mention in passing their ability to 'haunt us' and provoke a 'stab of emotion' (Marvin in Gregory and Purdy 2015, p. 92; Gregory and Purdy 2015, p. 74). We should in any case be aware of the possibility that all visitors to natural history displays may occasionally have profound, personal and perhaps unconscious experiences around taxidermy and other dead things in museums. Kirk found in her research into four and five year olds in natural history collections that museums were valued as, 'a safe space in which children and their parents could encounter their own and their parents' fears' (Kirk 2013, p. 41). These fears, both those of adult and child, may include death.

7.4 How Display Influences Perception

How does display influence the way people experience the living and lifeless qualities of taxidermy? The first consideration is the impact of the taxidermy itself. Taxidermy varies widely in style, scale, skill and condition (Morris 2010; Poliquin 2012; Sanders and Hohenstein 2015, pp. 253–4).

It may naively be thought that more accomplished and realistic taxidermy accentuates its life-like qualities and that more inept, inaccurate or damaged mounts flick the switch towards deathliness. However, it is not this simple. Reflections on life and death are so intrinsically linked through taxidermy that highlighting one only serves to bring the other into focus. Alberti writes how it is the 'meticulous verisimilitude' of the most life-like mounts that 'renders them uncanny' (Alberti 2008, p. 81). The success in evading the material signs of death only makes its reality more poignant and the viewer may well ask the dead (in the words of Shakespeare's Romeo to Juliet) 'Why art thou yet so fair?' On the contrary, dishevelled taxidermy creates a sense of wonderment that this animal was once alive, for 'if tattiness, imperfection and botched form count for anything, it is that they render the animal *abrasively visible*' (Patchett and Foster 2008, p. 100).

Alongside the qualities of taxidermy itself, the way it is experienced can be heightened by display techniques. These include juxtaposition of specimens and use of physical space, open or cased display, lighting and multi-sensory accompaniments to viewing such as touch and sound, as well as interpretation (Poliquin 2008, p. 129).

7.4.1 Case Study 1: Comparing Taxidermy Display Settings in Birmingham Museums

It is illustrative to compare how visitors respond to the same taxidermy collection differently within varied display settings. Birmingham Museums Trust holds a large taxidermy collection that is mainly displayed in three of its venues, Birmingham Museum and Art Gallery, Thinktank Science Museum and the Museum Collections Centre. The following examples are drawn from the experience of one of the authors (Meehitiya) as a curator at this museum.

In Birmingham Museum and Art Gallery selected taxidermy pieces are displayed in the 'Mini Museum', a bright, interactive gallery aimed at under-fives (see Fig. 7.1). The taxidermy is presented with interpretation that is short, playful and narrative based. It is written in the first person as if the animal is speaking and is intended to combine a slight anthropomorphism with some information about the living animal. This may encourage personification of the specimens, which Ash has found to be a potentially 'powerful tool for understanding and organizing novel material' in very young children (Ash 2004, p. 95). An example of the text is given below:

> **I am a pet rabbit**. I live in a hutch rather than digging a burrow under the ground like wild rabbits do. How else do you think I am different to wild rabbits?

This life-like voice emphasises the life-like quality of the taxidermy. This is accentuated by choosing specimens that are familiar to children, in good condition and often presented in dynamic poses. As previously noted however, the life and death qualities are so closely linked that this may in turn further emphasise the fact

Fig. 7.1 Taxidermy display in the Mini Museum at Birmingham Museum and Art Gallery ©Birmingham Museums Trust

that it is not alive. This rabbit does not "live in a hutch" but stays in this case. This was a deliberate approach to prompt adults and children to read the labels together and use them as starting points for conversation that could include story-telling or discussion of what taxidermy is. A simple description of taxidermy is included to help adults have this conversation with their children:

What Is Taxidermy? Taxidermy is a way of preserving dead animals in a life-like pose by mounting or stuffing the skin. All the taxidermy in this gallery was created over 50 years ago.

