Chapter 1
Introduction: Natural History Dioramas and Socio-cultural Aspects

Annette Scheersoi and Sue Dale Tunnicliffe

Museums are now regarded as almost the last public space left available to all. They should view themselves as communal meeting places, in which people can even discuss controversial issues (Sharp 2016). Museums can act as facilitators of communication and collaboration between scientists and the general public on issues of the twenty-first century including natural and social sciences (Garthe 2018).

Natural history dioramas, with their taxidermied animals and representations of (authentic) habitats, can help us to visualise the consequences of human activity by addressing environmental issues (Wonders 2016). They provide opportunities for, and often spark debates, to talk about relevant controversial topics such as climate change, global warming, loss of habitat, industrial pollution and the dominance of one particular species, *Homo sapiens*, over many others, in some cases to the point of extinction.

Originally, natural history dioramas were a nineteenth century development, but they have evolved into institutions for both researching biodiversity and more recently focusing on the changes during the Anthropocene era (Crutzen 2002) – and how such information can be effectively accessed and understood by visitors.

One view of museums is that they are places for learning aspects, in this case of biology, and thus considered a venue that benefits school groups in particular, brought for curricula reasons, as well as the general public. The transmission mode of learning requires the receiver to consciously participate in the transmission. Indeed, Vygotsky (1986) suggested that 'any function in a child's cultural development appears twice, or on two planes, first it appears on the social plane and then on the psychological' (p. 16). Following this line of thinking, educators could recognise

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the importance of social interaction, talk or dialogic dialogue (Alexander 2008), particularly in working with school groups visiting museums in the widest sense, as well as in schools. Museums increasingly recognise that socio-cultural exchanges are both between the visitors with all their pre-visit understanding through which they interpret the exhibits, between generations, social classes, peers of the groups and other visitors, as well as museum personnel.

Museums of all genres have, as one of their missions, to foster understanding of the subject focus of the museum, be it arts or science. However, Anderson (2016) identifies barriers and inhibitors, which exist and render this missions' intent more difficult. He argues that first of all, in the museum itself, educators, scientists, in-house consultants as well as exhibit designers, might hold differing expectations of outcomes. Anderson further asserts that there are mismatches in museum pedagogy, which limit the effectiveness of science museums as cultural resources for learning. These barriers counteract the museums' main goals. He suggests that museums need to recognise the distinct cultures to which museums' visitors belong, in order to understand the way in which they interpret the exhibits. Thus, museums need to identify their audience and tailor their pedagogies to allow for such variation. Museum visitors are recognised as being a widely heterogeneous group, ranging from families with young children, adult groups, leisure visitors to those of formal and adult education groups, particularly in the case of science museums in the broadest sense. One-size initiatives do not 'fit all'. Hence, a progressive understanding of the changing profile of visitors and their interpretation is an essential part for museums in order to develop an accurate view of their audiences.

In applying Western research to other areas of the world, the culture and context of the local setting needs to be taken into consideration. Those of us who have worked with comments generated at similar exhibits, but in other countries, can recognise such a mismatch. Research findings from one country cannot be adapted to another without establishing whether there are such differences. Even in the same country or even in the same city, visitors have differing life experiences and understandings of the subject and interpret the exhibits for themselves.

It has been shown that dioramas provide constructive learning opportunities for a wide range of visitors: If a diorama provides a variety of anchor points it enables visitors to relate their previous experiences and knowledge to the scenes or artefacts presented. It often results in visitors' feelings of enjoyment, involvement, and stimulation, which are the most typical emotional aspects of an interest-based activity (Scheersoi 2015). Tunnicliffe and Scheersoi (2010) maintain that the focus of intervention initiatives should be on accurate minds-on observations, rather than pure physical hands-on manipulation of objects, inviting the observer to ask questions. Facilitators, employed by the museum, or members of a visiting group can encourage minds-on focus at dioramas and, through using appropriate 'talk', assist others in developing understanding.

We recognise that the cognitive domain is as important as the affective domain and that visitors enter museums with a variety of agendas and reasons for their visits, many of which do not openly involve learning but have social foci. Hence, in this book, we assembled contributions that are focused on affective learning opportunities,

such as reflections of visitors and their experience of viewing natural history dioramas.

Dioramas are an established form of exhibit in museums, bearing both cultural and scientific significance, particularly in natural history museums. They are windows into a natural or a human constructed world, depicting the past or the present and sometimes even pointing to the future. Hence, they are fascinating for visitors and many educators consider dioramas to be essential learning tools. They are 'minds-on' exhibits as opposed to 'hands-on' in which the physical interaction frequently becomes the exhibit. Reiss and Tunnicliffe (2011) made the case for biological dioramas but also point out that there is scant literature about such, although it is increasing, e.g. Tunnicliffe and Scheersoi (2015). Another recent diorama book edited by Gall and Trischler (2016) is mainly devoted to other types of dioramas, e.g. modeled scenes in science museums, but also includes some chapters dealing with natural history dioramas.

Natural history dioramas are again increasingly recognized as a valued genre of exhibit.

Nevertheless, inexperienced museum staff is one of the biggest issues in creating and preserving dioramas for future generations, and can lead to the dioramas' destruction. Practitioner knowledge and academic theory have to be both joined in contemporary habitat diorama artistry and exhibition planning. The major challenge is to bring together curators, exhibitions designers, taxidermists and model makers, educators and scientists, all using their individual skills and expertise and working hand in hand. In this book, we bring together a collection of voices from such experts in different fields that are all associated with natural history dioramas to discuss relevant issues from many perspectives.

