The Collections Connection:

Understanding the Attitudes of Participants in Behind-the-Scenes Museum Tours

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Abstract

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The overwhelming majority of museum collections are kept in storage, never to be seen by the public. Behind-the-scenes (BTS) tours, which provide opportunities for visitors to enter collections storage and work spaces, are an increasingly popular method of using museums' massive stored collections to create memorable experiences for visitors while educating them on the work that takes place at museums. The purpose of this study was to understand visitors' attitudes toward their behind-the-scenes museum tour experiences and the impact of those experiences on their attitudes toward museum collections. This descriptive survey collected data via questionnaires administered to twenty-eight participants in BTS tours at two institutions. Results suggest that visitors responded to these tours with enthusiasm and that the collections seen during the tours resonated with visitors. These tours appeared to be effective in educating visitors about museum collections and positively influencing their perceptions of the museums and their collections. These findings support prior studies indicating that BTS tours are valuable because of their potential to create meaningful and enjoyable experiences for visitors, while broadening the usefulness of stored collections. Further research and conversation within the field is necessary to better understand these programs and develop best practices.

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Chapter 1: Introduction

Hidden treasures are most often found in fantasy novels and swashbuckling adventure films; however, in reality, they may be no farther away than the nearest museum's collections storage facility. Most of the objects in museum collections are never seen by the public. In general, most museums exhibit less than 10% of their collections, with some displaying as little as 1% (Bennes, 2014; Klocksin, 2013; Merriman, 2004). The remainder are either used for research or remain in storage, unseen, in order to be preserved for the future. At the same time, museums continue to contend with the question of their purpose. Are museums *about* objects or *for* people, and can they be both simultaneously (Silverman & O'Neill, 2012; Weil, 1999)? It is now widely accepted that museums exist for the benefit of people, which some believe calls the relevance of the hidden treasures of the museum into question. However, as Silverman and O'Neill (2012) point out, "the very essence of museums" is "the interaction between people and objects" (p. 197). In order to foster these interactions, museums must create space for the public to engage with their collections in meaningful ways. With so many objects deemed precious enough to be preserved in perpetuity but rarely, or never, put on display, museums face a challenge – how can these collections be made both accessible and engaging to the public?

Collections access is frequently cited as a primary responsibility of museums by professional organizations like the American Alliance of Museums (AAM) and the Museums Association. Collections access may be physical or intellectual. Intellectual access is the ability to obtain information about collections, including through direct inquiry with the museum and online resources such as digitized collections (Keene, Stevenson, and Monti, 2008). Digitization of collections in order to provide intellectual access is becoming ubiquitous within museums. Physical access is harder to define, but generally refers to the ability to interact directly with

collections in some way, and might include simply viewing collections objects as well as research and object handling. Strategies designed to provide the public with opportunities to see and learn about museums' stored collections serve to increase physical collections access while also creating memorable, enjoyable experiences for visitors. Behind-the-scenes tours are an increasingly popular strategy for achieving these goals.

Behind-the-scenes (BTS) programs are held regularly at some museums and offered as special events at many others, providing museum visitors the opportunity to enter storage and work spaces typically off limits to the public and to get a closer look at how museum collections are stored, cared for, and used. They seek to increase the usefulness of collections that remain in storage – as Keene (2005) asked, summarizing the debate around stored collections, "if the collections are not being used, why is public money being spent on storing, documenting, and preserving them" (p. 5)? Motivations for offering BTS programs include creating enjoyable visitor experiences that are informative, interactive, and surprising (Keene, 2005), and "demystifying museums" by educating visitors on collections storage, conservation, and research (Smithsonian Institution, 2005). Despite presenting challenges for staffing and security, the literature suggests that BTS programs are an easier and less costly method of providing physical access to collections than other related methods, such as visible storage displays in public museum spaces, which are expensive to create and may be confusing or overwhelming for visitors (Keene, 2005; Keene, Stevenson, and Monti, 2008; Smithsonian Institution, 2005).

Two studies have been conducted which provide justification for behind-the-scenes tours. A 2007 study by Caesar, conducted at collections store tours at the Science Museum in London, found that participants in the tours were happy with their experience, were generally "astonished" by the scale of stored collections, and found the tour "informative" and

"fascinating." Bond (2018) analyzed audience evaluations at two other British institutions with collections centers open for public tours, which again indicated that visitors responded positively to these opportunities, feeling impressed and delighted by their experiences in these storage spaces. These results are encouraging, suggesting that visitors find BTS tours both enjoyable and educational. Questions remain, however: what aspects of BTS tours do visitors consider most valuable? How successful are BTS tours at actually promoting engagement with the collections, in addition to creating enjoyable experiences?

The marketing strategies for behind-the-scenes tours fully embrace the idea of stored collections as hidden treasures. Online descriptions of these programs emphasize the vast quantity and high quality of museum collections in storage, sometimes describing them quite literally as treasures, hidden away in vaults. Underlying all of these descriptions are assumptions that museum collections are special and fascinating, and that the opportunity to see them up close, outside of exhibit spaces, is exciting and valuable for museum visitors. BTS tours may indeed be a valuable tool for connecting visitors with collections that they would otherwise never see. A deeper understanding of their success and impacts is necessary for museums not only to implement these programs in effective ways, but to have clarity in determining what they intend to accomplish with these programs.

The purpose of this study was to understand visitors' attitudes toward their behind-the-scenes museum tour experiences and the impact of those experiences on their attitudes toward museum collections. This study was guided by the following questions:

1. What are visitors' perceptions of behind-the-scenes tours?
2. How do visitors on behind-the-scenes tours respond to collections?

3. How do behind-the-scenes tours impact visitors' attitudes toward the museum and its collections?

This research sought to contribute to the understanding of BTS programs by exploring the perspectives of museum visitors, which could assist museum professionals in providing collections access with more consideration of the needs and desires of the public they are providing this access to.

Chapter 2: Literature Review

The purpose of this study was to understand visitors' attitudes toward their behind-the-scenes museum tour experiences and the impact of those experiences on their attitudes toward museum collections. In order to contextualize this study on BTS tours, several bodies of literature were examined. Literature on the practice of collecting in museums and the care of collections helps to understand the context and physical spaces in which BTS tours take place. Literature on collections access attempts to define what access to collections means, what obligation museums have to provide it, and ways to improve it, including the implementation of open storage facilities. Finally, the existing literature on BTS tours provides an understanding of why museums choose to provide BTS tours, the potential benefits of these tours, and the results of a small number of visitor studies already conducted on these tours.

Collections in Museums

Most museums have collections – the idea of collections is so central to museums that most definitions of *museum* include a reference to the collecting of objects. The International Council of Museums' (2007) definition describes a museum as an institution that "acquires" and "conserves" the "tangible and intangible heritage of humanity and its environment." The objects that make up museum collections are tangible heritage. Collections are simply "at the core of most museums" (Walhimer, 2015, p. 3). Macdonald (2011) described collecting as a "self-aware process of creating a set of objects conceived to be meaningful as a group," recontextualizing these objects as part of a collection and assigning them additional significance (p. 82). The dominant practices of collecting have changed over time, from gathering objects of wonder and curiosity, to categorizing the natural world in an attempt to make sense of it, to organizing and

legitimizing the heritage of nations and cultural groups (Macdonald, 2011). Collections serve many purposes, but are built on the notion that objects are of great importance. Walhimer (2015) identifies several types of collecting museums: art museums, history museums, natural history museums, science museums, children's museums, zoos, botanic gardens, and aquariums (p. 49). Museums typically collect "with the ambition of being kept long term or even in perpetuity" (Macdonald, 2011, p. 82); therefore, although the specific needs of their collections differ, all museums (barring those with living collections) follow similar guidelines in order to preserve their objects for as long as possible.

Collections care principles stem from the basic premise that museum objects are to be protected "for current and future generations" (Walhimer, 2015, p. 130). Ideally, collections objects are stored in climate-controlled storage areas with controlled access, but museums have different capacities and needs. The mitigation of the deterioration of objects in museums is referred to as preventive conservation, which involves "appropriate environmental conditions, handling and maintenance procedures for storage, exhibition, packing, transport, and use, integrated pest management, emergency preparedness and response, and reformatting/duplication" (Fisher, 2010, p. 287). Essentially, collections are protected through controlling their storage environment as much as possible; this involves limiting who can enter collections storage spaces and handle collections objects. All of this control is vital for ensuring the safety and preservation of objects. However, these principles are sometimes challenged by the necessity of providing access to collections objects.