Here the visitors are encouraged to form a connection with the animal on display. This could serve to engage the family in conversation about the potential history of the animal's life. In contrast, those who are able to form such connections may feel less inclined to discuss lifelessness in that context.

Birmingham Museums also displays taxidermy at the Museum Collections Centre (Fig. 7.2), a museum store where open storage makes the profusion of museum collections visible to the public on monthly open days. The experience of taxidermy here is at the other end of the display spectrum from the carefully chosen, mediated and brightly lit examples in the Mini Museum. Visitors often seem to be particularly affected by the sheer scale of natural history collections behind the scenes. Aisles of birds without any mediation feel very different to seeing a few carefully chosen examples. Visitors are able to compare many taxidermy specimens of the same species but in different taxidermy styles and conditions side by side.

Fig. 7.2 Dead birds in Birmingham's Museum Collections Centre, including both taxidermy and study skins. ©Birmingham Museums Trust

These comparisons can simultaneously highlight the individuality of the original animal and of the artifice that created it, although these can also be difficult to separate. For example, the same bird species may have varying size, plumage and posture. The beak and feet may be painted in different shades and the glass eyes may be different sizes and colours. Realising that different eyes have been chosen creates a 'small tear in the fabric of the believable' (Gregory and Purdy 2015, p. 82). Snæbjörnsdóttir and Wilson's *nanoq: flat out and bluesome* art exhibition that toured between 2006 and 2009 in the UK assembled 33 taxidermy polar bears with diverse histories and appearances in one space to create a similar effect as that achieved organically, and repeatedly, throughout the museum store (Robin 2009).

The strong overhead lighting in the Museum Collections Centre creates deep shadows and groups of visitors often walk around listening to their own echoing footsteps. Visitors often seem stunned, and initial responses range from awe to fascination to distress. There are a number of potential emotional triggers in this type of display. The room itself may feel scary for young children and, coupled with the presence of dead animals, there could be an overwhelming sense of discomfort leading to avoidance of the store altogether. On the other hand, given the lack of direct connection to the dead animals, families may feel more able to broach the topic of life and death here in comparison with an area in which there is greater emotional connection to the animal itself.

These examples demonstrate that both intense engagement with an individual taxidermy specimen and being surrounded by an overwhelming, unmediated profusion of them can provoke strong reactions and potentially stimulate reflections on life and death. The response of families in the somewhat 'safe' environment of the Mini Museum compared to the Museum Collections Centre would provide an interesting case for further empirical investigation.

7.4.2 Case Study 2: Human and Child Skeleton Horniman Museum, London, UK

In choosing the following two examples from The Horniman Museum we are interested in bringing together 'degrees of deadness' (Poliquin 2008; Baker 2014), along with the potential effects on museum visitors of 'evocative juxtaposition' (Gregory and Purdy 2015). In addition, we wish to highlight the social complexity of displays, which appear to straddle an aesthetic border, situated somewhere between exhibits perceived as 'grotesque' and exhibits perceived as 'biological'.

In being stripped of their skin, the human adult and child skeletons (Fig. 7.3) afford a different version of 'lifelessness' and, as such, might attract more explicit biological references than animals with fur. However, culturally, human skeletons are often associated with death as a life-course event and in remembrance rituals (Wellcome Collection 2012) and, thus, they could be seen in the context of death as finality, and thus 'deader' than some of the adjacent taxidermic displays appearing

Fig. 7.3 Skeleton adult and child. Photograph Freya Macdonald-Osborne. Permission Horniman Museum and Gardens

