

## **Visitor Understandings About Research, Collections, and Behind-the-Scenes at The Field Museum**

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### **Abstract**

Many natural history museums have research and research collections as core functions of the institution and want their visitors to understand their research missions. This paper presents results from a front end evaluation study of how visitors currently understand and think about research and collections behind-the-scenes at The Field Museum.

Using in-depth, naturalistic interviews with more than 100 museum visitors, we found that most visitors that we spoke with: (1) thought about behind-the-scenes primarily in terms of exhibits; (2) didn't think very much or very accurately about the research function of the museum and were not very curious about it on their own; (3) greatly underestimated the size of the collections and overestimated the percentage on display; and (4) had little appreciation of the role that collections play in scientific research. Visitors often believed that only anthropologists, archeologists, and/or paleontologists were present in the museum. They tended to believe that these researchers were actually employed by universities or spent most of their time working on exhibits.

Communicating with visitors about the museum's research mission will be difficult, because these ideas contradict what some visitors think they already know about behind-the-scenes at the museum.

### Introduction

Located in Chicago, Illinois, The Field Museum is a large research institution which focuses on the study and exhibition of "the Earth and its people." As such, it employs a large staff of research scientists who conduct studies covering a wide range of topics and issues. Although the research arm of the museum is divided into four academic departments -- zoology, botany, geology, and anthropology -- much of the museum's research is actually interdisciplinary in its scope. The majority of the museum's scientists are trained in the biological sciences and focus particularly on systematics.

This study was initiated as part of the pre-planning phase for a proposed exhibit about the research functions of The Field Museum. This report presents selected findings from an extensive front-end evaluation of visitors' understandings of the research that goes on behind-the-scenes at The Field Museum (Perry & Forland, 1995). Exhibit developers wanted answers to a variety of questions

about visitors: How do they think about what goes on behind the scenes? To what extent are they aware that the museum is a scientific research institution? What questions do visitors have about what goes on behind-the-scenes? How do they think about the study of collections? What is their understanding of scientific--and more specifically systematics--research? And more generally, what meaning does science have for them in their lives? To get at these issues, the data collection focused on two major questions:

*How do museum visitors understand and think about the scientific research that goes on behind-the-scenes at The Field Museum?*

*In what ways do visitors understand science and scientific research and how does it fit into their lives?*

This report will focus on our answers to the first question. In particular, it will detail a knowledge hierarchy of visitor understandings about research at The Field Museum, discuss what visitors understand about the researchers who work there, and reveal some of our visitors' beliefs about the role of collections at The Field Museum.

### Methodology

This study employed a naturalistic methodology (Lincoln & Guba, 1985). This methodology is grounded in the belief that the best way to study a particular research question is to look at as many aspects of it in as much detail as possible in the natural setting. The purpose of naturalistic inquiry is understanding, while more traditional research is often based on prediction and control. Naturalistic inquiry is based on the assumption that if we can understand our environment--or the particular phenomenon under investigation--in as complete a way as possible, we will be able to make better judgments about what applies in another situation.

The data for this report came from a variety of sources, but primarily face-to-face depth interviews with casual museum visitors and museum members. A total of 113 depth interviews were conducted, usually lasting about 20 minutes. Most interviews were tape recorded, and most tape recorded interviews were later transcribed. Using purposive sampling methodology (Lincoln & Guba, 1985), the casual visitors were selected to include as wide a range of respondents as possible including age, gender, race, experience and background with science and with the museum, and configuration of the social group with whom they were visiting. A total of 101 casual visitors were interviewed on the museum floor and offered a small gift in exchange for participating. Twelve randomly selected museum members were interviewed over the phone.

Naturalistic inquiry is based on building an intimacy with the respondents which allows them to talk frankly and openly about the subject matter, and to give a more honest rather than canned or cued response. Although we relied on pre-determined interview protocols to focus the interviews with each type of respondent, we did not ask any set group of questions. Instead our intent was to get the answers to the two research questions mentioned above by approaching the issues from as many different routes as necessary, listening carefully to the words the visitors used and the ways they described their understandings. The conversations often went in unanticipated directions and yielded

rich and interesting information that we would otherwise have missed. Casual visitors were usually asked to participate in a card sort activity, using 25-30 cards with various words written on them (e.g., scientist, research, paleontologist, systematics, collections, field expedition, etc.). After sorting the cards into whatever categories they wanted to, visitors were engaged in discussion of their piles and what they were thinking about as they engaged in the activity.

## Results

In conducting this study, many interesting themes emerged from the data. The following paragraphs describe these themes, including comments from the interviews to illustrate various points (indented and in italics). When appropriate, we refer to quantities of visitors who held a particular viewpoint with the words *all*, *most*, *many*, *some*, *few*, and *none*. Because the sampling was purposive rather than random, these quantities should be interpreted only as descriptive of the population interviewed for the study, rather than as predictive to the larger population of all Field Museum visitors.