Collections Access

Access to collections is often cited as a primary responsibility of museums in professional standards. The American Alliance of Museums' Core Standards (n.d.) state that a museum should "provide public access to its collections while ensuring their preservation." The necessity of balancing access and preservation is similarly expressed in the Museums Association's (MA's) Code of Ethics (2015): "all those who work in and with museums should . . . balance the museum's role in safeguarding items for the benefit of future audiences with its obligation to optimize access for present audiences." The MA's Code of Ethics also stipulates that museum professionals should "provide public access to . . . collections and information about collections without discrimination." "Access to collections" is rarely clearly defined in the literature, though organizations and authors have offered many suggestions for how to improve it.

The Museums Association, in their Ethical Guidelines regarding access (n.d.), provide several guidelines for "extending the use and appreciation of [a museum's] collections." These guidelines state that museums should attempt to provide access to their collections, "including those parts not normally on show." The guidelines go on to insist that museums should prioritize improving direct access to collections, and should provide alternatives, such as digitized collections information, whenever direct access is not possible. However, despite emphasizing the importance of "direct" collections access, this document does not explain what it actually entails. This tendency to reference the general concept of collections access without clarifying what is meant by it is common in the literature and professional guidelines, and may contribute to what Bond (2018) described as a "rather arbitrary approach" (p. 67) to facilitating access.

However, the importance of providing collections access and increasing the use of stored collections is continually emphasized in the literature. A study undertaken by the Institute of Archaeology at University College London (UCL) involved research with UK museum staff and members of the public to determine the extent to which museums utilized, and the public demanded, their collections as a public resource (Keene, Stevenson, and Monti, 2008). The study found that 74% of museum respondents thought that collections were insufficiently used, and only 13% of museums strongly promoted access to stored collections, though 97% of museum respondents reported a steady or increasing demand for collections access.

According to the Museums Association, "too many museum collections are underused – not displayed, published, used for research, or even understood by the institutions that care for them" (2005). Keene (2005) states that museums have an obligation to justify the importance of stored collections which are infrequently used, because collections are expensive to care for, and museum funders may not perceive collections as relevant. The need for justification of collections is "a question of efficient use of resources" (p. 5). The majority of collections are never exhibited, and, as a study by Gyllenhaal, Perry, and Forland (1996) suggests, visitors might be totally unaware of the scale of museum collections, overestimating the percentage of the collections on display. Belk (1995) argues that while the public typically sees museum collecting as acceptable and even beneficial, if they "were given sufficient information, it is likely that many museum collections would also be judged to be excessive" (p. 147), linking museum practices to materialism and obsessive collecting. Keene (2005) also suggests that the public do not raise concerns about museum collections because they are barely aware of them. It is unclear how the public would respond to collections with greater understanding, but these

arguments suggest that promoting access to and educating the public about collections might make it possible for the public to have more informed opinions about their value.

In defense of collections, Keene (2005) identifies five main uses of stored collections: research, education, memory and identity, creativity, and enjoyment. Others have argued that improving collections access has notable benefits for museums, rather than being solely an obligation or method of justifying collections. For example, the National Parks Service's Museum Handbook (1998) states that collections access is valuable to park museums because it encourages scholarly research, develops public support and advocacy for collections, helps to find potential collaborators in collections work, and positively impacts public opinion.

Categories or types of collections access are often used when discussing collections access strategies. The primary categories that appear in the literature are **intellectual access** and **physical access**. Keene, Stevenson, and Monti (2008) define intellectual access as the public's ability to obtain information about collections, including through direct inquiry with the museum and online resources. Publicly viewable digitized collections are an example of intellectual access. Keene (2005) argues that making digitized collections accessible can facilitate research and education by providing information regarding the contents of museum collections and making it possible to compare collections among different institutions. Providing intellectual access through digitization may also encourage greater knowledge sharing and dispersal of authority, deemphasizing the primacy of the museum as the sole source of knowledge about collections objects (Cameron, 2003; Keene, 2005).

Physical access refers to the public's ability to interact directly with collections, though it is less well-defined. This may be because physical access is subject to interpretation, to some degree; professional guidelines do not define it, and how museums implement it seems to depend

on individual choice. Some examples of physical access include research and object handling, but simply being able to see a larger portion of the collection, as in open storage facilities and tours, can be considered a type of physical access.

Open Storage

Open storage is frequently cited as a method of providing physical access to collections. Davies' categories of open storage (as cited in Keene, Stevenson, and Monti, 2008) differentiate between visible storage, which involves dense displays of objects, and open access storage, which visitors are able to enter on tours or relatively freely. Keene (2005) refers to these categories as **visible storage** and **visitable storage**, where visible storage "can be seen through glass or as part of a gallery," and visitable storage has "no structural division" and allows visitors to "either walk around freely or join staffed tours" (p. 125). Visitable storage differs from visible storage by conveying information about a museum's collection as a whole rather than "making a greater number of individual objects visually accessible" (Bond, 2018, p. 64). Guided behind-the-scenes tours are one form of visitable storage.

Visible storage may "allow larger numbers of objects to be shown while maintaining high levels of environmental and security controls" (Smithsonian Institution, 2005, p. 55). However, Orcutt (2011) described several difficult questions that arise when designing open storage facilities. Primary among these is the issue of interpretive material. Visible storage facilities are more crowded with objects than exhibit spaces, and interpretive labels may be distracting or may not fit. Keene identified one of the major problems of visible storage as the belief of visitors that it is "an exhibit with insufficient information" (p. 128), and a study by Keene, Stevenson, and

Monti (2008) found that visitors were "confused because they felt [visible storage] should be more like an exhibit" (p. 65).

In order to satisfy viewer curiosity, those designing these facilities have developed strategies to provide additional information, including computer terminals and iPad-based interfaces (Orcutt, 2011). While some visitors may be dissatisfied with the amount of information provided in a visible storage display, some argue that these displays allow visitors to "draw their own conclusions . . . without relying on curatorial interpretation" (Smithsonian Institution, 2005, p. 55). As Orcutt (2011) argued, it is important to consider the needs of a wide variety of visitors. While some may desire additional information, and may be comfortable using technology to access information, others may be comfortable drawing their own conclusions, or might want the opportunity to ask for more information from a docent.

Open Storage and Museum Authority

Despite being perceived as trendy, visible storage and behind-the-scenes "glimpses" are seen by some as a return to historical museum methods or a way of reinforcing the traditional role of museums. In an analysis of Hans Sloane, who amassed a huge natural history collection in the eighteenth century that formed the basis of the British Museum, Delbourgo (2018) argues that "in Sloane's eighteenth-century cabinet, 'storage' was already 'visible,' communicating messages concerning the collector's technical prowess, aesthetic tastefulness, and wealth and power in being able to gather and store so many things so well" (p. 41). Sloane both stored and displayed his collections in beautiful, expensive boxes, which often "elicited more attention than the specimens they contained" (p. 42).

In the eighteenth century, these collections would have only been visible to wealthy and important individuals, but now, visible storage and behind-the-scenes tours are available to the general public – at least the subset of the public that already visits museums. However, making collections storage visible may still perpetuate ideas of power. Reeves (2018) argues that the function of visible storage is to "visually gesture to the enormity of the museum's collection," performing a "venerable and very conservative function of the museum . . . be dazzled, because we have so much stuff" (p. 56). Making storage visible, then, serves to demonstrate the level of care that the museum is capable of providing for objects, justifying the museum's right to hold collections and reinforcing the institution's authority. Reeves specifically criticizes displays in which "storage, not collections, is what is on display" and the actual work practices of the museum are not honestly revealed (p. 59). Visible and visitable storage are both susceptible to these pitfalls. However, while visible storage operates as essentially another display, tours within visitable storage may better allow museums to provide honest information about the work that takes place through interpretation by tour guides and visits to active work areas.

Behind-the-Scenes Tours

BTS tours are often discussed alongside visible storage facilities – the two are sometimes equated, while other writers contrast these strategies. Caesar (2007) describes collections storage tours as a "commonly used alternative" for institutions in which creating visible storage facilities is not feasible, while in the Smithsonian's report (2005), tours are discussed as a part of open storage facilities, in which staff occasionally guide visitors through the facility and answer questions. The literature suggests that offering tours of collections spaces is less costly and perhaps more effective than creating visible storage displays. Keene (2005) argues that visible

storage is more problematic because it is "more expensive than simply adapting standard storage to be visitable" (p. 128). Keene, Stevenson, and Monti's (2008) study suggested that freely accessible storage facilities are more successful than visible storage, hypothesizing that "a diversity of objects and encounters with snippets of information at single object level, provided by labels or tour leaders, may be what engages interest" (p. 66).

