

*Examining Mammals*

**Three Studies of Visitor Responses  
to the Mammals Hall  
at the National Museum of Natural History**

**INSTITUTIONAL STUDIES**



**Smithsonian  
Institution**

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**Three Studies of Visitor Responses  
to the Mammals Hall  
in the National Museum of Natural History**

*Interview Study I: General Themes*

*Interview Study II: Personal Connections*

*Survey Study: Experiences and Attitudes*

**February 1999**

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**Report 99-5**

## Acknowledgements

The publication of this report, conducted at the Mammals exhibition and building exits at the National Museum of Natural History (NNMH), provides an opportunity to acknowledge the dedication, commitment, and skill of those who contributed to the project.

Our thanks go first to the students in the class studying museum visitors that Institutional Studies Office staff taught under the auspices of the Center for Museum Studies in July 1998. Due to these students' investigations of visitors in the Mammal Hall, we first realized the potential of deeper inquiry in that setting.

We are very grateful to the team at NMNH that is planning the new installation of the mammals exhibits, especially Sally Love, Project Manager, and Sharon Barry, Writer, both in NMNH's Office of Exhibits. Their support of these inquiries and their enthusiasm for the results have been inspiring. They wanted to understand how visitors react to the current Mammals display in order to help plan for its renovation. Annette Olson, Researcher for the new Mammals exhibition, came on board just in time to help us develop key questions for the survey study.

The interview guides for the interview studies were prepared by Andrew Pekarik. The first set of interviews were conducted by Stacey Bielick, Zahava D. Doering, Laura Parkham (student), Jean Kalata, Mary Ellen Olien (student), Susan Timberlake (intern), and Kathryn Wycoff (intern). Interviewers wrote summaries of their own interviews. The exchanges were summarized again and analyzed as a whole by Andrew Pekarik, who also wrote the results.

Interviews for the second interview study were conducted by Sarah Diehl (intern), Andrew Pekarik, and Stacey Bielick. Interviews were indexed by Andrew Pekarik and Stacey Bielick, who jointly analyzed the data and wrote up the findings.

In the survey study, Andrew Pekarik had primary responsibility for developing the survey instrument and method. Kerry DiGiacomo and Stacey Bielick had primary responsibility for testing the instrument and method and they managed all aspects of data collection with assistance from ISO intern, Hilary Welbourne. Andrew Pekarik, Kerry DiGiacomo and Stacey Bielick collaboratively analyzed the data and wrote the report. David Karns executed portions of the survey analysis.

We deeply appreciate the generosity, patience, and eloquence of the visitors who were willing to share their thoughts and feelings with us.

Zahava D. Doering  
Director  
Institutional Studies Office

## Summary

These three studies were designed by the Smithsonian Institution's Institutional Studies Office to provide insights into the experiences of visitors in the Mammals Hall at the National Museum of Natural History in Washington, DC, in order to aid the planning for the renovation of this exhibition.

The Mammals Hall is a large exhibition just off the museum's central Rotunda on the same level as the National Mall. It contains a wide variety of animal specimens, organized in didactic displays, in realistic settings (dioramas), and in groupings of similar mammals.

The three studies developed organically out of the initial observation that visitors seemed to be very pleased with the exhibition in its current form. The first interview study was meant to uncover the different ways that visitors engaged successfully with the exhibition. The second interview study investigated, in greater depth, the personal connections that visitors made with these animal specimens. The survey study was designed to provide a quantitative overview that described visitors to the Mammals Hall, the most satisfying experiences that visitors were having in both the museum and the mammals exhibition, and the attitudes visitors brought to animal specimens and to the idea of renovating this exhibition.

### INTERVIEW STUDY I: GENERAL THEMES

Eight major themes were identified in the first interview study:

- 1 Connection to the zoo experience
- 2 What you can learn from displays
- 3 The effects of the presentation style
- 4 Connections to personal experience
- 5 Animal specimens as "real things"
- 6 Interactions with displays
- 7 Past encounters with dioramas
- 8 Evaluative remarks: Praise, criticisms, suggestions

In interpreting these responses we were struck first by the importance of being "interested" in animals, and, second, by the way that seeing animals in the Mammals Hall is special because it is "close-up." We also noted the satisfaction that visitors found in learning, especially from comparing animal specimens, and in other, subtle types of mental activity that seem more personal and less directed.

## INTERVIEW STUDY II: PERSONAL CONNECTIONS

As a result of exploring the more detailed reactions of visitors to the animal specimens, we constructed a fourteen-part “narrative” summarizing the responses of these engaged visitors:

Seeing these animals is emotional.  
Seeing these animals is spiritual.  
Seeing these animals makes one think of similarities and differences.  
People and animals are similar.  
After all, people are mammals, too.  
Acknowledging this similarity, we love animals.  
We empathize with them.  
We can even imagine ourselves as animals.

But animals are also different from people.  
Because of this difference, we have responsibility for animals.  
Both animals and people are part of a larger system.  
We need to keep that system in balance.  
We need to respect and protect all forms of life.