As we collected our data it quickly became apparent that most visitors' primary way of thinking about The Field Museum was through the exhibits. When visitors talked about what goes on behind-the-scenes, they tended to talk about exhibit development, fabrication, and maintenance. They talked about objects being kept in storage because there wasn't enough room to have them all on display, and they talked of the purpose of collecting as being to find interesting things to show the public. It became clear that the visitors we talked with overwhelmingly perceived The Field Museum as a place to display interesting things and teach the public about them, as opposed to being a research institution.

### **A Hierarchy of Visitor Understandings About Field Museum Research**

One of the main purposes of this evaluation study was to identify and describe the various ways in which visitors understand and think about the research that goes on behind-the-scenes at The Field Museum. The knowledge hierarchy constructed for this study is presented as Figure 1.

As we talked with casual visitors to the museum, we found individuals characteristic of each of the seven levels of the hierarchy. We were surprised at the large proportion of visitors who indicated they were at **Level Zero**. Most visitors indicated that they rarely thought about what goes on behind-the-scenes. They indicated this in various ways, including answering questions in vague terms or in a hesitant manner, contradicting themselves, changing their stories as they were talking, or actively engaging in speculation. Some openly admitted that they were not interested, or that this was the first time they had thought about these issues.

*Now you have totally [sur]passed my thought process. [When I'm walking through the exhibit] I'm going, "Oh, cool stuff."*

*There's so much on display that your curiosity is already overwhelmed....I really didn't give too much thought about what happens behind-the-scenes.*

Although most visitors didn't seem to wonder very much about what goes on behind-the-scenes, some visitors appeared more curious. These **Level One** visitors indicated that, as they look at exhibits, they often wonder about what is behind the locked doors, or where collections come from.

*I think because I've been here several times, it's kind of occurred to me...what do they do behind that door?*

We were encouraged to note that many Level Zero visitors, who initially indicated that they had never thought about behind-the-scenes before, quickly "jumped a level" and expressed a Level One curiosity, stimulated by the interviewer's questions.

When pushed further, most visitors we spoke with were able to develop reasonable hypotheses about what goes on behind-the-scenes, talking of a wide range of possibilities from exhibit development, to care and storage of the collections, to some research on the collections. This supports the findings of two recent research studies at the Smithsonian where many visitors correctly identified a wide range of behind-the-scenes activities of the professional staff (Ziebarth, Smith, Doering, & Pekarik, 1995; Bielick, Pekarik, & Doering, 1995). However, most of the speculations of the visitors we spoke with were not very thorough or complete, indicating a **Level Two** understanding. Explanations usually portrayed only a small aspect of what goes on behind-the-scenes and illuminated incomplete understandings and/or misconceptions about The Field Museum.

*[The botanists and zoologists on staff do] research in order to put an exhibit together.*

*[The archeologists are] not necessarily employed by the museum. They probably do free lance work.*

It is important to remember that most of the visitors who reached a Level Two understanding did so only after significant questioning. Although some visitors appeared to already be at the second level, most we spoke with seemed to arrive there only as a result of the interview questions. It cannot be assumed that very many visitors come to the museum with this level of understanding. However, it was encouraging that, once the subject was brought up, most visitors readily volunteered reasonable and at least partially accurate hypotheses.

Some visitors we spoke with indicated a **Level Three** understanding by talking about the research that The Field Museum is doing with scientists. However, they tended to think this role was secondary to the museum's exhibition and education functions, and they often talked of scientists from other institutions doing research in collaboration with The Field Museum or on The Field Museum's collections.

*This is affiliated with the university.... So these people that are coming here [from the university]...would study [the artifacts] here, and then go out there where they were living and growing to see what they eat, how they live and how many are there. [They would] study the environment of their particular species.... [These are] students that come here to study. They are like an internship.*

This third level of the hierarchy seemed to be the ceiling on most visitors' understandings and speculations. A relatively small number of visitors indicated a **Level Four** understanding. They talked about the large amount of research being done at The Field Museum and that The Field Museum employs many full-time researchers.

*I would imagine here you have anthropologists, ethnologists. You probably have paleontologists. You probably have geologists. And then you probably have like biologists. And there's gotta be like other people.*

Some visitors indicated they had a **Level Five** understanding. They talked about the original research that is conducted by scientists who work for the museum.

*I'm aware that The Field Museum has a back-up staff. I mean, my own area of research training was in primate behavior. And I know Jack Fuden--I think it's Fuden, maybe it's Foden--has published a lot of monographs on primate species, and Hirshkovitz' volume on the world primates is a classic.*

A very few visitors indicated a much more complete and sophisticated understanding of the research science that goes on behind-the-scenes. These **Level Six** visitors tended to speak quite articulately and often appreciatively about academic disciplines, cross-disciplinary research, systematics, or how working in a museum is better than a university because you wouldn't have to teach.