Thus, museums' stored collections can be a valuable resource for creating enjoyable visitor experiences; these opportunities can be interactive, informative, and surprising, appealing to a variety of visitor motivations (Keene, 2005). According to the Smithsonian's "Concern at the Core" report (2005), benefits of providing visitors a "behind-the-scenes glimpse" at collections include "allowing visitors to draw their own conclusions" and educating visitors on collections storage, conservation, and research to create a greater understanding of the museum's function. The report states that "demystifying museums . . . can lead to more visitors and greater financial support" (p. 56). In a study on visitable storage spaces, Bond (2018) discovered that the most frequently cited motive for implementing visitable storage was a "principle to access," although she found that respondents from museums did not often identify more specific outcomes (p. 67).

A brief overview of web pages for museums' behind-the-scenes tours makes clear that the marketing strategy for these programs involves emphasizing the vast number (and high quality) of collections that are not on exhibit, the exclusive nature of the tours, and the incredible opportunity that is learning about objects directly from the staff that work with them. These descriptions emphasize curiosity and mystery. The Manitoba Museum in Winnipeg, Canada, the Science and Media Museum in Bradford, England, and Yale's Peabody Museum all refer to their collections as "treasures" in the descriptions of their collections tours, and storage areas are often

referred to as "vaults." These event advertisements operate on the assumption that many members of the public are deeply curious about museum collections outside of exhibition. This may be true – when London's Science Museum offered storage tours in 2004 and 2005, 46 tours (with a total of 700 visitors) were fully booked with a waiting list of 200 people (Keene, 2005, p. 125).

While these arguments offer some rationale for choosing to implement visitable storage or behind-the-scenes tours over creating visible storage facilities, tours also pose challenges. Allowing public access, even highly controlled access, to storage areas can be perceived as a threat to the security of the objects, which these spaces are specifically designed to ensure. Walhimer argues against the "temptation" of offering "board members or potential donors" tours of collections storage, stating that "storage is considered a controlled space and the fewer people that enter the space, the less the risk of contamination, damage, or theft" (2015). These threats might make it difficult for some institutions to implement tours - as Podany (2012) stated, "conservators and collections managers already have a reputation of concentrating on threats and resisting, rather than facilitating, access" (p. 245).

The literature frequently references staff capacity as the most limiting factor on collections access in general, and behind-the-scenes tours require staff commitment to prepare for, facilitate, and ensure security during the tour. Approximately ninety-five percent of the Science Museum's budget for their behind-the-scenes tours went to staffing (Caesar, 2007). Other challenges cited include limited space (making it difficult to bring groups into storage spaces), collections being held off-site, and insufficient collections documentation (Keene, Stevenson, and Monti, 2008), as well as costs associated with maintaining the collections space and preparing and cleaning objects (Pes, as cited in Caesar, 2007). Despite these challenges,

many museums have implemented these programs, apparently believing that they are worth the costs and the risk.

How do visitors respond to behind-the-scenes tours?

Two studies have been conducted to understand visitor perspectives of behind-the-scenes tours, both in the UK. Caesar (2007) conducted a visitor survey during a series of BTS tours at the Science Museum in London in order to understand who attends BTS tours, what visitors expect from BTS tours, visitors' motivation for taking part in BTS tours, and the importance of public access to collections. Caesar's study found that, overall, visitors to the Science Museum's behind-the-scenes tours were happy with their experience, and the overwhelming majority said that the tour either matched or exceeded their expectations. Visitors' motivations for embarking on the tour tended to be a desire to be educated, be enlightened, or to learn something new. Most visitors had no idea what they would see on the tour, but were generally "astonished" at the vastness of the stored collections, with many calling the collections "inspiring" or a "treasure trove." Additionally, many visitors found the interpretation provided during the tour "informative," "fascinating," and "educational." Interestingly, Caesar discovered that many visitors "did not see that collections are useful in their own right," assuming that stored collections were simply objects that were unable to be displayed (p. 15). For example, participants in Caesar's study noted that they expected to see objects that were too large to be exhibited. Caesar does not explore this point in much depth, but her findings suggest that visitors are typically unaware of the possible uses for stored collections, such as research, or reasons why museums might collect objects without plans to display them.

Caesar argues that "carefully planned and prepared" BTS tours are worthwhile methods of providing access to stored collections. She sees interpretation provided by museum staff on BTS tours as a valuable replacement for the interpretive text that might be found in an exhibit, because many visitors share a preference for "spoken information associated with viewing objects" instead of "reading text and imagining the associated functions or objects" (p. 18). In a successful BTS tour, Caesar claims, the museum considers itself a "mediator" for learning instead of simply providing the audience with the information "it wants them to know" (p. 19).

Bond (2018) conducted a study based on a survey of museum professionals as well as audience evaluations at Birmingham's Museum Collections Center (MCC) and the Museum of London Archaeological Archive (MoLAA) in order to determine the potential benefits of visitable storage. Based on responses from both museum staff and visitors, Bond identified three major themes as important outcomes of visitable storage: serendipity, transparency, and wonder. Serendipity refers to the ability of storage tours to allow visitors to "discover the collections for themselves" and to promote a "feeling of adventure and discovery" (p. 68). In the MCC and MoLAA tours, visitors responded positively to opportunities to freely explore storage spaces. Visitable storage also encourages transparency by educating visitors on museum work and collecting practices. At MoLAA, 40 percent of visitors felt that they had learned something memorable about the work of the archive. Bond found that visitors responded most positively to a balanced approach between fully staff-guided tours ("monologues") and tours that provided opportunities for exploration and discovery. She argues that independent discovery promotes transparency because the museum is not fully in control of the messages being communicated, and guides can support this by providing information about the work of the institution and stories about individual objects.

Bond's final outcome of visitable storage is wonder; she argues that behind-the-scenes tours can create exciting experiences for visitors by instilling a sense of awe at the sight of the museum's stored collections. Wonder is "the bedazzling effect of encountering the entire collection in store" (p. 73). Visitors to the MCC and MoLAA reported being impressed by the knowledge of the size and scale of the museums' collections, with one visitor being "overwhelmed by the visual delights" in the storage spaces (p. 74).

While cost has been identified as a limiting factor in BTS tours, Bond (2018) found that very few museum staff respondents believed cost to be a danger to their ability to provide collections access, and 87 percent "considered publicly accessible storage a worthwhile allocation of resources" (p. 75). Bond argues that visitable storage is worthwhile because of visitor reports of vivid, memorable experiences, increased knowledge and understanding, and changing attitudes or opinions. At one of Bond's research sites, 57 percent of visitors reported that the experience had inspired them to undertake an activity such as visiting another museum or returning to the site again (p. 75).

Data from both the MCC and MoLAA revealed that many visitors to the visitable storage site had never participated in museum events before or could be considered "non-visitors," suggesting that visitable storage might be able to reach audiences that might not otherwise engage with the museum. One visitor said, "I like seeing the objects in a less precious environment" (p. 77), suggesting that storage spaces could be perceived as less imposing or exclusive. Bond concluded that, despite reaching a relatively small audience, visitable storage has benefits that can be measured through visitor impact rather than simply headcount.

Although the tours and visitable storage spaces represented in these two studies were quite different in scope and scale, both Bond and Caesar determined that they were successful

and worthwhile visitor experiences. Caesar's study provides a general view of visitors' satisfaction with BTS tours. Bond's results are more in-depth, exploring visitor reactions to different aspects of visitable storage and briefly mentioning the capacity of visitable storage to impact visitors' attitudes toward the museum. Both studies reveal visitor feelings of being surprised, impressed, or overwhelmed by the scale of collections, and both concluded that the tours are educational for visitors, with Bond specifically identifying the capacity of tours to educate visitors on the behind-the-scenes work of museums.

All museums have unique needs and facilities, and few of them have large offsite warehouses for storage. Therefore, the existing studies represent only a small subset of the kinds of behind-the-scenes experiences that are possible in museums, although they still provide a great deal of information about the possible benefits of visitable storage and BTS tours. This thesis research study expands on Bond and Caesar's UK studies by collecting data at North American institutions. It also expands the types of BTS experiences represented in the literature by focusing on onsite tours that are offered as regular programming; these tours may produce different results due to their frequency and the ability of staff to continually consider their success and update the programs. This study further explores some of the ideas presented by the previous studies, investigating the perceptions of visitors on behind-the-scenes tours as well as the influence that these tours have on visitors' attitudes towards museums and their collections, an idea that has only been briefly mentioned in the literature.