to cultivate an 'aesthetic of liveliness' (Burt 2008). The concept of 'anti-taxidermy' might also be relevant to such discussions, 'as Desmond argues, the plastinated corpses of Gunther von Hagen's hugely popular *Body Worlds* exhibition are acceptable to a mass public precisely because they function as a form of anti-taxidermy, removing the skins to show only the anatomical details beneath' (Desmond in Gregory and Purdy 2015, p. 88). Thus, we suggest, it appears that skin is always perceived as personal, and individual, whereas internal organs and skeletal structure might be perceived as universal and considered to be less emotionally confronting. This particular specimen, with its skeletal surface geographies, might increase visitor attentional distance – 'the degree to which the observer attends or focuses on an object' (Patchett and Foster 2008; Schonmann 2006, p. 66). However, due to the human subject matter of adult and child, emotional distance – 'the level of response that an observer maintains towards an object' might decrease. Furthermore, we suggest that the lifelessness of this exhibit is visually highlighted by contrast with the life-likeness of the surrounding taxidermy. Thus, we consider such exhibits could be provocative for conversations about life and death. No less so when their human subjects might be 'provocatively intimate' (Poliquin 2012, p. 39) and yet distant due to their skinless, skeletal state.

7.4.3 *Case Study 3: Dead Dog Heads Horniman Museum, London, UK*

As noted earlier, there are perceived degrees of deadness with 'just heads' being perceived as appearing distinctly 'deader' (Baker 2014; Poliquin 2008;). The dog-head display in the Horniman Museum (Figs. 7.4 and 7.5) presents a scientific narrative (theory of evolution) demonstrated by a case study - from wolf to dog - in a cultural context; pet dog breeds. When thinking about the potential for emotional connection, this type of display would seem to offer at least two reasons for perhaps inciting more emotion than would some other taxidermy exhibits. First, the potential for families to relate the dog breeds to a familiar pet, or even just dogs that are known to them, might create a sense of discomfort with the content of the display. Second, the fact that only the heads are presented could seem somehow grotesque, creating a sense of disgust or aversion. In terms of engagement with the concepts of life and death, this type of display might result in families avoiding the area altogether or, for those willing to brave the topic, a deep engagement with the dogs' dismembered state of lifelessness. From what we know about discussions about death from previous studies (Gutierrez et al. 2014) it appears that, when the emotional tie is tighter, there seems to be less inclination to discuss death. Our knowledge concerning displays perceived as 'grotesque' is, however, much less informed and remains an understudied area.

Potential for Further Research Among Visitors and Developments in Curatorial Practice The reflections on how visitors experience life and lifelessness through

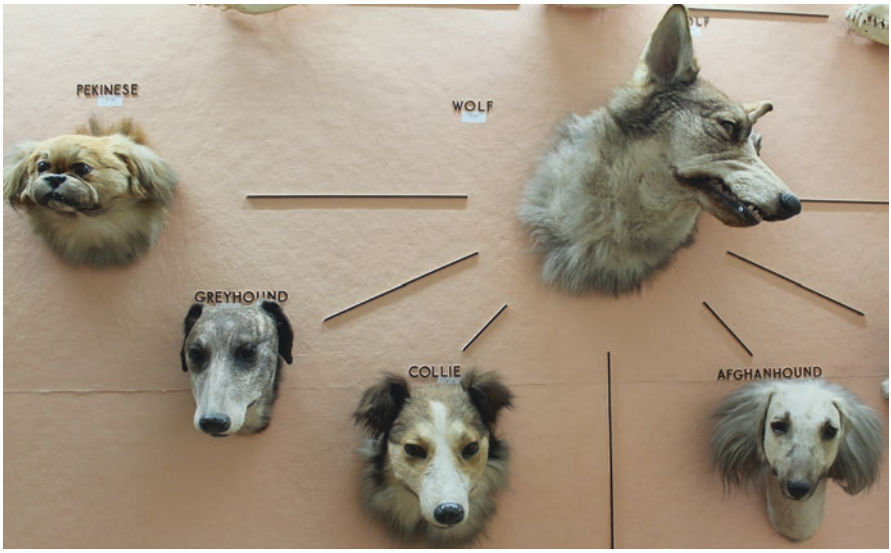

Fig. 7.4 Evolution Display Wolf and Dogs, Horniman Museum and Gardens. (Photograph Freya Macdonald-Osborne. Permission Horniman Museum and Gardens)

