

Scientific collections: looking at the authenticity of objects in science museums

Coleções científicas: questões em torno da autenticidade de objetos nos museus de ciência

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Abstract

Museums have traditionally been described as “storehouses of artefacts”, of original, authentic, material and objects that have been collected, researched, and preserved over the years to educate the public. It is widely accepted, and expected, that the presentation of authentic objects is favoured and prioritised by museums. These objects often bear a level of historical significance and have a high economic value, increasing a museum's prestige and distinctiveness. The authentic collections make museums authentic places which consequently seek to provide “authentic” experiences for visitors.

Nevertheless, although museums are valued for the authenticity of their collections, they are sometimes challenged with sourcing or presenting new authentic material. As a consequence, museums often incorporate artificial artefacts into their collections, as is the case for many science museums and scientific collections. In fact, the use of replicas and casts is ever more common in science museums for pedagogical, operational, and economic reasons.

However, does this incorporation strip the museum and the object itself of authenticity? Does a replica communicate in the same way as the original object? Or can it ever be considered as having the same level of authenticity as the original object from a museological point of view?

Key Words:

Authenticity, science, scientific collections, museology.

Resumo

Tradicionalmente, os museus começaram por ser descritos como “armazéns de artefactos”. De objetos originais e “autênticos” que foram sendo colecionados, estudados e preservados ao longo do tempo. Neste contexto, ainda hoje é expectável que os museus deem prioridade a objetos considerados como originais nas suas coleções. Esses elementos ‘originais’ têm muitas vezes significados muito importantes e valores económicos elevados, o que contribui para o prestígio e o carácter distintivo de um museu. Ao mesmo tempo, tornam um local autêntico e providenciam experiências autênticas aos seus visitantes.

No entanto, obter e expor material novo e autêntico é muitas vezes um grande desafio que acaba por resultar na incorporação de artefactos artificiais e de réplicas em muitas coleções, como é o caso dos museus de ciência e de muitas coleções científicas. Na verdade, o uso de réplicas e moldes torna-se cada vez mais comum em museus de ciência por razões pedagógicas, operacionais e económicas.

Será que este facto retira autenticidade ao museu e ao próprio objeto? Será que uma réplica comunica a informação da mesma forma do que um objeto autêntico? Ou que pode ser considerada como tendo o mesmo nível de autenticidade que o objeto original do ponto de vista museológico?

Palavras Chave:

Autenticidade, ciências, coleções científicas, museologia.

Introduction

Museums have traditionally been described as “storerooms of artefacts”; of original and authentic objects that have been collected, researched, and preserved over the years to educate the public [1]. They are defined by the objects they collect and safeguard, which make up their collections and determine their maintenance and conservation practices. These objects in turn are essential for attracting visitors and transmitting information and content related to the museum’s mission [2].

It is widely accepted, and expected, that the presentation of authentic objects is favored and prioritized by museums. These objects often bear a level of historical significance and have a high economic value, increasing a museum’s prestige and distinctiveness [3]. The authentic collections make museums authentic places which consequently seek to provide “authentic” experiences to visitors. However, although museums are valued for the authenticity of their collections, they are sometimes challenged with sourcing or presenting new authentic material. This is particularly true in times of reduced funding and high competition, and particularly so for science and natural history museums [3]. Consequently, museums often incorporate artificial artefacts into their collections. Many museum “purists” argue against the inclusion of what they deem “fake” objects in museums and insist that museums should consist solely of real and authentic artefacts [4]. However, what counts as authentic and what does not? The different criteria for authenticity make it challenging to determine. Whilst historical authenticity involves determining the legitimacy of an object and creating historic context, in science it is often the ideas and the theories that are related to authenticity [5]

The use of reproductions, molds, casts, and replicas are common and widely accepted in science museums. Early collections of natural curiosities gradually evolved to incorporate scientific relics and casts of ancient or exotic animals and reconstructions of natural ecosystems to educate the public about the wonders of the natural world [6]. The display of replicas in art museums however is frowned upon and possibly condemned [7].

The Oxford English Dictionary defines the word “Authentic” as: “Of undisputed origin and not a copy; genuine”, but how does this relate to museums where casts and models are required and commonly in-

corporated? With the rise of affordable 3D printing, the incorporation of replicas, models and casts, has become increasingly more common in science museums for many reasons, from educational to economical. With this in mind, the question is raised as to whether the replicas found in science museums rob the object and subsequently the museum of authenticity? Or does the object’s purpose and the museum’s ultimate goal instill a different type of authenticity? Where do we find authenticity in today’s science museums? What does it mean to be authentic and how do the different authenticities aid learning?