Chapter 3: Methods

The purpose of this study was to understand visitors' attitudes toward their behind-the-scenes museum tour experiences and the impact of those experiences on their attitudes toward museum collections. Three research questions guided this study:

1. What are visitors' perceptions of behind-the-scenes tours?
2. How do visitors on behind-the-scenes tours respond to collections?
3. How do behind-the-scenes tours impact visitors' attitudes toward the museum and its collections?

This study explored these questions by using a descriptive survey design, collecting data from museum visitors who participated in BTS tours at the California Academy of Sciences, San Francisco, CA, and the Royal British Columbia Museum, Vancouver, BC, Canada. This research design was selected in order to describe the attitudes of visitors who participate in these programs, with the intention of identifying trends and patterns in their responses.

Research Sites

Potential research sites were selected by identifying institutions that held behind-the-scenes tours which allowed visitors, not limited to members or donors, to enter collections storage areas. These were located through online searches; therefore, sites were only considered if they advertised their tours in some way online. In order to provide more opportunities for data collection, sites were selected that held behind-the-scenes tours at least once a month. Most of the programs found through searching held BTS tours as special events. Several sites in the UK and Australia conduct BTS tours regularly (including the Science and Media Museum, Bradford,

the Natural History Museum, London, the Melbourne Museum, and the Queensland Museum, Brisbane), but international travel was not feasible for this research. Four sites in the United States were located that held regular BTS tours during the time this research was being conducted; two of them (Yale Peabody Museum, New Haven, CT and Museum of the North, Fairbanks, AK) were not selected, primarily due to travel constraints. The two sites used for this research were the California Academy of Sciences (CAS) in San Francisco, CA and the Royal British Columbia Museum (RBCM) in Victoria, BC. Both sites' tours primarily feature their biological research collections.

Royal British Columbia Museum – Victoria, BC

The Royal British Columbia Museum (RBCM) is the provincial museum of British Columbia, housing collections of natural and human history as well as the BC archives. The museum's galleries focus on natural history, the modern history of British Columbia, and the history of British Columbia First Nations. The museum was originally founded in 1886 and merged with the archives in 2003. The current building containing the museum's exhibits was opened in 1968, and the museum's second building, the Fannin Tower, was completed in 1969, housing museum staff and collections. The museum's collections support ongoing research by staff as well as visiting researchers and researchers at other institutions through loans.

Behind-the-scenes tours at RBCM are conducted by volunteers and last about a half hour. Tours are limited to 10 people and are included in the cost of admission or with museum membership. Visitors can sign up for tours in person beginning an hour before each tour. Tour content is scripted, but visitors are encouraged to ask questions and contribute their personal reactions. Each tour focuses on a specific museum collection (either mammalogy or entomology) or the BC archives; the tours attended during this research study focused on the mammalogy

collection and the entomology collection. Tours visited an exhibit preparation area as well as collections storage areas, allowing visitors a look at some of the work done by museum staff. The mammals tour gave visitors the opportunity to see several preserved specimens, including a sea otter and a river otter, one of which visitors were allowed to touch. The entomology tour visited the entomology collections storage area, allowing visitors to look at trays of pinned insect specimens. During the entomology tour attended for this research, a visiting researcher also spoke to the visitors about their current research, illustrating the way collections were used for research. Tour guides provided information regarding methods of collecting and collections care as well as information about the specific specimens being viewed. Both tours ended by viewing a display of taxidermy bird specimens, collected by John Fannin, the museum's first curator. This provided an opportunity for tour guides to explain more of the museum's history.

California Academy of Sciences – San Francisco, CA

The California Academy of Sciences is a scientific institution housing an aquarium, rainforest, planetarium, and natural history museum. The Academy's staff regularly conducts new scientific research, while the Academy also welcomes visiting researchers to use their collections. The Academy is home to the Institute for Biodiversity Science and Sustainability, which is responsible for the institution's research collection of 46 million scientific specimens. The Academy originally opened in 1853, but its original building and many of its collections were destroyed in San Francisco's 1906 earthquake. The Academy then reopened in 1916 in Golden Gate Park. The building was renovated between 2005 and 2008; the new building was designed with sustainability in mind and attained double LEED platinum status. The new Academy includes a living roof that contains only native California plants and is engineered to contribute to the passive heating and cooling of the building.

Behind-the-scenes tours at the Academy are conducted by staff members and last about an hour. Tour tickets are an additional cost (with tickets being discounted for members), and tickets can be purchased online in advance or at the Academy. Tours have a maximum capacity of 14 guests. Tours begin with an introduction to the history of the Academy, after which tour groups are led to the roof. On the roof, the tour guides explain how the roof was designed and its function. Groups are led through an "emergency exit" gate onto a path through the roof's vegetation, where tour guides give a more in-depth explanation of the plants on the roof and how the roof is maintained. The tour guides also discuss how the roof is used to assist in the processing of whale bones that are part of the museum's collection - after being cleaned by dermestid beetles, the bones are buried on the roof to continue the decomposition process, then unearthed and left in the sun for another two to three years to be bleached by the sun. Several whale bones were visible during the tours attended for this research.

After leaving the roof, the tour group visits a number of collections storage areas, depending on the time remaining in the tour and the interests of the visitors. Collections which are available are determined through cooperation with collections managers; tours attended during this research visited botany, mammalogy, herpetology, and ichthyology collections. During this section of the tour, visitors are free to look at any specimens in aisles selected by the guide. Guides provide information about scientific specimen collecting, storage, and care practices, the history of the collections, and scientific research conducted using the collections. Following the biology collections, the tour visits the "gem vault," a room dedicated to the storage of valuable geology specimens. The tour ends in the Project Lab, a space visible from the Academy's public floor, in which scientists and staff conduct work, including digitization projects. Throughout the tour, guests are encouraged to ask questions, take photos, and make

requests to see specimens more closely. Following the tour, the tour passes provide visitors with special benefits, including store and food discounts and reserved planetarium seating.

Data Collection and Sampling

Data were collected by the researcher at two RBCM tours and four CAS tours, with additional data collected by CAS staff. Data were collected through the use of paper questionnaires distributed to guests on BTS tours. At the beginning of each tour, the researcher was introduced by the museum's tour guide and explained the purpose and methods of the study. The researcher then accompanied each tour, distributing questionnaires at the end of the program. Questionnaires were completed immediately by participants and returned to the researcher, who stored the questionnaires in a sealed envelope.

In order to maximize the potential sample size, all tour guests were given the option of participating in the study after confirming that they were at least 18 years old. This sampling method was deemed necessary as no tour attended for this study consisted of more than ten guests, making the pool of potential participants very small. A total of 28 questionnaires were collected: 3 collected onsite at RBCM, 13 collected onsite at CAS, with an additional 12 collected by staff at both sites on behalf of the researcher (4 at RBCM and 8 at CAS). Site staff were asked to collect additional questionnaires in order to further expand the sample size. Due to the lack of facilitation required in administering the questionnaires, it was decided that this would be a valid way of expanding the sample without seriously impacting the results of the study.

Questionnaires consisted of a mix of open- and closed-ended questions (see Appendix A). The two open-ended questions asked guests' motivation for attending the tours and the

guests' favorite part of the tours. Four closed-ended questions asked about guests' familiarity with the site and its collections and their previous experience with BTS tours. Ten Likert scale questions were intended to gather data on guests' tour experience, reaction to the tour content, and the tour's impact on their feelings toward the site and its collections.

Questionnaires also included an option to participate in a follow-up interview (see Appendix B for interview guide). These were intended to take place two weeks after the conclusion of onsite research; however, none of these interviews were conducted due to lack of response despite two rounds of email solicitations.

Perception-based measures were used in the questionnaire to understand the immediate responses of visitors to their tour experience. These measures were chosen in order to study the way participants understood their experience, as this study hoped to center the perspective of the visitor. Without more in-depth interview data as a supplement, the questionnaire provides a brief snapshot of the visitor experience immediately following their tour.

Data Analysis

All questionnaire responses were entered into Excel. Qualitative data were analyzed for emergent themes evident in the open-ended responses. Based on the limited sample, this data was not inductively coded using a rubric; but rather examined generally for patterns and trends. Quantitative data were analyzed using basic descriptive statistics (e.g. frequencies) and crosstabs.

Institutional Review Board (IRB) Exemption

This research was granted IRB exemption from the Institutional Review Board at the University of Washington on January 22, 2018.