*There are people [at The Field Museum] who are spending their lifetimes doing taxonomic work which most people would probably find pretty esoteric. Nonetheless, it's necessary work. You know, it's work that I think science requires if it's going to be of service.*

Overall, it appears from the data and the knowledge hierarchy that most of the casual visitors we spoke with didn't spend much time thinking about the scientific research that goes on behind-the-scenes. *As a result of the interview questions*, many visitors seemed to become interested in certain aspects of behind-the-scenes, such as the origins of collections and exhibit development, fabrication, and maintenance. There was less indication that visitors were naturally curious about the museum's research function. Although we talked with visitors who represented all seven levels of the hierarchy, it was clear that most visitors were at Levels Zero, One, and Two, and that the ceiling for discussing behind-the-scenes research with most visitors was Level Three.

The knowledge hierarchy is a useful tool for describing the range of visitor understandings along one particular continuum. However, it doesn't describe in very much detail the many other ways visitors think about what goes on behind-the-scenes at The Field Museum. In the remainder of this section we will summarize some additional themes that emerged during our conversations with visitors.

## Visitor Understandings About Field Museum Researchers

Visitors offered a wide-ranging series of speculations concerning scientists' involvement with the museum. One impression that appeared to be shared by many visitors was that scientists who work at The Field Museum are affiliated and often employed at local Chicago universities. While this is true in a number of cases, these visitors tended to apply this to Field Museum scientists universally. Some visitors said that the only involvement university scientists have with the museum is in using the museum collections for research specimens.

Another common belief expressed was that, if The Field Museum does hire scientists, these scientists primarily perform the duties of exhibit developers--or are subject matter consultants in the exhibit development process. Some visitors indicated that this is a part of the scientists' responsibilities whereas other visitors said it is the only capacity in which scientists are involved with the museum. Many other visitors stated that scientists come as independent consultants to authenticate specimens or to make sure the information within the exhibits is accurate.

Some visitors seemed to think that the scientists involved with the museum spend most of their time off the premises. Some visitors talked about scientists who live in the field full time. It appeared that, in the minds of these visitors, these scientists are *not* residents of Chicago who come in to work at the museum every day.

Another common conception was the belief that the museum does not hire scientists, but instead hires less educated and therefore lower salaried figures such as students, interns, care takers, "travelers," and "animal specialists." This belief, like that of university affiliation, often seemed to be motivated by the assumption that The Field Museum can't afford to hire Ph.D.s.

When asked to name kinds of scientists that might work at The Field Museum, anthropologists, archeologists, and paleontologists were often the only technical names mentioned. Sometimes visitors referred to "plant people" or "insect doctors" or "people who study animals," but overall they appeared less familiar with the nomenclature for the biological specialties. Some visitors tended to list anthropologists and archeologists separately from scientists. Other visitors did not say that *scientists* worked here, but rather talked of *historians*. They seemed to perceive the museum as focusing more on cultures and history than on science.

## Visitor Understandings of the Role of Collections at The Field Museum

Two interesting trends emerged during our discussions of collections with museum visitors. First, we found that most visitors tended to vastly underestimate the size of the museum's collections, guessing regularly in the thousands, with one million as an upper limit. (The Field Museum currently estimates its holdings at about 20 million specimens and artifacts.) The second trend was that visitors tended to grossly overestimate the percentage of the collections on display. Many visitors estimated that about half of the collections were on display, whereas the museum actually exhibits just over a tenth of one percent of its holdings. Most of this overestimation seemed to be rooted in visitors' perceptions of

The Field Museum as being primarily focused on exhibits. If the reason to have stuff is to display it to the public, it would seem logical to exhibit as much as possible rather than hiding it behind-the-scenes.

The majority of visitors acknowledged that a portion of the museum's holdings are not on display, but their reasons for why the museum would have things in storage were varied. The most common response was that there was limited exhibition space. Visitors said that the objects in storage are on a rotation which keeps new items coming onto the floor and local visitors coming back. Other common reasons visitors gave for behind-the-scenes storage were object preservation and maintenance. Some visitors felt that the objects kept in storage were the least interesting or popular of the museum's holdings. Other visitors suggested that some objects were in storage because they were too valuable to display. A few visitors talked about research on collections as being an important reason objects were stored behind-the-scenes. The most common form of collections research mentioned by visitors was the determination of the age of objects, with research for writing exhibit labels a close second. Only a few visitors indicated that original, scientific research was the major purpose of the museum's collections.