Two books are simultaneously published. While the book at hand focuses on socio-cultural issues, our second book discusses the history of dioramas and their building and is particularly concerned with science educational aspects, as well as current developments and the diorama's place in the visitor experience.

The first section of this book with its five chapters focuses on different types of audience.

Gkouskou from University of East London and *Tunnicliffe* from University College London Institute of Education (UK) focus on the responses of adult leisure visitors to natural history dioramas. They were either asked to talk about the diorama and to describe their memories or to respond to a written questionnaire provided at the exit. There was a variation in responses depending on the age of the visitors.

Macdonald, *Altman*, and *Holmes* from the American Museum of Natural History New York and Bank Street College (USA) write about a collaborative research that examined the potential of dioramas, for teaching science content to students new to North America, who do not speak English. Their findings demonstrate how different aspects of the dioramas inspired multiple science projects in schools.

Neitscher and *Kettenhofen* from Museum Alexander Koenig in Bonn (Germany) present their project "MuseobilBOX", which uses dioramas to facilitate access to biological themes for educationally disadvantaged children. The project's aim was to help these children realise, through interactive activities, exploring the stories in

the museum dioramas and creating their own dioramas, that the museum can be an exciting place to learn about the natural world.

Gabriel from the San Diego Natural History Museum (USA) writes about a case study of their permanent exhibition Fossil Mysteries, focusing on three distinct groups of visitors – those with ADHD, dyslexia, and high-functioning autism. He offers specific recommendations to museums about how and why dioramas are working well for the brains of all visitors, and how to enhance their power to attract and engage.

Gambini from University of Milan (Italy) describes an innovative approach to engaging audiences and exploring natural history dioramas outside a museum setting, e.g. in schools, by applying the Digital Diorama, a multimedia interactive interface that employs specific software working on the interactive white board (IWB). This approach might help to stimulate a true awareness of the complexity of environmental problems. The Digital Diorama is an Italian project funded by the Government.

The second section of this book considers problematic aspects of dioramas, such as life and death, presenting indigenous cultures and cultural influences in interpretation.

Meehitiya from Cultural Innovations Ltd. (UK), *Sanders* (University of Göteborg, Sweden) and *Hohenstein* from King's College London (UK) studied how dioramas with taxidermically prepared animals influence visiting families' perceptions on the concepts of life and death, and their potential for learning conversations. The authors also discuss studies to facilitate a new interdisciplinary relationship between museum curators and researchers, thus contributing to a debate on the value of natural history collections in modern society.

Ash from University of California, Santa Cruz (USA) addresses another problematic aspect of dioramas. Dioramas depiciting indigenous or enslaved people were originally designed to convey selected aspects of past or present cultures; the specific selection was made by the museum and its staff, sometimes in collaboration with the cultures being shown, but often not. The examples chosen here (Native American, African American and South African Bushmen) all share the experience of having had their cultural realities interpreted by the museum and misrepresented.

Achiam from Denmark (University of Copenhagen) and *Marandino* from Brazil (University of Sao Paolo) discuss how dioramas are influenced by conditions and constraints that originate both inside and outside the natural history museum. These conditions and constraints are illustrated by reference to two dioramas, one from Brazil and one from Denmark, and vary considerably, both between institutions and within institutions. The authors point out how this has consequences for how the dioramas are perceived by learners.

Section three is concerned with connecting people with our living world in this Anthropocene age with continual loss of biodiversity and degradation of the natural environment.

McGhie from the Manchester Museum, University of Manchester (UK), suggests that museums are an ideal place to support peoples' connections with nature.

The chapter explores the proposition that natural history museums can support their visitors in developing their own understanding of nature, to appreciate its value, and to have a positive attitude to their surroundings. The proposition is explored in regard to dioramas and diorama-making.

Scheersoi and *Weiser* from University of Bonn (Germany) discovered that visitors recognize ecological aspects (e.g. relationships) in dioramas, but that only a few visitors spontaneously identify ecosystem perturbations or conservation biology issues. However, when specific cues are provided, the visitors do discuss the human impact on nature and conservation actions. Visits to specific natural history dioramas can therefore increase visitors' ecological awareness and knowledge, as well as their affective connection to nature.

Dunmall (UK) outlines how a temporary exhibition in the Powell Cotton Museum (Kent) changed the discourse around a series of dioramas. A transdisciplinary team intervened in the content of the dioramas by highlighting the endangered status of certain animals. This action enabled discussions around extinction and climate change among a contemporary audience.

Marandino, *Bueno*, *Achiam* (University of Copenhagen, DK) and *Laurini* from Brazil (University of Sao Paolo) write about one of the biggest challenges of museums; exposing issues related to biodiversity, arousing interest in visitors and promoting their understanding. They collected data in two zoological museums, one in Brazil (Museu de Zoologia of University of São Paulo) and one in Denmark (Zoologisk Museum, University of Copenhagen) and discuss the potential of dioramas to teach aspects of biodiversity.

Reiss from University College London Institute of Education (UK) concludes this book considering the extent to which the chapters highlight the importance of socio-cultural issues for natural history dioramas and vice versa the importance of natural history dioramas for socio-cultural issues.

The second book (Natural History Dioramas – Traditional Exhibits for Current Educational Themes, *Science Educational Aspects*) includes chapters from curators, taxidermists, educators and scientists all using their expertise to discuss the role and potential of natural history dioramas from many perspectives and angles.

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