Limitations

This study was limited in scope first by the number of potential research sites. Very few museums or similar institutions hold behind-the-scenes tours on a regular basis; more often, BTS tours are held as special events or solely by appointment. Therefore, only four potential research sites in the US were identified, and the two selected were the most geographically accessible.

Sample size was limited by the size of these tours and the small number of tours the researcher was able to attend. For the most part, BTS tours at each site have around ten guests or less, often including children. Additionally, RBCM holds fewer tours than CAS, and during data collection, the tours were very small. For this reason, CAS is far more heavily represented in the data than RBCM. Data from across both sites were aggregated for analysis in order to include the responses of as many visitors as possible, but the imbalance of responses may also be a limitation for this study. It is also possible that questionnaire administration by staff on behalf of the researcher may have slightly impacted visitors' responses; when the researcher was present, it was easier to make clear that the study was unaffiliated with the site, but administration by staff may have made visitors more likely to believe the study was an evaluation by the site and might have influenced their answers.

A final limitation of this study was the inability to conduct follow-up interviews. These interviews were intended to provide more in-depth data regarding visitors' experiences during the tour and the impact of the tour on their attitudes toward the site and its collections. The interview guides were primarily geared toward answering the second research question of this study: attitudes toward museums and their collections. This was more difficult to assess with the questionnaire; therefore, comparatively little of the data gathered during this study is directly

related to this question. In general, this study was limited by the lack of in-depth data that would have been gathered by these follow-up interviews. Instead, the results of this study provide more of an overview of visitors' initial responses to their behind-the-scenes tours.

Chapter 4: Results

The purpose of this study was to understand visitors' attitudes toward their behind-the-scenes museum tour experiences and the impact of those experiences on their attitudes toward museum collections. This chapter presents findings framed by this study's guiding research questions.

The BTS tours at both California Academy of Sciences and the Royal British Columbia Museum prominently feature the sites' research collections, especially biology. Each site's tours educate visitors on collections management practices and institutional history, while also providing scientific facts about the specimens viewed on the tour. Despite differences in format, both tours provide visitors a glimpse at the behind-the-scenes operations of the institution and communicate similar ideas about the significance of natural history research collections. Because of the tours' similarities, data from both sites have been aggregated for the purpose of this analysis.

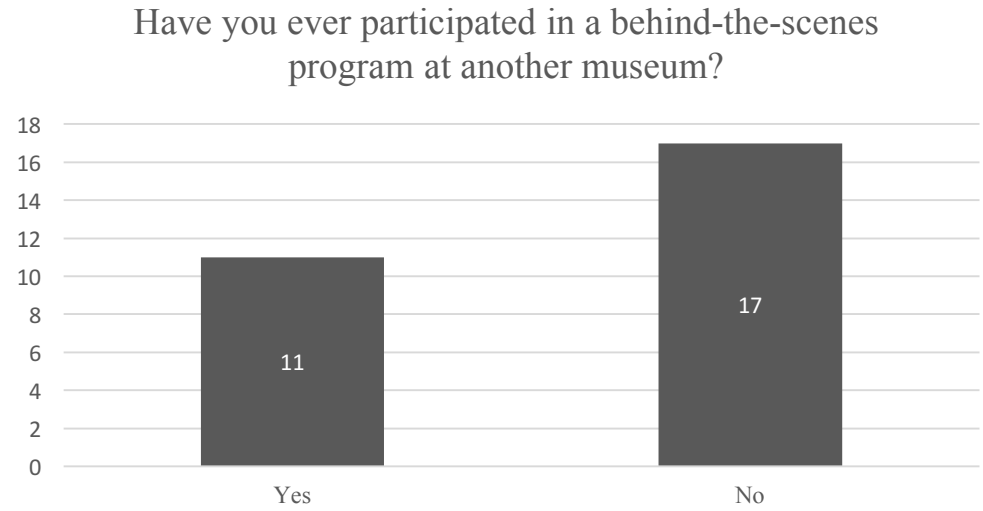
Background and Motivation

No demographic information was collected from participants, as demographics were not considered directly relevant to this study's research questions. Instead, the questionnaire began with a series of questions intended to understand BTS tour participants' level of familiarity and motivation, in order to provide context for their responses to the tour experience. First, visitors were asked how often they visited the museum at which the tour was held. Most participants had never visited the museum before or visited less than once a year (see Figure 1).

Figure 1: Responses to the question “How often do you visit this museum?” (n=28)

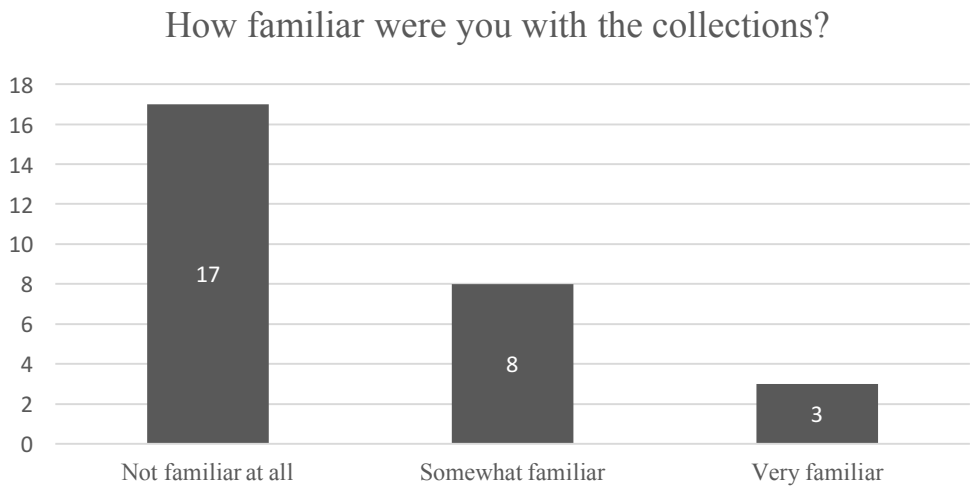
When asked how many times they had participated in the behind-the-scenes tour at the museum in question, all but two respondents had not participated in the program before. Visitors were also asked if they had participated in a similar behind-the-scenes program at another museum, and 11 of the 28 visitors reported having participated in a similar program (see Figure 2). Some of the institutions cited included the Museum of Biological Diversity, the Monterey Bay Aquarium, and Alcatraz.

Figure 2: Responses to the question “Have you ever participated in a behind-the-scenes program at another museum?” (n=28)



Visitors were then asked to indicate their level of familiarity with the museum's collections prior to their tour. Most of the respondents said they were not familiar at all with the collections, while only three considered themselves very familiar (see Figure 3).

Figure 3: Responses to the question "Prior to this tour, how familiar were you with the collections at this museum?" (n=28)



These responses indicate that these tours attracted visitors with varying levels of familiarity, but the majority of the tour participants were first-time visitors with little familiarity with the museum's collections.

Visitors were asked why they chose to participate in the tour (see Table 1). Six categories of responses were identified: i) interest in tour content or experience; ii) participating in an organized group activity; iii) participating in a family activity; iv) the uniqueness or exclusivity of the tour experience; v) the cost of the tour or benefits provided by the tour; and vi) having the tour suggested to them by staff. The largest number of respondents specified their interest in the tour content or experience as their reason for participating in the tour. In general, responses of this type noted an interest in either science or the institution itself.

Table 1: Responses to "Why did you choose to participate in this program today?"
Total number of responses is greater than 28 because many participants provided multiple reasons.

	Number of Participants (n=28)	**Examples**
Interest in tour content or experience	11	"I wanted to learn more about the museum and how it operates" "Wanted to get more info that is not available to the public. And wanted to see the gems" "Have museum come to life" "I like science stuff"
Organized group activity	6	"Lead school group" "It was through our school program"
Family activity	5	"Surprise birthday for my animal-loving son" "Vacation visit, wife has wanted to do it for a long time"
Uniqueness or exclusivity	3	"To do something special and different" "Access to things not available with general access"
Cost or benefits	3	"Came with membership" "The extra benefits (planetarium seating)
Suggested by staff	3	"We were approached as we came in" "Someone asked us / we were curious"

Visitor Perceptions of BTS Tours

In order to understand visitors' perceptions of BTS tours, participants were first asked what their favorite or most memorable aspect of the tour was. Five categories of responses were identified: i) specific objects or types of objects; ii) specific locations visited on the tour; iii) general references to collections; iv) learning or knowledge; and v) tour structure (see Table 2). The largest number of respondents identified a specific object or type of objects as their favorite or most memorable aspect of the tour. In general, participants were able to cite specific and

widely varied aspects of the tour that appealed to them or were memorable, and often cited more than one example.