But because these animals are dead, they raise ambivalent feelings, too.

## SURVEY STUDY: EXPERIENCES AND ATTITUDES

- The Mammals Hall is popular but not a primary focus for NMNH visitors. Many visitors go to the exhibition, but it does not tend to be one of the first exhibitions visited and it only rarely provides visitors with their most satisfying experience in the museum.
- Feelings of adults toward displays of animal specimens are positive. Even those few who have negative feelings do not appear to be influenced by them in deciding whether or not to visit the exhibition or in forming their opinions of what should be done with the collections. This study did not include children under age 12, and, as these results show, younger visitors are more likely to feel negative.
- The mammals exhibition provided visitors with a balanced mix of experiences. The most satisfying experiences in the exhibition were equally likely to be either object experiences, cognitive experiences, or introspective experiences.
- Visitors want the Mammals Hall upgraded, especially those who have seen exhibitions of mammals elsewhere.

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## Introduction

### OVERVIEW

This report documents the results of three linked studies of the Mammals Hall conducted by the Institutional Studies Office (ISO) in the National Museum of Natural History (NMNH), in Washington, DC, between July and December 1998.

#### Interview Study I: General Themes

On July 20, 1998, a team of seven interviewers talked briefly with 38 visitor groups inside the Mammals Hall. Visitors were asked to discuss what they found satisfying in the exhibition. Interviews were tape-recorded, summarized and analyzed.

#### Interview Study II: Personal Connections

In late August and early September 1998, three interviewers held longer discussions with 18 visitors who were seriously engaged in the Mammals Hall. Interviews focused on the personal meaning of the visit experience.

#### Survey Study: Experiences and Attitudes

During a two-week survey period, December 2 to December 14, 1998, a total of 750 visitors completed interviews. Two groups of visitors were interviewed: (a) 222 visitors who were exiting the mammals exhibition, and (b) 528 visitors who were exiting the NMNH building.

### THE MAMMALS HALL

The Mammals Hall is located on the first floor of NMNH, the same level as the National Mall. Visitors can enter and exit the exhibition from the central Rotunda, the Bird Hall, or the Marine Ecosystems exhibition.

The Mammals Hall is a 20,000 square-foot exhibition that first opened to the public in 1957. Visitors move through it along a linear path with wall-mounted cases of specimens or dioramas on either side. There are only a few places where cases are directly opposite each other in the exhibition, so visitors rarely have to turn their back to a case as they move through the exhibition.

The exhibition contains three types of displays: 1) realistic settings (dioramas); 2) cases of similar mammal specimens grouped together, and; 3) displays which explain a topic or concept (this type comprises the majority of the displays). Each display contains mammal specimens from around the world. The specimens are both rare and common, extinct and not extinct, large and small. They were obtained by the museum through donations and through earlier research and collecting.

The completely renovated exhibition, the Behring Hall of Mammals, will encompass 25,000 square-feet and is scheduled to open in 2003.



## STUDY LOCATIONS

Interview Study I and Interview Study II were conducted inside the exhibition. The Survey Study was conducted at two locations – at two doors of the Mammals Hall (adjoining the Rotunda and the Bird Hall) and at the museum's exits.

## A GUIDE TO THIS REPORT

The report is divided into three separate sections, one for each of the studies. The appendices include tables, questionnaires and further information on study methods.

## INTERVIEW STUDY I: GENERAL THEMES

### INTRODUCTION

After 42 years, the Mammal Hall, one of the main exhibitions in NMNH, has been scheduled for renovation. A small informal study of visitors to the mammals exhibition, conducted as part of a classroom exercise, suggested that despite its age, the exhibition was still quite popular with visitors. The central question of this interview study was "why do visitors find these displays satisfying?"

The study design called for brief open-ended interviews with visitors who seemed to be engaged with the exhibition. Interviewers were instructed to approach these engaged visitors and ask them to talk about their experience in the exhibition. (See Interview Guide in Appendix A.)

On July 20, 1998, a team of seven interviewers spoke with 38 visitor groups inside the Mammals Hall. The interviews, most around five to ten minutes in length, were tape-recorded, summarized and analyzed.

### EIGHT THEMES IN VISITOR RESPONSES

As a way of concisely summarizing the content of these discussions, eight themes were identified:

- 1 Connection to the zoo experience
- 2 What you can learn from displays
- 3 The effects of the presentation style
- 4 Connections to personal experience
- 5 Animal specimens as "real things"
- 6 Interactions with displays
- 7 Past encounters with dioramas
- 8 Evaluative remarks: Praise, criticisms, suggestions

### CONNECTION TO THE ZOO EXPERIENCE

These visitors often spoke of their experience in the mammals exhibition as a complement to their experiences in zoos. For example, animals are alive and active in zoos, but, for that very reason, they are harder to see, and sometimes not at all visible. In addition, some of these visitors felt that this museum exhibition has types of animals that you cannot find in zoos, provides more

information about the animals than a zoo typically does, and, as a result, is more conducive to learning in general.<sup>1</sup>

#### WHAT YOU CAN LEARN FROM DISPLAYS

When these visitors spoke about learning from the displays, they mentioned such things as the importance of seeing animals they had only heard about before, getting a sense of scale, finding out how they are classified, noting how they differ, and reading interesting information about them. One parent also noted the pleasurable surprise of discovering that her child knew more than she realized.

