

Chapter 1

Introduction

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In the second half of the twentieth century, natural history dioramas went out of fashion and many were dismantled and even demolished. However, their renaissance has started. Some are carefully restored and new dioramas are being constructed with techniques to augment reality.

This book celebrates dioramas as unique and essential learning tools for biological education for all. It provides information about their historical development, demise, and more recent renaissance, past and the modern developments in their construction, the technique of taxidermy, as well as aspects of interpretation and educational research about learning processes including different methods to engage audiences, such as performance and storytelling.

We describe the journey of dioramas from their inception through subsequent developments to visions of their future. We also present a complementary journey of the visitors to dioramas, their individual sense-making and construction of their understanding from their own starting points and cultural context, often as they interact with others (e.g. teachers, peers, parents) and media (e.g. labels).

The book consists of three parts: the past, the present as well as future trends together with visitors' interaction with natural history dioramas. Contributors from different countries, from the west coast of the USA across Europe to China, and from different professional backgrounds demonstrate the different ways in which they use and observe dioramas.

The concept of the habitat diorama was developed at the end of the nineteenth century in Europe and North America and also included aspects of nature conservation. Diorama exhibits contain animals and plants with their characteristic features, and enable visitors to be able to classify the organisms and recognise the 'exhibit furniture' which creates the context in which to view the plants and animals. This

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context is usually a realistic representation of the natural environment in which the species live in the wild and provides a complete reconstruction of characteristic features such as the substrate, the vegetation, other biofacts such as bones, eggs or what remains of a carcass. Additionally, the background painting, which is a skilled creation, illustrates the meteorological situation of the region as well as providing a view of wider topographical features such as hills or the sea. Such painting blends into the vegetation and other environmental features in the diorama. Thus, a diorama creates a total illusion of an animal's habitat with the salient features of associated flora and fauna. In skilfully constructed dioramas this illusion contributes to a sense of place, inspires memories and connections to places, real or imagined.

Dioramas of natural scenes inform visitors about the specific ecosystem being represented contemporaneously, or from the heritage of their own country or other lands that imparts information about the changes in local fauna and flora. Furthermore, the construction of dioramas can reflect changes in socio-cultural attitudes or the ethos of different countries. For example, some historical dioramas inform visitors about the culture in which the animals were collected and may highlight historical social differences such as the male white hunter, or the colonization of the indigenous population.

Dioramas can vary in size from small showcases to large displays. They may depict actual locations or fictitious scenes to illustrate concepts deemed important to portray for visitors such as fauna and flora of different ecosystems, for example in the Royal Museum Scotland the evolution of fauna and flora of the region since the last ice age. Reiss and Tunnicliffe (2011) offer several categorisations of natural history dioramas, which are briefly considered: Traditional classic dioramas comprised of three parts—a *background* painted to provide perspective and a context which blends into 3-dimensional *artefacts and biofacts* at the front of the diorama's case and the *animal and plant specimens*. However, dioramas have evolved. Whilst some are represented as 'little landscapes' (Insley 2008), others resemble a section of a full size diorama and are build in small exhibit cases with a focus on a specific animal and habitat, that could be a part of a bigger life-sized diorama. Increasingly, dioramas are without glass and more recently, such as in Shanghai Museum of Science and Technology and at the Koenig's Museum in Bonn, there are large scenarios of artefacts and animals with a limited backdrop and no sides or ceilings that do not provide a total immersion viewing experience. On occasions specimens are presented on island sites, which stand alone with a stand or base but no other interpretative means, such as early man in the American Museum of Natural History, New York.

Start of the journey...

In terms of museum theory, dioramas pose a dilemma: Are the animals, plants and other items in dioramas to be regarded as objects or are they biofact/artefact amalgams or are they to be regarded as individual specimens? Some specimens are freeze-dried before being displayed in a diorama whilst others, mainly plants, are constructed from materials to simulate the vegetation of the area.

The animals are still. As such to some visitors they have the appearance of statues as this seven year old boy announced when viewing an African Diorama at the Powell Cotton Museum in Kent, England.

Mother: Kids, what can you see?

Children responded by identifying some of the animals.

Mother: Are they real?

Boy: No they are just made out of stone.

Mother: Do you think they are made out of stone?

Boy: Yes!

But, as a representation of a moment in time, like a photograph albeit in two dimensions, the diorama in three dimensions or augmented reality can also create images to view in a context. Thus should diorama animals be considered in a cultural object way or should they be considered as a sub-genre of objects with particular characteristics and properties?

Live animals can be handled in certain circumstances such as at petting corners and children's zoos, as can some cultural objects in museums. Yet another aspect of object handling is that of virtual artefacts and virtual reality. As a result of computer simulations various aspects of an object can be viewed that might not be possible with a real object; these techniques could be developed in relation to animals as 'exhibits'. Diorama specimens are not handled. Together with their context they are the focus of the diorama and form the scene of a unique journey. Therefore where do they fit into museum theory?

They are not cultural artefacts and hence objects because they are naturally occurring not man made. However, the organisms are presented after treatment to provide an illusion of the real animal or plant in its living form. Whilst some geological specimens and tools are presented in their natural state and can be touched and even handled in the same manner as can other cultural objects. When 'read' by a knowledgeable handler the information inherent, for example in the rock is interpreted and thus through this articulation some artefacts can shape the understanding of others such as a flint tool. Can such information be obtained from diorama organisms? Are visitors able to 'learn' as a result of viewing a diorama? We believe they can.

Animals in natural history dioramas, unlike most museum animals as stand-alone exhibits, are shown within a context, and tell a story. Visitors can look with meaning not only at the animal but also the context in which it lived. Plants provide a realistic view of the ecology of the habitat in which the animal lived, hence creating a naturalistic effect which is seldom achieved in zoos or botanic gardens even when animals and plants are shown together.

Animal and plant exhibits are the three dimensional essence of natural history dioramas. Encounters with them and the context in which they are shown form the focus of the journey for visitors and these in-situ encounters go hand in hand with their previous experiences, knowledge and understanding, as well as interest and therefore aid understanding. Furthermore, such an amalgamation of biological, geological, meteorological and, even in some dioramas cultural, topics provide an opportunity to study environmental interactions, potential, or as portrayed such as predator/prey encounters of the real world. Therefore dioramas have a unique

position in learning biological concepts and assisting in the viewer's development of aesthetic awareness and understanding of the dynamic interactions of the living world. They provide opportunities to observe with meaning and at the species at length. As such they provide a more manageable opportunity for dialogue and the co-construction of further understanding than often is precluded when viewing live specimens.

We consider that natural history dioramas are one of the most effective genres of museum exhibits for the teaching and learning of many aspects of biology as well as the cultural aspects of the societies that house the exhibits. They are part of our cultural heritage and should be treated as such.

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