Fig. 7.5 Evolution Display Wolf, Horniman Museum and Gardens. (Photograph Freya Macdonald-Osborne. Permission Horniman Museum and Gardens)

taxidermy in this article are theoretical and sometimes speculative. The nature of this topic makes visitor research challenging as it involves implicit learning, presence effects and experiential narratives, which are spontaneous, emotional, and difficult to identify and quantify (Bencard 2014, p. 39; Elwick 2015, p. 420; Poliquin 2008, p. 130). Compounding this, young children's learning about death through taxidermy is of particular interest and is particularly challenging to research (Kirk 2013, p. 1).

Despite these challenges, we believe that there are avenues for expanding visitor studies in this area. Elwick has shown how close analysis of interviews with a particular awareness of self-contradiction may be one way of detecting implicit learning among adult museum visitors (Elwick 2015). This may also be a potential starting point for assessing feelings and knowledge about taxidermy. We could also use archival records such as diaries, visitor books and correspondence to study, 'not only the external but also the internal history of visiting' in museums, including the response to taxidermy (Alberti 2005, p. 570). As demonstrated through Case Study 4, visitor service assistants are also a huge and largely untapped resource for information about how our visitors respond to taxidermy every day.

Kirk, among others, has demonstrated how photography can be a useful tool for studying the experience of very young children in museums (Kirk 2013). She gave participating groups with four and five year olds a camera and asked children to take photographs of the objects that interested them in the Oxford University Museum of Natural History. After their visit, she used the photographs as a starting point for a conversation with the children about their visit. This methodology could be used to approach how children focus on and talk about taxidermy in different setting such as traditional galleries, children's galleries and behind the scenes tours.

It is also possible to focus on the conversations between parents and young children during their visits to a natural history gallery. There is now a substantial body of research examining parent-child conversations about science in museum settings (e.g., Crowley et al. 2001; Crowley and Jacobs 2002; Fender and Crowley 2007; Hohenstein et al. 2015). The findings of these studies suggest that parents provide useful ways of focusing children's attention of the material presented in science exhibits, through explanations (Crowley et al. 2001; Fender and Crowley 2007), asking questions (Ash 2004; Hohenstein et al. 2015), providing analogies (Valle and Callanan 2006) and other mechanisms. By studying the ways that parents and children interact in taxidermy settings, with a particular focus on conversations about life, death, and the representation in taxidermy, research may be able to gain insight into the ways that children think about these subjects as well as ways that parents deal with children's curiosity towards them.

Curators need to 'find ways of approaching the complex and uncertain objects that fascinate because they literally hit us or exert a pull on us' (Stewart in Bencard 2014, p. 30). This is never truer than it is for taxidermy. Such complexity goes beyond display techniques and also includes consideration of social interaction and visitor experience as a whole, which is the focus of Case Study 4.

7.4.4 Case Study 4: Increasing Staff and Visitor Engagement with Taxidermy at Thinktank Science Museum

Thinktank Science Museum is another site within Birmingham Museums Trust that displays taxidermy. Here an assortment of specimens is displayed with minimal scientific labelling in a 'Biodiversity Showcase'. A project in 2016 involved the curator (one of the authors, Meehitiya) working with Visitor Services Assistant Helen Roberts to share insights into the taxidermy and increase the knowledge and confidence of staff in interacting with visitors around the taxidermy. We know that visitors rarely read labels, whereas there is huge educational potential in enabling museum educators to help families and children form narratives around taxidermy (Reiss and Tunnicliffe 2011). We shared experiences based on interactions with visitors and literature about taxidermy and toured the taxidermy in the Museum Collections Centre together. We considered taxidermy from a wide range of perspectives, covering the construction, conservation and research uses of taxidermy and discussing the history and visitor response to this collection. Roberts used this experience to create a written guide and training for the front of house team on using taxidermy with visitors and answering their questions, and prepared a new tour for visitors about taxidermy. As a result of the project Helen became not only the 'go to' expert on taxidermy but also more reflective about its more subtle and emotional effects on visitors of all ages:

> It made me much more aware of their reactions. I was actually looking for their reactions and thinking about how to deal with their reactions. (Helen Roberts, personal communication, Jan 8 2015)

Curators are part of a movement to advocate ever more effectively for the potential of taxidermy to aid scientific research, learning and creativity (see for example Bradley et al. 2014; Cook et al. 2014; McGhie 2015a, b; Rocha et al. 2014). Beyond this, they are also demonstrating an increasing willingness to 'answer the types of questions visitors ask about museum taxidermy' (Andrews 2012, p. 61). These questions range from taxidermy techniques to 'the colonial provenance of many specimens (Lougney 2005), or the ethics of killing animals to collect them (Smith 2007)' (cited in Andrews 2012, p. 61). However, there is still a level of awareness and responsiveness to our visitors that goes beyond this and that includes awareness of potentially deep emotional impact and even deeper questions of life and death. We must also embrace the fact that museum visitors, especially when experiencing taxidermy, 'will be emotionally and intellectually stimulated in ways that we can never know' (Kirk 2013, p. 43). Similarly, whatever our curatorial practice much of their experience will always come 'from within the visitor – things remembered and felt.' (Alberti 2005, p. 569).

7.5 Conclusion

Taxidermy is liminal. It has strange effects on people. These effects are influenced by taxidermy itself, display techniques and the memories, knowledge, experience and conversations that individual visitors, both adult and child, bring to the museum. Ultimately, there would seem to be a great opportunity for families to engage with the topics of life, living and lifelessness whilst viewing taxidermy displays. These displays provide safe environments to observe real animals up close whilst instilling questions about how they came to be in the cabinets and cases in which they reside. Of course, they may also reinforce a fear of discussing death and dying, even though there would appear to be a greater emotional distance for taxidermy in comparison with family pets and human relatives. Researching this proves challenging because of the intangible and unconscious nature of reactions to concepts of life and death; but there are research avenues available to study. Case studies in natural history museums offer researchers and curators opportunities to examine the affordances of taxidermy for learning about life and death. As discussed in this chapter, the ways in which such displays are constructed and presented might facilitate diverse responses among visiting family groups. Thus, by knowing more about such responses, we can offer museum curators a research-based perspective on the impacts of taxidermy and, we hope, influence the future use of such enigmatic specimens.

References

Alberti, S. J. M. M. (2005). Objects and the museum. *Isis, 96*, 559–571.

Alberti, S. J. M. M. (2008). Constructing nature behind glass. *Museum and Society, 9*(2), 73–97.

Andrews, E. (2012). Reflexive displays: Interpreting taxidermy practice. *NatSCA News, 23*, 59–63.

Ash, D. (2004). How families use questions at dioramas: Ideas for exhibit design. *Curator, 47*(1), 84–100.

Baker, S. (2014). Dead, dead, dead, dead, dead. In G. Marvin & S. McHugh (Eds.), *Routledge handbook of human-animal studies*. Abingdon/New York: Routledge.

Barrett, H. C., & Behne, T. (2005). Children's understanding of death as the cessation of agency: A test using sleep versus death. *Cognition, 96*, 93–108.

Bencard, A. (2014). Presence in the museum: On metonymies, discontinuity and history without stories. *Museum and Society, 12*(1), 29–43.

Bradley, R. D., Bradley, L. C., Garner, H. J., & Baker, R. J. (2014). Assessing the value of natural history collections and addressing issues regarding long-term growth and care. *Bioscience, 64*(12), 1150–1158.

Bunce, L. (2016). Appreciation of authenticity promotes curiosity: Implications for object-based learning in museums. *Journal of Museum Education, 41*(3), 230–239.

Burt, J. (2008). The aesthetics of livingness. *Antennae, 5*(Spring), 4–12.