#### THE EFFECTS OF THE PRESENTATION STYLE

Some visitors clearly preferred the diorama displays, with their realistic evocations of natural settings, while others preferred the displays without settings. There are two types of displays without settings in the exhibition. One type gathers the specimens in related groups (e.g., "Cats of the World"), and the other presents them in a graphical context that stresses information (e.g., "How Mammals Get Their Food"). Those who liked the dioramas pointed out that naturalistic settings enhance realism and aid the imagination. Some felt, however, that such background settings were distracting or disconcertingly fake. Those who preferred displays without settings noted that it was easier to spot animals of interest in such displays and that groupings of similar animals were helpful because they clarified differences.

#### CONNECTIONS TO PERSONAL EXPERIENCE

The exhibition helped visitors make many different connections. Visitors talked about how the specimens made them think of their own and their family's experiences with living mammals, either at home, at school, or in the wild. They talked about the past and about the future.

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<sup>1</sup> For examples of the main points in these summaries, see Appendix A, Quotations Organized by Theme.

## ANIMAL SPECIMENS AS THE "REAL THING"

A number of visitors spontaneously noted that the animal specimens are "real," not "replicas," or "statues." This sense of reality added to the emotional impact of the displays.

## INTERACTIONS WITH THE DISPLAYS

The range of visitor interactions with the exhibition extended from the displays as an impetus for group discussion, to the displays as an inspiration for thinking about evolution, or for imagining and fantasizing.

## PAST ENCOUNTERS WITH ANIMAL SPECIMENS

For two visitors the displays brought to mind past experiences with animal specimens rather than thoughts of the living animals. Both reflected on their childhood experiences in this very same exhibition. One compared his memory to the response of his son; the other recalled the excitement of particular displays.

## EVALUATIVE REMARKS

Some visitors praised the exhibition, others criticized it or made suggestions. The exhibition was praised for the number of specimens, the quality of the mountings, the amount of information, and didactic clarity. The exhibition was criticized for its deteriorating condition, crowds and some missing identifications. Suggestions included installing more benches, changing the colors, adding interactives, and talking more about DNA.

## INTERPRETIVE OBSERVATIONS: INTEREST, SEEING, LEARNING, THINKING, FEELING

### INTEREST

In reviewing these interviews some major issues seemed to stand out. The first is what it means to be "interested in animals." A visit to the Natural History Museum, or to the Mall, or to Washington, DC, for that matter, starts with a choice. Out of all the options in our life, where will we go? What will we do?

Even when purposelessly wandering, we choose when and where to stop, when and where to give our attention. And when we inquire more closely into these choices in interviews with visitors, the explanation we usually hear is that "it's interesting." Where does this interest come from? Why is it so difficult to explain or describe?

Most museums on the National Mall are so clearly defined in subject matter that an individual is likely to know immediately whether or not she is interested in visiting. Those interested in Asian art enter the Freer Gallery or the Sackler Gallery. Those interested in airplanes and technology enter the Air and Space Museum. NMNH is special because its range of subject matter is so broad that no single interest easily encompasses its major focus. What interest defines those most likely to visit NMNH? Interest in nature? Interest in science? Interest in life?

A personal interest defines a community of interest. It represents a form of self-identification. ("Who am I? I am a person interested in art.") This voluntary kinship is expressed socially in the museum visit. By "sharing" interests, a family can use the museum visit to emphasize the bonds that define them as a unit, contained and separate from others. One father and daughter highlighted the negotiation behind visiting:

Man: I like the air and space museum best ... Each member of the family has other, different interests... One thing that might interest me a great deal wouldn't interest my wife, for example. This one's for you [daughter].

Daughter (age 14): I like the air museum too, but I'm more into animals because they're here now and they're alive.  
(I:JK-9)<sup>2</sup>

The community of interest defined by the Mammals Hall consists of those who are "into animals." Even though they were unable in these interviews to tell us fully what that means or where it originates, we can observe one likely beginning in the central roles that animals play in the lives of children. We observed that younger visitors were remarkably eloquent in describing their responses in this gallery. Animals are presented to children primarily as pictures. It is only when they see them in everyday life, or at the zoo, or at the natural history museum, that these mental archetypes become truly "real." Crossing this divide from the conceptual animal to the real animal seems to be especially compelling to children.

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<sup>2</sup> Interviews are identified by a Roman numeral indicating whether this interview is in Interview Study I or Interview Study II, the initials of the interviewer, and an Arabic numeral indicating the sequence. In other words, this quote is taken from the ninth interview conducted by Jean Kalata in Interview Study I. For list of interviews and respondents, see Table A-1 in Appendix A.