Table 2: Responses to "What was your favorite or most memorable part of today's tour?"
Total number of responses is greater than 28 because many participants' responses included multiple tour aspects.

	Number of participants (n=28)	**Examples**
Specific objects or types of objects	12	"Many. Otter was soft (touch and feel). Compressed vertebrae of whales." "Seeing the collections of fish and rocks." "Dead animals."
Specific locations	9	"I really enjoyed walking through the living roof." "Getting to see the collection rooms."
General references to collections	7	"Viewing the massive collections not shown to the public." "Behind-the-scenes specimen collection and storage."
Learning or knowledge	5	"Information about the whales." "I like learning about the process in collecting the samples." "Loved hearing how carcasses were prepared"
Tour structure or interpretation	4	"I liked how we look at different stuff, instead of just talking." "Knowledge of tour guide." "The educative approach"

Visitors were then asked to rate their agreement with several statements, using a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5), in order to understand their responses to the tour experience. These statements were:

The information provided by staff during the tour was educational.

Attending this tour was a good use of my time.

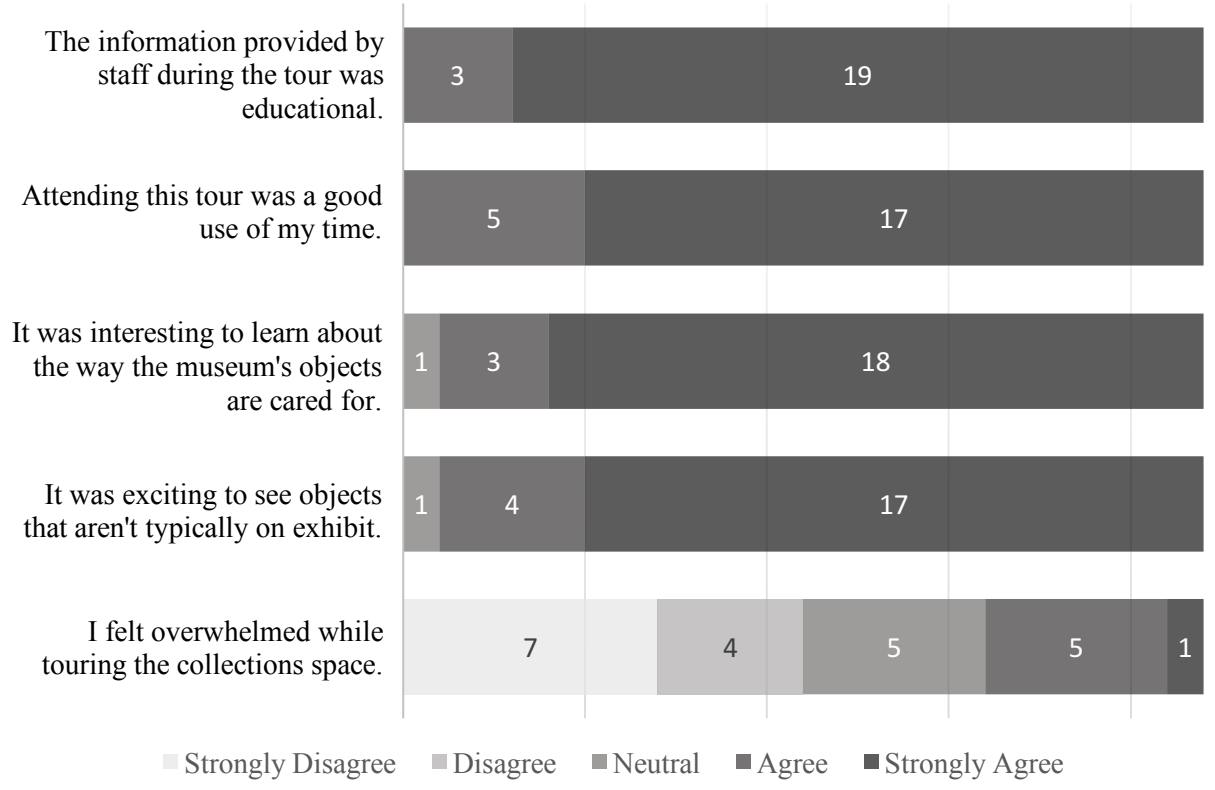
It was interesting to learn about the way the museum's objects are cared for.

It was exciting to see objects that aren't typically on exhibit.

I felt overwhelmed while touring the collections space.

Responses to the first four statements in this group were overwhelmingly positive. The majority of visitors strongly agreed with these statements, with no visitors expressing disagreement (see Figure 4). All visitors agreed that the information provided by staff during the tour was educational and that the tour was a good use of their time. Only the statement "I felt overwhelmed while touring the collections space" generated mixed responses.

Figure 4: Visitors' responses to the tour experience.



Impact on Attitudes Toward Museum and Collections

An additional set of Likert scales were used to understand the impact of a behind-the-scenes tour on visitors' attitudes toward the museum and its collections. Visitors were asked to rate their agreement with several statements, using a 5-point scale from Strongly Disagree (1) to Strongly Agree (5). These statements were:

I was surprised by the number of objects in storage.

I feel like I can personally relate to the museum's collections after this tour.

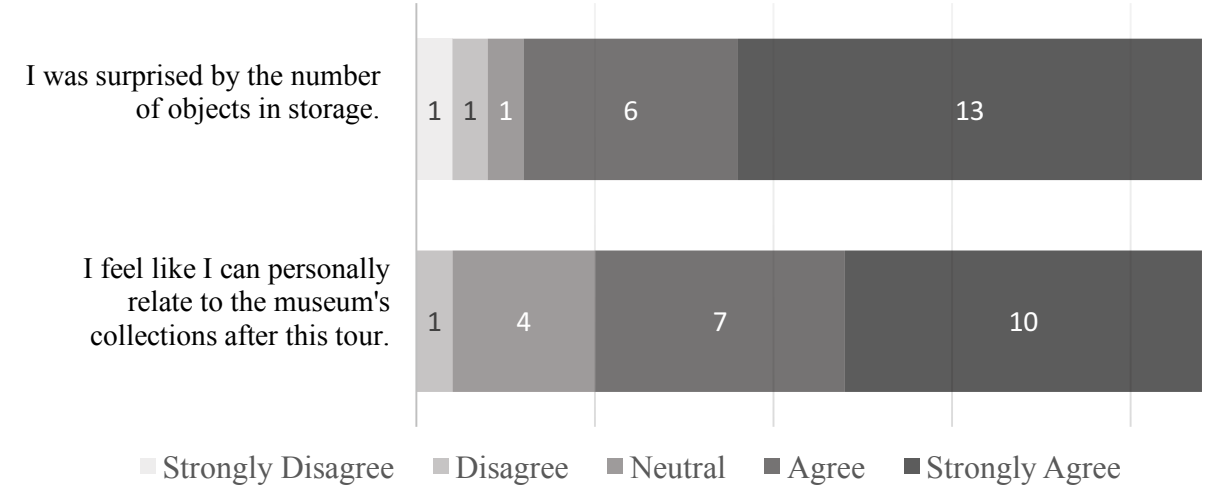
I have a better understanding of how museum collections are cared for after this tour.

I feel that the museum's stored collections are an important resource.

This tour positively impacted my opinion of the museum.