Cook, J. A., Edwards, S. V., Lacey, E. A., Guralnick, R. P., Soltis, P. S., Soltis, D. E., Welch, C. K., Bell, K. C., Galbreath, K. E., Himes, C., Allen, J. M., Heath, T. A., Carnaval, A. C., Cooper, K. L., Liu, M., Hanken, J., & Ickert-Bond, S. (2014). Natural history collections as emerging resources for innovative education. *Bioscience, 64*(8), 725–734.

Crowley, K., & Jacobs, M. (2002). Building islands of expertise in everyday family activity. In G. Leinhardt, K. Crowley, & K. Knutson (Eds.), *Learning conversations in museums* (pp. 333–356). Mahwah: Lawrence Erlbaum Associates.

Crowley, K., Callanan, M., Tenenbaum, H., & Allen, E. (2001). Parents explain more often to boys than to girls during shared scientific thinking. *Psychological Science, 12*, 258–261.

Elwick, A. (2015). Understanding implicit learning in museums and galleries. *Museum and Society, 13*(4), 420–430.

Fawcett, L. (2014). Kinship imaginaries: Children's stories of wild friendships, fear and freedom. In G. Marvin & S. McHugh (Eds.), *Routledge handbook of human-animal studies*. Abingdon/New York: Routledge.

Fender, J., & Crowley, K. (2007). How parent explanation changes what children learn from everyday scientific thinking. *Journal of Applied Developmental Psychology, 28*, 189–210.

Gregory, H., & Purdy, A. (2015). Present signs, dead things: Indexical authenticity and Taxidermy's nonabsent animal. *Configurations, 23*(1), 61–92.

Gutierrez, I., Miller, P., Rosengren, K., & Schein, S. (2014). Affective dimensions of death: Children's books, questions and understandings. *Monographs of the Society for Research in Child Development, 79*, 43–61.

Hohenstein, J., Callanan, M., & Ash, D. (2015). *Exploring the links between adult-child conversations and children's ideas about science*. Unpublished manuscript, Hunter, S.B.

Hunter, S. B., & Smith, D. E. (2008). Predictors of children's understandings of death: Age, cognitive ability, death experience and maternal communicative competence. *OMEGA - Journal of Death and Dying, 57*(2), 143–162.

Jaakkola, R. O., & Slaughter, V. (2002). Children's body knowledge: Understanding 'life' as a biological goal. *British Journal of Developmental Psychology, 20*, 325–342.

Kirk, E. (2013). Gaining young children's perspectives on natural history collections. *Journal of Natural Science Collections, 1*, 38–43.

McGhie, H. (2015a). *Using taxidermied animals to support the National Curriculum for English, History, Art and Design at KS1-4*. https://naturemanchester.files.wordpress.com/2014/10/advocacy-toolkit-4-using-taxidermy-to-support-the-national-curriculum-for-english-history-art-and-design.pdf. Accessed 5 Jan 2016.

McGhie, H. (2015b). *Using taxidermied animals to support the National Curriculum for Science, KS1-4*. https://naturemanchester.files.wordpress.com/2014/10/advocacy-toolkit-5-using-taxidermy-to-support-the-national-curriculum-for-science.pdf. Accessed 5 Jan 2016.

Morris, P. (2010). *A history of taxidermy: Art, science and bad taste* (1st ed.). Ascot: MPM Publishing.

Patchett, M., & Foster, K. (2008). Repair work: Surfacing the geographies of dead animals. *Museum and Society, 6*(2), 98–122.

Pederson, H. (2007). *The school and the animal other: An ethnography of human-animal relations in education*. Göteborg: Acta Universitatis Gothoburgensis.

Poliquin, R. (2008). The matter and meaning of museum taxidermy. *Museum and Society, 6*(2), 123–134.

Poliquin, R. (2012). *The breathless zoo: Taxidermy and the cultures of longing*. Pennsylvania: Pennsylvania State University Press.

Reiss, M. J., & Tunnicliffe, S. D. (2011). Diorama as depictions of reality and opportunities for learning in biology. *Curator: The Museum Journal, 54*(4), 447–459.