## SEEING

The respondents we interviewed at NMNH emphasized repeatedly that the way they saw animals in the Mammals Hall was special. The favorite descriptive term for this seeing was "close-up." Because the animals do not move and because they are so near, visitors could observe detail that was otherwise inaccessible to them, and they could look as long as they pleased. We observed visitors expressing the central importance of this looking function with their gestures and behavior -- by pointing, by saying "Look! Look!", and by photographing.

While this close-up looking has probably always been important to visitors, some of these interviews suggested that it has gained in value as zoos have altered their approach. As zoos have evolved from menageries of exotic animals, to zoological parks, and to conservation parks or bio-parks, more emphasis has been given to placing animals in appropriate habitats. The consequence of this shift for visitors, however, is that the animals become harder to see. When the animal is shown in a more natural way, the animal often becomes nearly invisible, and, as these respondents remarked, the visitor can spend a good deal of effort searching for the animal. Even when the animal is found at the zoo, it is likely to be so far away that there is little sense of direct connection.

Those who had been fortunate enough to see exotic animals in the wild made it clear how that type of seeing was a particularly vivid and exciting experience that could not be duplicated at a zoo or a museum. Yet, those who saw unusual animals regularly in the areas where they live or work also made the point that those animals then became much less interesting. Except for extinct species, an animal's "exotic" appeal, the kind that merits special looking, depends on the visitor's individual circumstances.

Close-up looking at exotic animals is an inherently pleasurable experience that was the original function of animal collections, but that is generally inaccessible except in a space such as the Mammal Hall. Part of the excitement of a visit here seems to be that it allows this pleasure. Older visitors know that the live-animal display practices of the past are no longer acceptable, and they also realize that the collection practices that led to the Mammals Hall exhibits are obsolete. They acknowledge this understanding by telling their children and by realizing that the chance to look close-up at these rare specimens is inherently precious.

## LEARNING

"Getting a good close look" leads naturally to certain types of knowledge. The first kind that these visitors picked up in the exhibition is a spontaneously acquired sense of the size and scale of particular animals. No text is needed. The measurement standard is either the visitor himself or other animals in the exhibits, and a typical response is "I didn't realize it was that big (small)."

A second type of information comes from the comparisons that visitors made among animals, a process that is strongly encouraged by the displays that group animals according to theme and suggest the diversity within that theme. This method of learning was very well received by these respondents, probably because it grows naturally out of the close-looking activity that is so central to the experience of the hall. It is also painless and unobtrusive. In many of the interviews there are positive references to what visitors learned or talked about as a result of the ways that the animals were grouped or described as a whole. When asked to describe the exhibition to someone back home, a 13-year old girl said,

Girl: I'd tell them that when you walk through, there's big cases, and animals are all around you, and it says exactly what animal it is underneath. But also all the monkeys are together in one part. And the cats over there, and the bats, and stuff.

Interviewer: Why do you think they do that?

Girl: I think maybe so you can compare the monkeys, and they're all together, and it's just easier.

(I:ST-6)

A third type of information comes from texts. As one visitor commented,

I always thought that the Kodiak bear was larger than the Polar bear, which, I guess, is wrong. [laughs] So it said that the Polar bear is the largest and most aggressive. So, hey, cool, I learned something today.

(I:SB-4)

This type of learning was least discussed by visitors, probably because the Mammals Hall is not rich in text. Several visitors pointed out how much they appreciated that. They expressed their frustration with texts in other museums or exhibits, citing, in particular, how oppressed they feel by large quantities of text that they have no time to read. On the other hand, visitors were very pleased with nuggets of information that struck them as interesting and different, or that touched on questions they'd long had.

The visitors interviewed here were divided as to whether they preferred to see the animals in didactic arrangements or in naturalistic settings. It seems that looking and learning were enhanced by the didactic arrangements, but emotional and imaginative responses were better served by naturalistic settings. Visitors also linked this question to the issue of what is real and what is not. While the animal specimens were regarded as real, naturalistic settings were considered not real by some visitors, primarily because these settings had to be made with artificial materials.

## THINKING

These interviews contain important clues to a type of mental activity that cannot be easily categorized as either looking or learning. The closest term for it is probably "thinking," provided that one does not restrict the meaning of thinking to such performance-oriented tasks as problem-solving, decision-making, or goal-setting. The kind of thinking that sometimes seems to be taking place in the Mammals Hall is more like a careful, repeated tracing of existing mental patterns. It is like a meandering walk through the existing landscape of the mind. The familiar paths, worn by repeated wanderings, seem to be personally important to the visitor, even if, to an outsider, they do not seem to lead anywhere in particular.