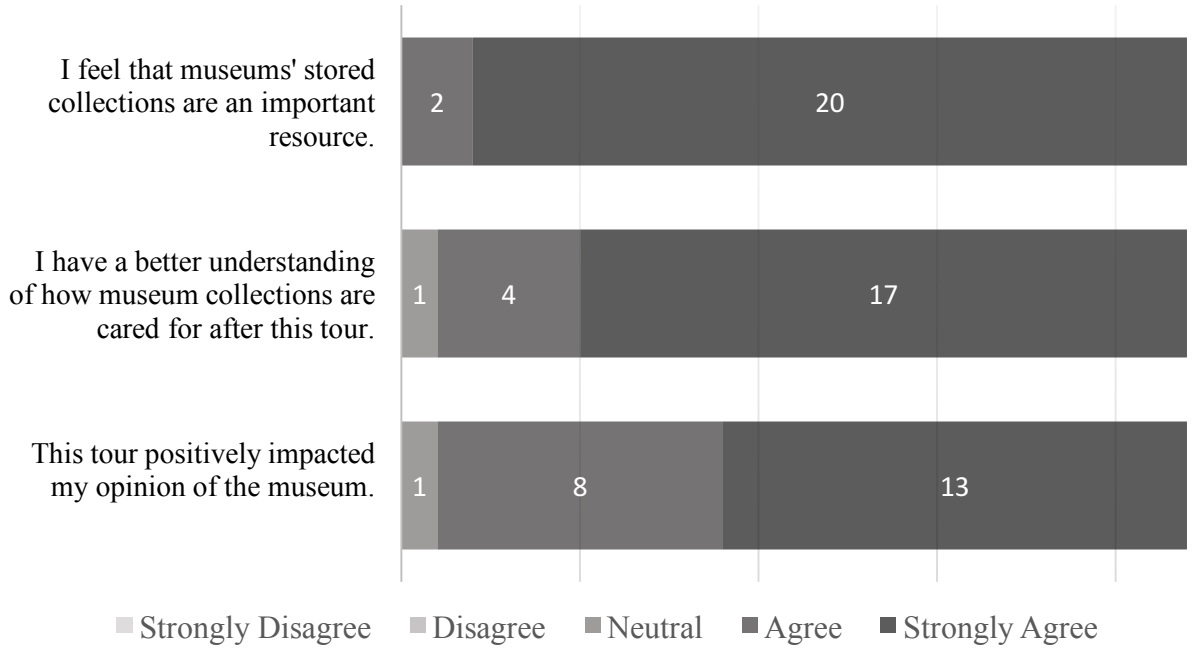
Visitors generally agreed that they were surprised by the number of objects in storage. Responses to the statement "I feel like I can personally relate to the museum's collections after this tour" were somewhat mixed. Compared to other statements in this group, visitors were less likely to indicate that they *strongly* felt that they could personally relate to the collections (see Figure 5).

Figure 5: Visitor feelings of surprise and ability to personally relate to the museum's collections.



Responses to the statements “I have a better understanding of how museum collections are cared for after this tour,” “I feel that the museum’s stored collections are an important resource,” and “This tour positively impacted my opinion of the museum” were overwhelmingly positive (see Figure 6).

Figure 6: Visitor attitudes toward the museum and its collections.



Chapter 5: Conclusions and Implications

The purpose of this study was to understand visitors' attitudes toward their behind-the-scenes museum tour experiences and the impact of those experiences on their attitudes toward museum collections. Three research questions guided this study:

1. What are visitors' perceptions of behind-the-scenes tours?
2. How do visitors on behind-the-scenes tours respond to collections?
3. How do behind-the-scenes tours impact visitors' attitudes toward the museum and its collections?

In order to describe the attitudes of tour participants, data were collected from 28 visitors following BTS tours at two institutions (the California Academy of Sciences and the Royal British Columbia Museum) using questionnaires. This study was intended to expand on existing research that indicates that visitors enjoy and benefit from BTS tours (Caesar, 2007; Bond, 2018) by further exploring visitors' responses to the tour experience and their attitudes regarding museum collections.

Conclusions

Who attends behind-the-scenes tours? The participants of this study were primarily individuals who had never, or rarely, visited the museum at which they were attending a BTS tour, and were unfamiliar with the museum's collections. Bond (2018), in her study of visitor responses to visitable storage, also described her sample as largely non-visitors, and Caesar (2007) indicates that most of her participants had "only a vague idea, or no idea" of what they would see in storage (p. 8). In terms of familiarity, the sample for this study feels very similar to those from prior studies. In general, these studies all seem to suggest that BTS tours are reaching

individuals who are casual museum visitors rather than simply those with a particular interest in the museum or its subject matter.

What are visitors' perceptions of behind-the-scenes tours? Though this may seem like a simple statement, it is significant to note that the results of this study suggest that visitors tend to respond positively to BTS tours. This is consistent with the results of both Bond (2018) and Caesar's (2007) studies which found that visitors enjoyed these experiences. Participants in this study tended to agree that the tours were exciting, interesting, and a good use of their time. Interestingly, visitors in this study were mixed on whether or not they found their visit to collections storage areas overwhelming, while Caesar's (2007) participants generally felt overwhelmed by the scale of collections. This difference may be due to differences in the sizes of the institutions at which the tours took place (Caesar's study was at the Science Museum in London), the number or types of collections visited on the tours, or simply the participants themselves. A feeling of being *overwhelmed* is also not necessarily negative – as Bond (2018) argues, this feeling is closely linked to a sense of wonder and awe, which she puts forward as a positive outcome of BTS tours. The questionnaire used in this study provided no way of clarifying how visitors conceptualized this emotion; therefore, it is not possible to classify *feeling overwhelmed* as either a negative or positive response.

How do visitors on behind-the-scenes tours respond to collections? When advertised, BTS tours seem to emphasize the exclusivity and rarity of the experience alongside the opportunity to learn about collections. The results of this study suggest that visitors on BTS tours respond primarily to the tour content, particularly museum collections, rather than the exclusivity of the experience. Generally, visitors did not emphasize the uniqueness or exclusivity of the experience when describing what their favorite parts of the tours were. Instead, they described

specific objects they had the opportunity to see, specific locations that they visited on the tour, the opportunity to see the collections, or information they learned during the tour (frequently regarding collections practices). Whether or not visitors joined the tours because they were interested in the museum's collections or because they were looking for a fun family outing, most responded in a way that suggests the collections were able to capture their attention and their interest. The responses indicate that many participants were interested in many different aspects of collections, whether they enjoyed learning about the processes involved in collecting specimens, seeing how they are stored, or seeing individual objects.

The majority of participants in this study reported that they were surprised by the quantity of objects in storage. This is consistent with studies which suggest that museum visitors are not aware of the amount of museum collections that are not displayed (Gyllenhaal, Perry, and Forland, 1996). Caesar (2007) and Bond (2018) also found that many visitors on BTS tours reported being surprised at the size of stored museum collections. Bond (2018) linked this feeling of surprise to *wonder*, which she identifies as a valuable outcome of visitable storage. At her research sites, she says, "the sheer magnitude of collections created a vivid impression and left audiences wanting to see more" (p. 74). It is possible that this study's participants' interest in collections while on the tour may have been enhanced by their feeling of surprise at the size of the collections.

How do behind-the-scenes tours impact visitors' attitudes toward the museum and its collections? Previous authors have argued that BTS tours and visibility of stored collections can positively affect visitors' attitudes toward museums and their collections. The Smithsonian Institution (2005) argues that by seeing museums "demystified," the public become better educated on museum collections and are potentially more willing to support the museum. Bond

(2018) also found that a significant number of visitors reported changed attitudes as a result of their BTS experiences, including an "encouraging" number that were "inspired to undertake a future activity" related to the museum (p. 76). The results of this study suggest that BTS tours can positively impact visitors' opinions of museums while also educating visitors on collections practices and the significance of museum collections. Visitors overwhelmingly agreed that the tours had given them a better understanding of collections care and that they believed that museum collections were important resources. This suggests that BTS tours are successful at educating visitors on museum functions and perhaps "demystifying" the museum (Smithsonian Institution, 2005), though this does not prove that this knowledge has any lasting impact on visitors' relationship with the museum. This scope of this study restricted the ability to examine long-term impacts of a BTS experience, but most visitors reported that the tour had positively impacted their opinion of the museum.

Addressing Limitations of this Study

The unused interview guide written for this study (see Appendix B) was designed to gain a deeper understanding of participants' reactions to the tour by having them describe their memories of the experience and their emotional responses in their own words. The interview would also have asked questions regarding the influence the tour had on participants' opinion of the museum, their perception of collections, and their opinion on the value of providing access to collections in this way. Therefore, the interview was vital to the design of the study, which intended to explore the value of behind-the-scenes tours from the perspective of visitors. Without interview data, this study provides only a brief picture of participant reactions in the moments following their tour. This study would have been strengthened by conducting these interviews.

Several factors likely contributed to the difficulty in getting these participant interviews. Interviews could not be conducted on site due to the structure of the BTS tours; participants would be gathered in one location at one time, making it difficult to conduct individual interviews. Only five of the participants opted in to the interview and provided contact information during the questionnaire phase. Additionally, personal circumstances prevented the researcher from contacting participants immediately following the initial data collection. Emails were sent out approximately three weeks from data collection, so it is likely that participants' memories of agreeing to participate in the interview phase were not as immediate. These challenges could potentially be faced by emphasizing the primacy of interview data from the beginning, rather than considering the interviews a secondary phase of the research. Communicating the importance of interview data may encourage visitors to participate in this phase of data collection. More interview data could likely be gathered if these interviews could be conducted onsite, rather than as a follow-up; future researchers may wish to work with research sites to develop a way to conduct these interviews without requiring participants to wait in one location while other interviews are being conducted. Research sites may also be able to assist with offering incentives for participating, which may encourage more guests to participate. Additionally, being prompt in contacting study participants may increase the response rate.