Another interesting theme that emerged from our conversations with visitors was the distinction between real objects and replicas at The Field Museum. Although many visitors said they thought that most of the things were real and that the museum told you when the object was a replica, most tended to overestimate the number of replicas. It was not uncommon for a visitor to talk wistfully about the authenticity of objects--as if to say it would be nice but unrealistic to think that such good stuff could be real. Many visitors explained that while looking at the exhibits they had been wondering whether or not things were real. Many other visitors explained that authenticity just wasn't something they'd thought about--they assumed things were real.

Not surprisingly, conversations with visitors often touched on how the museum gets the objects on display. Although most respondents indicated that they believed the objects at The Field Museum were purchased, donated, or loaned from other institutions, it was not unusual for visitors to talk about scientists who go on field expeditions to acquire museum collections. Many visitors indicated that they believed that the majority of Field Museum collections were collected a long time ago. Many visitors said that the museum no longer collects things. They mentioned the difficulty in obtaining permission from governments to take things out of the country these days. Many visitors stated that The Field Museum accumulated its collections in a time when people were not sensitive about these concerns. They stated that in its past The Field Museum took things without obtaining permission, often grave robbing, stealing from other cultures, and collecting in a not altogether ethical manner. Many visitors seemed to be particularly attuned to these issues, and therefore seemed to believe we live in a time in which The Field Museum has difficulty expanding its holdings. Finally, a smaller number of visitors said that the people who go on collecting expeditions for the museum are wealthy individuals who have time to travel or go on safari.

Many of these visitor understandings about collections at The Field Museum are at least partially correct. Some visitor beliefs would be more correct if applied to other, non-research museums. However, for the purposes of this study, it is important to note that most visitors failed to recognize that researchers who work at The Field Museum continue to go on field expeditions and return to the

museum to study what they have collected, and that this research function is pursued independently of most museum exhibitions.

### Conclusions

It appears from our data that The Field Museum has done an excellent job communicating its educational mission to the public. On the other hand, visitors appeared to have little understanding of the research and collections functions of the museum. Most of the visitors we spoke with think of the museum as primarily a place that exhibits "cool stuff" and a place where they can experience new things. It doesn't appear that most visitors are all that curious about what goes on behind-the-scenes. Those who were curious tended to be more interested in exhibitry and specimen preparation rather than scientific research.

Most of the images that visitors conjured up about what goes on behind-the-scenes were not very accurate. Almost without exception visitors' explanations for these ideas were grounded in some amount of truth, but the overall picture they presented is very different from the image that The Field Museum would like its visitors to retain. There were two notions that appeared very difficult for visitors to grasp: (1) The Field Museum employs a large number of full-time research scientists who work here, in Chicago, at the museum, and (2) The Field Museum is different from many other museums because of the scope and amount of original scientific research that it conducts, i.e., it has a primary research function. Before we can expect visitors to understand the significance of the museum's research, we must first communicate these more basic ideas. This will be no easy task because these ideas contradict what visitors think they already know about behind-the-scenes at the museum. However, we feel that the knowledge we have gained from this study will greatly enhance planning as we continue our struggle to communicate The Field Museum's research missions to the public.

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## **Hierarchy of Visitor Understandings of Scientific Research at The Field Museum**

### **Level 0 "I don't know, and I don't care."**

Visitors at this level had little prior knowledge about and/or interest in what goes on behind-the-scenes at The Field Museum. They had not thought about it in any great detail, and it is not something that they were naturally curious about.

### **Level 1 "I don't know, but I'm curious."**

These visitors didn't know what goes on behind-the-scenes, but they were curious. As they explored the exhibits, they may have been wondering about how exhibits are made or where collections come from.

### **Level 2 Some knowledge, but it's incomplete or incorrect.**

These visitors were interested enough that they had developed a theory or hypothesis about what goes on behind-the-scenes. Although often reasonable, their understandings were incomplete or incorrect.

### **Level 3 Basic understanding of the research mission.**

These visitors realized that one of the primary activities of The Field Museum is to work with research scientists, including those on staff as well as visiting scientists.

### **Level 4 Museum employs many full-time scientists.**

These visitors understood that The Field Museum employs many full-time scientists whose primary role and responsibility is to conduct research, although their understanding of that research was not clear or complete.

### **Level 5 Museum scientists do original research.**

These visitors understood that museum scientists do original research and are creating new knowledge, "writing the books that others use."

### **Level 6 Sophisticated understanding and appreciation.**

For example, these visitors understood and valued the fact that many museum scientists are conducting systematics research, and/or that the scientists are organized into academic departments like a university, and/or that, despite that organization, significant cross-disciplinary research is going on.

Figure 1. Knowledge hierarchy describing the range of visitors' understandings about the research science that goes on behind-the-scenes at The Field Museum.