The tracing of thought can be discerned in the overall shape of some visitors' remarks, especially when they flow for an extended period without the intervention of the interviewer. The process is probably most obvious when the mental path stretches between polarities, such as between negative and positive emotional stances toward animals – e.g., from danger to safety, or from fierceness to cuteness. A 15-year-old girl who returned repeatedly in her interview to the dual nature of wolves, reflects the way that an encounter with museum subject matter can stimulate reflection on basic feelings beyond specific, informational content. She says, for example,

Wolves are the most adorable creatures. I would love to have a pet wolf, but I know it won't happen. They show fierceness, yet gentleness at the same time. It's really intriguing because you know that they are going to eat something out there and eat some poor little animal.  
(I:ST-4)

In some instances, this kind of mental pattern-tracing might demonstrate what we have referred to in the past as the "entrance narrative," the ideas and attitudes toward a subject that visitors bring into the museum.<sup>3</sup> Many visitors use museums to reinforce their entrance narratives, confirming or strengthening beliefs or understandings that they already have. The kind of thinking that we see in some of these interviews probably represents the mental process that underlies this reinforcement effect.

A related case in these interviews is the six-year-old girl who imagined that if she entered the display with the wolves they would accept her because of her friendship with her wolf-like pet dog. (I:ST-2) Probably animal exhibits have much more potential for stimulating these thought processes than many other types of museum exhibits because animals play such important symbolic roles in our minds.

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<sup>3</sup> See Doering, Z.D. and Pekarik, A.J. (1997) "Questioning the entrance narrative," *Journal of Museum Education*, 21(3), p. 20-23.



## INTERVIEW STUDY II: PERSONAL CONNECTIONS

### INTRODUCTION

The interpretation of the interviews in the first study raised some questions about the visitor experience in the mammals exhibition. In particular, we wondered, "What underlying thought patterns about animals are being recalled in the exhibition? Can we better understand the emotional responses generated by the exhibition?"

The purpose of the second study was to explore the personal connections that individuals make to the displays of animal specimens. We hoped that this inquiry would help the planning team to construct a central theme for the renovated exhibition that would capture the interest and imagination of visitors.

The design of Interview Study II called for longer interviews (average length 20 minutes) with visitors who seemed to be engaged in the exhibition. Interviewers were instructed to focus on meaning (e.g., what does it mean to feel connected to these displays), values (e.g., what beliefs are being reinforced by this experience), and the relationships between humans and animals. (See Interview Guide, Appendix A.)

In late August and early September, 1998, three interviewers talked with 18 visitors engaged in the mammals exhibition. All the interviews took place inside the exhibition. Interviews were recorded and digitally indexed, and relevant portions were studied.

### A NARRATIVE CONSTRUCTION OF THE MAMMALS HALL EXPERIENCE

Although these conversations were more about the visitors than about the exhibition, they indirectly demonstrate how an exhibition can bring to mind one set of pre-existing thoughts and feelings rather than another. Three features of the exhibition stood out in these interviews as particularly important stimuli for visitors' thoughts and feelings:

- the animals are real --
- you can see them up close --
- they display remarkable variety --

The underlying ideas and emotions recorded in these interviews were remarkably consistent and can be organized into a coherent whole, which we present here as a constructed narrative.

This, we believe, is the conceptual framework that visitors invoked in the Mammals Hall:

Seeing these animals is emotional.  
Seeing these animals is spiritual.  
Seeing these animals makes one think of similarities and differences.  
People and animals are similar.  
After all, people are mammals, too.  
Acknowledging this similarity, we love animals.  
We empathize with them.  
We can even imagine ourselves as animals.

But animals are also different from people.  
Because of this difference, we have responsibility for animals.  
Both animals and people are part of a larger system.  
We need to keep that system in balance.  
We need to respect and protect all forms of life.

But because these animals are dead, they raise ambivalent feelings, too.

#### SEEING THESE ANIMALS IS EMOTIONAL.

One of the most striking features of these interviews is their emotional quality. Even for the visitors who strongly emphasized an interest in science and information, the content and quality of the interview is clearly emotional. Learning isn't just a fact, but getting to know the animal, caring about it, and respecting it.

G., for example, is a woman in her late 30's, a former zoo-keeper for large African mammals. When the interviewer specifically asks her, G. denies that her interest in the exhibition is either emotional or personal: "My interest is more the science of it. That adds a lot to it. Just coming in here and looking at the specimens wouldn't mean a lot if you didn't have the information about each one of them....I find it very interesting, otherwise I wouldn't come here first. This is the most interesting aspect of the museum to me."

But then the interviewer probes more deeply and asks, "How would you say that you fit this experience into the context of your entire life." G. starts to cry as she replies, "I try to, -- how can I say this -- I try to make as light of a footprint on the earth as I can. I'm a vegetarian. I think that people have to realize their place in the world and I'm trying to let other living beings enjoy their place in the world."  
(II:SD10)

#### SEEING THESE ANIMALS IS SPIRITUAL.

The spiritual response is important to consider because it reflects a deep way of thinking about our relationship to animals. As one man pointed out, the Bible says that humans are the dominant creatures, but that doesn't give us the right to destroy.