Additional methods could also have improved the results of this study. In particular, observation and recording the conversations of participants may have made it possible to measure participant engagement with tour content. For example, these methods may have recorded participants asking questions of tour guides or relating the tour content to their personal experiences. These things certainly occurred on all the tours in this study to some extent, but no methodology was designed to measure them.

Further Research

The fact that this study was conducted on tours of biological research collections raised some interesting points. Many visitors referenced their interest in science as a motivation for taking these tours, and many enjoyed learning about the process involved in collecting, preparing, and preserving scientific specimens in natural history collections. This study was designed with general collections in mind; it could be valuable for further research to focus on tours of scientific research collections specifically. These tours may be an interesting way to educate visitors on the research function of museums or introduce visitors to some of the work done in biological research, and further research could be done on BTS tours as a form of science communication. Additionally, it would be interesting to conduct research on BTS tours focusing on different kinds of collections (e.g. archives, historical artifacts) to discover whether participant responses to these tours are similar and to explore the unique qualities of each kind of tour.

It is also vital to consider the ethical dimension of providing collections access, and of BTS tours as a method of providing access and educating the public about museum work. While open storage methods such as BTS tours may be capable of democratizing the museum by allowing visitors to learn and form their own opinions about museum collections (Bond, 2018; Smithsonian Institution, 2005), BTS tours depend on interpretation by staff or volunteers and typically only allow visitors into select collections spaces. Therefore, the experience is still "curated" somewhat by the museum. Because of this, complete transparency is rarely possible; BTS tours may still serve to reinforce the authority of the museum rather than permitting visitors to develop fully informed opinions (Reeves, 2018). When studying and developing BTS tours,

museums must be conscious of the level of transparency they are able to provide. Ideally, tours should be designed to provide clear and honest information about the collections practices of the museum if they are to serve the public.

Additionally, it is important to consider who is being served by BTS tours and other methods of providing collections access. This study found that many of the visitors on BTS tours were not frequent visitors of the museum, if they had visited at all, a finding which is in line with Bond's (2018) study. Bond argues that visitable storage spaces may appeal to non-museum visitors, and therefore may help museums reach out to an expanded audience. However, this claim should be seriously considered when studying BTS tours. Caesar (2007) found that the majority of visitors to the Science Museum's tours were either employed or retired, and were between the ages of 46 and 65; Caesar states that many of the tour participants could be presumed to "have higher incomes and well-established careers, which allow them to pursue their chosen interests" (p. 6). This study did not collect any demographic data, but further research should carefully consider the audience of BTS tours as well as their costs; it is possible that due to financial and time constraints, BTS tours are not accessible to a large segment of the public. They may only be able to reach the same audience that would typically visit the museum, and therefore may not truly be expanding access at all.

The tours attended on this study were similar in content and theme but varied in approach and structure. This study focused on the visitors' perspectives, but if visitors seem to value these tours and museums continue to implement them, it seems reasonable that there should be more discussion in the field of how these tours are structured and managed and how their possible risks or drawbacks can be mitigated. This is especially apparent considering the difficulties that can arise in trying to promote physical collections access. Despite the possible benefits of BTS

tours, they still pose threats to the security and care of collections objects, which can make collaboration between collections care staff and those in charge of planning tours challenging (Walhimer, 2015; Podany, 2012). Much more conversation between museum professionals is necessary to encourage cooperation and ensure these tours serve the needs of the museum, the objects, and the public. Further research, incorporating both museum professionals' perspectives and the perspectives of visitors, could contribute to the development of best practices for BTS tours.

Implications

The results of this study suggest that visitors have positive experiences attending BTS tours. These tours are enjoyable and educational experiences for visitors who attend them, whether they have never been to the museum before or attend several times a year. They enjoy learning about the behind-the-scenes work that takes place at the museum, and they enjoy the opportunity to view objects outside of the exhibit space. These tours might also be valuable in their ability to positively influence visitors' perceptions of the museum. There is little consensus in the field regarding the purpose of BTS tours and other strategies that allow visitors to see more of museums' stored collections; more research and discussion is required to understand what these tours can achieve. This study does not prove that BTS tours should be implemented more widely in museums; however, it suggests that they are worth further study and discussion due to their potential for creating meaningful experiences for visitors while utilizing collections that might never leave their shelves.

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Appendix A: Questionnaire Instrument

University of Washington, Museology Graduate Program
Researcher: Morgan McGee | lmmcgee1@uw.edu
Thesis Advisor: Angelina Ong | aong@uw.edu

Thank you for participating in my Master's Thesis research study. This brief questionnaire aims to capture your thoughts about behind-the-scenes programs at museums—similar to the one you just participated in. There are no right or wrong answers and your participation is voluntary. Even if you provide your contact information (optional) at the end of the survey, your responses will remain confidential.

-

1. How often do you visit the California Academy of Sciences?
   ☐ This is my first time ☐ Less than once a year ☐ 1-3 times a year
   ☐ 4-6 times a year ☐ More than 6 times a year

2. How many times have you participated in this program at the California Academy of Sciences?
   ☐ This is my first time ☐ 1-3 times ☐ 4+ times

3. Have you ever participated in a behind-the-scenes program like this at another museum?
   ☐ Yes ☐ No
   If so, where? _____

4. Prior to this tour, how familiar were you with the collections at this museum?
   ☐ Not familiar at all ☐ Somewhat familiar ☐ Very familiar

5. Why did you choose to participate in this program today?
_____
_____
_____

6. What was your favorite or most memorable part of today's program?
_____
_____
_____

7. This section consists of questions about the content of today's tour. Please think about the following statements and check the box that most closely represents how you feel.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I was surprised by the number of objects in storage.					
I felt overwhelmed while touring the collections space.					
It was exciting to see objects that aren't typically on exhibit.					
It was interesting to learn about the way the museum's objects are cared for.					
The information provided by staff during the tour was educational.					

8. This section consists of questions about your feelings toward this tour and the museum's collections. Please think about the following statements and check the box that most closely represents how you feel.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have a better understanding of how museum collections are cared for after this tour.					
I feel that the museum's stored collections are an important resource.					
I feel like I can personally relate to the museum's collections after this tour.					
This tour positively impacted my opinion of the museum.					
Attending this tour was a good use of my time.					

I would like to further explore your experiences in today's behind-the-scenes tour and how this tour has impacted your feelings toward the museum and its collections. If you would be willing to participate in a short telephone interview in the next two weeks, please provide your contact information below. Participation in this phase of this study is voluntary, and your contact information will remain confidential.

Name:

Email:

Thank you for your participation!

Appendix B: Interview Guide (unused)

Consent Script:

Thank you for agreeing to speak with me today. Before we begin, let me clarify that I am asking you to participate in an interview that is part of my Master's Thesis research at the University of Washington. The purpose of this research is to understand the attitudes of visitors who participate in behind-the-scenes programs at museums. The interview will take about 20 minutes and will be audio recorded for research purposes. Only I will listen to the recording and your responses are confidential. Your name will not be identified in this research, and while I may quote you, that quote will not be attributed to you. Your participation is voluntary; refusal to participate will involve no penalty or loss of benefits, and you may discontinue participation at any time. If you have any questions in the future, you may contact me at the contact information I have shared with you.

Do you have any questions? Do you agree to participate in the interview?

Interview Questions:

1. Think back to that day. What about the tour is most memorable for you? Describe that experience or scenario for me. Tell me more about that.

2. When thinking back, can you recall how you felt during the tour?
    - For example, did you feel surprised? Overwhelmed? Curious?

3. To what extent has this experience helped you see or understand the museum's collection in a different way? Describe how your perception of those collections may have changed.

4. Did the tour impact your experience viewing the museum's exhibits? If so, how?
    - Probe: Were there exhibits you visited after the tour was over? Did you think about them differently when you were looking at them afterwards? In what ways? What were some of the things your group discussed about those exhibits?
    - Probe: Imagine going to another museum today. Do you think you might view those exhibits in a different way after this tour?

5. Has your tour experience changed your opinion of the museum? Why or why not? In what ways might it have changed your views?
    - Probe: its brand or reputation, its mission/work, its staff and programs, etc.

6. A goal of behind-the-scenes programs like this one is to improve visitors' access to collections that aren't normally on exhibit. Do you think it is valuable for museums to make these collections more visible and available in this way?

7. Is there anything else about your behind-the-experience you would like to talk about?