Robin, L. (2009). Dead museum animals: Natural order or cultural Chaos? *reCollections, 42*, 1–14.

Rocha, L. A., Aleixo, A., Allen, G., Almeda, F., Baldwin, C. C., Barclay, M. V. L., Bates, J. M., Bauer, A. M., Benzoni, F., Berns, C. M., Berumen, M. L., Blackburn, D. C., Blum, S., Bolanos, F., Bowie, R. C. K., Britz, R., Brown, R. M., Cadena, C. D., Carpenter, K., Ceriaco, L. M., Chakrabarty, P., Chaves, G., Choat, J. H., Clements, K. D., Collette, B. B., Collins, A., Coyne, J., Cracraft, J., Daniel, T., de Carvalho, M. R., de Queiroz, K., Di Dario, F., Drewes, R., Dumbacher, J. P., Engilis, A., Erdmann, M. V., Eschmeyer, W., Feldman, C. R., Fisher, B. L., Fjeldsa, J., Fritsch, P. W., Fuchs, J., Getahun, A., Gill, A., Gomon, M., Gosliner, T., Graves, G. R., Griswold, C. E., Guralnick, R., Hartel, K., Helgen, K. M., Ho, H., Iskandar, D. T., Iwamoto, T., Jaafar, Z., James, H. F., Johnson, D., Kavanaugh, D., Knowlton, N., Lacey, E., Larson, H. K., Last, P., Leis, J. M., Lessios, H., Liebherr, J., Lowman, M., Mahler, D. L., Mamonekene, V., Matsuura, K., Mayer, G. C., Mays, H., McCosker, J., McDiarmid, R. W., McGuire, J., Miller, M. J., Mooi, R., Mooi, R. D., Moritz, C., Myers, P., Nachman, M. W., Nussbaum, R. A., Foighil, D. O., Parenti, L. R., Parham, J. F., Paul, E., Paulay, G., Perez-Eman, J., Perez-Matus, A., Poe, S., Pogonoski, J., Rabosky, D. L., Randall, J. E., Reimer, J. D., Robertson, D. R., Rodel, M.-O., Rodrigues, M. T., Roopnarine, P., Ruber, L., Ryan, M. J., Sheldon, F., Shinohara, G., Short, A., Simison, W. B., Smith-Vaniz, W. F., Springer, V. G., Stiassny, M., Tello, J. G., Thompson, C. W., Trnski, T., Tucker, P., Valqui, T., Vecchione, M., Verheyen, E., Wainwright, P. C., Wheeler, T. A., White, W. T., Will, K., Williams, J. T., Williams, G., Wilson, E. O., Winker, K., Winterbottom, R., & Witt, C. C. (2014). Specimen collection: An essential tool. *Science, 344*(6186), 814–815.

Rosengren, K., Gutierrez, I., & Schein, S. (2014). Cognitive dimensions of death in context. *Monographs of the Society for Research in Child Development, 79*, 62–82.

Rosengren, K. S., Miller, P. J., Gutiérrez, I. T., Chow, P., Schein, S., & Anderson, K. A. (2014). Children's understanding of death: Toward a contextual perspective. *Monographs of the Society for Research in Child Development, 79*, 1–162.

Sanders, D., & Hohenstein, J. (2015). "Death on display." Reflections on taxidermy and children's understanding of life and death. *Curator: The Museums Journal., 58*(3), 251–262.

Schonmann, S. (2006). *Theatre as a medium for children and young people: Images and observations*. Dordrecht: Springer.

Smith, D. E. (2008). Predictors of children's understandings of death: Age, cognitive ability, death experience and maternal communicative competence. *OMEGA, 57*(2), 143–162.

Valle, A., & Callanan, M. (2006). Similarity comparisons and relational analogies in parent-child conversations about science topics. *Merrill-Palmer Quarterly, 52*, 96–124. https://doi.org/10.1353/mpq.2006.0009.

Wellcome Collection. (2012). *Death: A picture album*. London: The Wellcome Trust.

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