Some visitors see these mammals as our predecessors in life. Their religious beliefs help them frame their thinking about animals. Within the museum as a whole, the Mammals Hall is in a unique position to provide a framework for people to consider their position on animals, nature and conservation

K., for example, is an African-American woman in her late 60's who was participating in a family reunion in DC. She came to the museum as part of a tour with other family members. When the interviewer asked one of her companions what was special about seeing these animals here, K. interjected, "Well, for us, it's a spiritual thing, also. Because through this, we see God's creation. These are things that we didn't have as we grew up, okay? We only heard about them, or saw them on television, but this is a way of us looking back at what God created way back, way back, before the existence of man in time. You know, it started with all of this, with the animals. That's all, you know, that's the way I see it. It may be different, but that's the way I see it."  
(II:SD-2)

#### SEEING THESE ANIMALS MAKES ONE THINK OF SIMILARITIES AND DIFFERENCES.

When we asked visitors about the relationship between humans and animals they stressed both similarities and differences between humans and animals. The arrangement of the Mammals Hall might have indirectly encouraged this way of thinking, since so many of the displays group animals in ways that highlight either their common features or their diversity.

E., for example, is a man in his 60s. In pointing out why this exhibition is superior to a zoo, he revealed that he paid close attention to the groupings. "This one display right here in front of us has got animals from just about every part of the world and the type of animals you'd be hard pressed to see. You'd never be able to get them close enough together to see what they're trying to point out -- the similarities and differences. So even though they are, quote, stuffed, they're real. They're the actual animal, unfortunately, but at least it gives us a way to say o.k., yes, this is a this. Now look at the similarity. Look at how closely related they are. Even though they're hundreds, thousands and thousands of miles apart in their natural habitat."

When the interviewer asked whether he thinks these displays say anything about the relationship between humans and animals, he naturally talks about people as if they were part of the exhibition too. "The gorilla one did, that's for sure -- the

gorilla, the chimpanzee and the gibbon. It shows the similarities in looks, in size and shapes and then bingo, the DNA testing shows they're 97% close to us. That makes a three percent difference between me and a monkey. My mother called me a monkey when I was a little one. So she knew better than I did. A lot of these things bring out similarities but they also show you great differences. That's important. You have an animal and then a human. I guess the museum stays away from this for political reasons. I'm sure that they can take a lot of these exhibits, just the way they are, change them around and put one, two, three, four, five, six, and the theory of evolution would be spelled out. But for political reasons I would understand why they wouldn't do something like that. Or I could see why they would do it."

(II:SB-1)

#### PEOPLE AND ANIMALS ARE SIMILAR.

The Mammals Hall helped people come to terms with their personal beliefs and feelings about their (and sometimes other people's) relationship to animals. Visitors imagined that these mammals are like us. They imagined their world, the way they love, mate, play and communicate.

B., for example, is a young man in his twenties who was drawn to the museum primarily because of his interest in fossils and evolution. He sees the Mammals Hall as "what came out of that." He is struck by the range and variety of mammals, "It gives you a different idea of where you fit in....how you fit into the planet." B. objected to the primate display because it seemed to him to suggest that primates, perhaps because of their closer link to humans, were somehow different from other mammals. "We definitely like to think of ourselves as a lot different, but, I'm not sure," he says, challenging the interviewer by suggesting "I think there should be a stuffed person here.....[Although] I would not want to see it."

He is reluctant to see people as privileged over animals, "I think we have a very heightened sense, excessive idea of what human intelligence is -- it's not really that big of a deal. It is to us, or whatever, if you're going to school or something, but not, you know, as being part of the ecosystem, as being on the planet, as being an organ [sic] on the planet. Just like the porcupine developed spines to protect itself, we stumbled across intelligence to protect ourselves, so it's still the same game."

(II:SD4)

AFTER ALL, PEOPLE ARE MAMMALS, TOO.

A visitor suggested that the exhibition would be improved by deliberately lessening the distance between "us" and "them." Is this literally possible? Could an exhibition let us feel that the animals are roaming around with us?

J. is a college student in her early 20's majoring in anthropology. At the time of her interview she was taking a primate course where they were discussing animal-human boundaries. "It is interesting to see man not included in the whole mammal thing," she said. "Like in the first part it says "primates" and under it says "monkey, apes" and it doesn't include humans. Humans are not even mentioned in the whole mammal thing."

"Humans are definitely mammals and it is continuous. We are all part of the mammalian family and there is a dividing line with consciousness and self-consciousness that separates us from animals, but I think we should be thought of more as part of the mammal family than most people like to. This exhibit is separating the two."  
(II:SD-12)

ACKNOWLEDGING THIS SIMILARITY, WE LOVE ANIMALS.

By taking their "young" to see animals, visitors tacitly acknowledge that there are basic human values that are evoked by observing animals.

R., for example, is a successful businessman in his 70's who came to Washington to participate in an investment conference. He visited the Mammals Hall because he loves animals and because he is considering bringing his grandchildren here. "Animals," he said, "have feelings, are intelligent, as smart as we are -- smarter than us in some ways." "I dearly love animals of all kinds...I just love them, they're so cute."