A search for authenticity

A fitting example in the debate for authenticity is that of the skeletons displayed in the iconic entrance hall of the Natural History Museum of London over the years. The emblematic *Diplodocus* skeleton, “Dippy”, that has greeted the visitors since 1979, was recently replaced with a skeleton of a blue whale named “Hope”, due to the museum’s desire to have something real and authentic greeting visitors [8]. But what is it that makes Hope more authentic than Dippy?

Dippy’s skeleton is entirely cast from a skeleton unearthed in 1898. A total of 10 replicas were made and most are presently displayed in museums around the world. Dippy’s skeleton however, was the first upright skeleton to have ever gone on display. Being one of 10 replicas might not grant Dippy authenticity, however, dinosaur skeletons are rare to come by and for other museums to publicize this great discovery they would have to do so through replicas. Is the rarity of the initial object enough to grant its replicas authenticity? Or does the fact that Dippy was the first to be displayed attribute it authenticity? Since its initial erection, Dippy has inspired generations. Being greeted by such a large-scale structure of a prehistoric animal is empowering regardless of material it is constructed from. Thus, does the emotional experience Dippy provides visitors make it authentic?

Hope’s skeleton, in contrast, originates from the whaling period and was sold to the museum in 1891. Minor sections of the whale’s bones were harmed during cleaning and had to be artificially reinforced, nevertheless the blue whale skeleton is made up of over 90% original matter. It was first displayed in

1935 when it became the first ever blue whale skeleton to go on public display. By moving the massive blue whale skeleton to the iconic entrance hall, the museum seeks to display original and authentic material. Although many will argue that Hope is more authentic than Dippy because of its real and original skeleton, others argue that real and authentic need not be considered the same. A news article published at the time of the renovation announcements explains how the blue whale skeleton is hard to decipher and therefore will not cause the same sense of awe as Dippy's skeleton making the experience less authentic [9]. Is the whale's authentic skeleton more powerful than an authentic experience? Will Hope gain further authenticity over time as visitor gain a better understanding of this new species and its significance?

Similarly, at the Field Museum in Chicago the *Tyrannosaurus rex* skeleton, Sue, is the largest, best preserved, and most complete skeleton ever found and has been on display since 2000. Over 90% of the skeleton was recovered from the archeological dig yet the display at the museum is crowned with a replica skull. The original skull is on display separately in the gallery, at visitor eye level so that it can be closely examined from all sides by visitors (Field Museum, n.d). In total, five complete casts of Sue were made, some have been left unassembled in the museum to be studied close up by academics and visitors alike, whilst others have been sent on traveling exhibitions. Are the casts sent off on travelling exhibitions not considered authentic because they are mere replicas? Or, like Dippy, does the rarity of the original grant authenticity to all subsequent? Is authenticity added with the tactile experience afforded to guests and academics. Does Sue and her replicas become more relevant by having a hands-on component? One would imagine that being able to hold a T-rex bone, even a replica, a better sense of scale and appreciation can be achieved and thus a more "authentic" experience. Just like with Dippy, authentic is granted based on the image of the object rather than the material build-up, with the added benefit of an enhanced learning experience.

It is widely believed among museum professionals that encounters with authentic specimens creates inspiring reactions among visitors and promotes engagement. However, a recent study into visitor perception of authenticity in museums found that vi-

sitors ranked objects based on scientific insight provided, irrespective of authenticity [10]. The authors therefore conclude that although authenticity is still important, the degree to which the object conveys content is more important.

Conclusions

Interesting questions are raised when looking at authenticity in science museums, in particular how authenticity is attributed to different objects. What makes one object more authentic than the other? Does an authentic experience require authentic objects? Is the object rendered more authentic because it is rare? Are old objects inherently authentic because of their survival and persistence to current times? Does authenticity of objects matter more or less to different visitors or museum professionals?

The dinosaur examples given here are just a few of the many found in science museums world over. In fact, the existence of replicas in place of an original can be found from fossils to scientific instruments. Although science museums do strive to display predominantly original and authentic material, the use of casts and replicas is widespread in the scientific community not only due to its ease of access but its educational content. Authentic replicas that facilitate learning through tactile experiences and close observations increase interest as the pieces become relevant and topics of conversation. In doing so, they become the focus of conservation efforts for preservation for future generations. Thus, a specifically designed replica can communicate content just as well as an original, which is the vital component of a science museum's mission. They can also lead to a meaningful and significant experience within a museum if displayed and contextualized appropriately. When looking at large scale spectacular specimens such as dinosaurs and whales it is easy to attribute authenticity simply due to the image and sense of awe instilled by their mere presence and grandness, not the material make-up of it.

In conclusion, the perception of authenticity varies depending on content and context. The didactic nature of science means that the informative content that is transmitted is prioritized over the originality of an object.

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