In his everyday life he expresses his affection towards animals, and they communicate with him, in turn. "I have extensive bird feeders and then the squirrels used to come to the bird feeder and just for the hell of it I tried to keep the squirrels away and I couldn't, no way. And I thought they were wonderful and I did all these things to keep the squirrels away and they were wonderful. So then I just bought bird feed and all that stuff, about ten or fifteen big bags at a time and we had the stuff all over the place. Then, sometime, I'd go away and the feeder would be empty. And on this porch the glass went down here [to the floor] and those damn birds and squirrels at different times would come and knock on the door while I'm sittin' right there. 'Say, hey pal!' "  
(II:AP3)

## WE EMPATHIZE WITH THEM.

The Mammals Hall offers a chance to play out a vision of peace and harmony in this world, between people and animals, between people and nature, and just between people. Only a few visitors talked about the harsh reality of how the system stays in balance, that "there's a lot of violence in nature too."

M., for example, is K.'s companion and fellow reunion participant. She, too, is in her 60's. The two women spoke to the interviewer together.

M: I think all of this is God's creation.

K: In some situations they take care of us.

M.: In some situations, we take care of them. It's all according to what the situation is. For instance, if you were being attacked, and you had a dog for a pet, and you were in danger, that dog would do something to help you. It would. That dog would do something to help you. I believe any animal would help to protect their owner if they were put in that position, you know. I really believe that if that's a well-trained dog, a loved animal, the animal would help in some kind of way.

K.: We're all created the same. We're all created the same.

M.: We're supposed to be the intelligent ones, but they are supposed to be the dumb beasts.

K.: If you could walk up to this buffalo, all right, and ask him what he would want to be doing today, he would say, "I would want my freedom."

M.: Yes.

K: You know? "I would want my freedom." ...When I look at him, you know, I see different things. ...You look at him. You look at him. He is God's creation. See what they have done to him. But if you would walk up there and ask him, "what would you want." "If you could have life again, what would you want." And he would say, "I want to be free. I would want to be out there surviving like the Creator wants me to be." See what I mean?

M.: It's most basically what most anything would want, you know?

K.: Just look at him standing there. He's beautiful. "I'm here. Accept me." ..."You leave me alone, I'll leave you alone."

M.: And look in the eyes. In the eyes.

...

M.: We all need each other. Animals need us, and we need them.

(II:SD-2)

## WE CAN EVEN IMAGINE OURSELVES AS ANIMALS.

For some visitors, the Mammals Hall is a kind of fantasy space where they can think about the relationships among people, animals and nature while feeling as if they are part of the exhibition, interacting with the animals specimens. In this special world of the Mammals Hall, order and hierarchy as we ordinarily know

them are suspended -- marsupial Tasmanian wolves stand nearby American wolves and jack rabbits.

C., for example, a man in his 30s, talked about animals as if they had a culture of their own with direct parallels to our own. "Animals have their own society. Everybody has their own mechanisms for protection -- camouflages, speed -- things we take for granted. If I can run faster than you now, it wouldn't mean anything. But if we were trying to get away from a snake or something, it would have a major difference."

He actively imagined himself as an animal. "My reincarnation, for some reason, I have always wanted to come back as a cat. I've always wanted to be a cat. If I could be a cat, I'd like the cheetah. I like that animal a lot, because it is extremely passive when it comes to other cats. It can be dominated by other cats. It really doesn't have a lot to offer as far as defense, other than speed. And with that speed it just takes advantage of a lot of different things. I've seen it on TV and they take ten or fifteen minutes to hunt their prey and then, all of a sudden, a bunch of jackals come along and just take it. And they don't have that inner strength to fight other cats, to be defensive, but somehow they still survive. Somehow they make a way, whether it's based on hunting by time or different areas, things like that. Everything is not just hunky-dory. It's not just set out for them in a certain pattern. So just because I'm the fastest animal alive doesn't mean that I'm going to eat everything. You can starve just like someone else. And they do end up starving and dying and things like that. But it's just so graceful. It's just a beautiful animal."

(II:SB-2)

BUT ANIMALS ARE ALSO DIFFERENT FROM PEOPLE.

S. is a woman in her late 30's who works for the U.S. Fish and Wildlife Service. She is a biologist and works with endangered species being reintroduced into the wild. She first went into wildlife because she was fascinated by animals, by "the way they live, the way they look, the way they behave, the way they're different from people."

Animals are different from people because "they don't have the power to ruin their world. I mean, no, I mean, people are very similar. It's just that we have the luxury that everything isn't a fight to survive any more. You know, we have the luxury of being bored and being depressed, and go to museums and study things, and so in some ways, we are above the rest of the world and out of touch with the rest of the world."

Although S. believes that people are different from animals, this does not mean to her that people are better than animals. "We're just on a different level now. I don't know if it's a better level -- it's a different level. So in some ways, they are better than people. Because most of them don't have the ability or the

knowledge to do the kind of destructive things we do -- not that, if they had the ability, if they had the knowledge, they might do it -- but they don't, and it's just a much more simple way to live."

(II:SD-1)

BECAUSE OF THIS DIFFERENCE, WE HAVE A RESPONSIBILITY FOR ANIMALS.

L., a sculptor in his 20's, is fascinated by specimens of extinct species "that have recently left the planet, like thylacines and other things that crypto-zoologists might be interested in, whether they exist or not. It's nice to think that we haven't figured everything out yet in the natural world and that there may be things we don't know about through science or whatever. How they vanished. Whether or not certain animals still do exist."

When asked about the relationship between people and animals he says, "I guess that's something that everyone thinks about. Conservation issues mostly, when you're here. It is important to preserve what we have now. We're sort of responsible. We're the only reasoning animal, so it's up to us to make sure that this stuff hangs around, if we can do it. We have a responsibility because we've encroached on more land that wasn't originally ours than any other species, so we have a responsibility to make sure that those things that we've displaced continue to propagate."

(II:AP-1)

BOTH ANIMALS AND PEOPLE ARE PART OF A LARGER SYSTEM.

A. is a woman in her late 30's. She did not come to Mammals with a special interest in animals, but the exhibition still inspired some reflection. "The exhibition makes me think of all of us living together....We're all together. We all have our niche. We all have our place. I wouldn't say it's harmony necessarily. There's a lot of violence in nature, too. But maybe that's part of the harmonic part of it. It all works together. There's a chain and one thing lives off of another. We live off of plants and animals, too."

(II:SD-11)

What can the Mammals Hall do to convey the idea of a "larger system"? Is it accomplished through a vast and varied collection of species? Is it achieved by placement and design?



WE NEED TO KEEP THAT SYSTEM IN BALANCE.

D., a woman in her 20's, is a social worker for the state of Louisiana. She emphasizes ecological reasons for conservation: "We have a responsibility not to bother animals as much as we do. We also have a responsibility to make sure that nothing gets extinct, that nothing gets killed to oblivion and we never see it again. For everything to survive in the world, everything has its purpose and everything needs to be living to serve that purpose. If something is extinct, something else starts taking over, which causes other things. That whole cycle. Kill all the wolves and the deer start overrunning everything. You have to police that in a way, because we messed up so much in the past. To make sure that it doesn't get any worse. Learn from your mistakes." (II:AP-1)

WE NEED TO RESPECT AND PROTECT ALL FORMS OF LIFE.

By including extinct or endangered mammals the exhibition reinforces the need for conservation. Just as the dioramas provide a physical context and the variety of specimens suggest diversity, the extinct or endangered animals are "reminders of history" that provide a sense of time.

H., for example, is a woman in her 30's who was visiting from Australia. She had been at NMNH once before 15 years ago and came back specifically to see the mammals. Throughout her interview she stressed the way the museum promotes a sense of history, both intentionally (in content and texts) and unintentionally (by looking to her more dated than the other large museums on the National Mall, for example). She even called the mammal specimens "reminders of history." "They were once living creatures," she said, "each had its own life." Seeing things like this, "that once had life makes you want to have more contact with the living." In fact, seeing the display made her want to go to the zoo.

NMNH, she said, "is not a modern museum. ...For some visitors that's a plus and for some it's a minus. ...In some ways it adds to the charm and the fact that the museum, the whole thing, is a history of evolution, of living things, whether they be humans, animals, plant life..."

She spontaneously suggested that the museum deliver a stronger conservation message. "Perhaps there could be more information available. Perhaps there could be an even stronger message about taking care of the environment, both human beings and these sorts of animals and vegetation. Perhaps there could be even more information showing how we should respect those things around us. I suppose in that regard it is a very historic type of display. ...Perhaps it could be brought a little more up to date by showing the relevance of what you see here to today." (II:AP-4)

BUT BECAUSE THESE ANIMALS ARE DEAD, THEY RAISE AMBIVALENT FEELINGS, TOO.

At its deepest level, the Mammals Hall can arouse thoughts of life and death. But visitors were not very comfortable discussing them. Nearly all of the visitors interviewed in this study made some comment that indicated that death was on their minds -- one woman said, for example, that her first thought on entering the galleries was "ew, animal mummies." But all of them quickly put that thought aside and either assumed that these animals died peacefully or else justified it in terms of the higher principle of education.

When the elderly R., for example, was a young man he owned rifles and shotguns. "I remember the first time I went deer hunting," he said. "I shot at a deer and missed it. That was the happiest thing I did. Later I got to see. How could you kill those beautiful, sexy animals. I still love to go in the woods. I go with friends who are hunting. I don't take a camera. I just go into the woods and enjoy the air."

Midway in the interview, as the tape is being changed, he notes his ambivalence to the fact that these animals are all dead. "Where did these guys come from," he asks. He wants to think that they died accidentally or from illness or from old age in zoos, and he tells the story of the time a peregrine falcon died when it crashed into his glass door at home. He has a mounted sailfish that a friend had caught. The friend had given it to him, he said, "probably because he was ashamed of it." R. thinks it's better not to talk about where these specimens came from. Looking sadly at a specimen, he says, "poor little guy. Somebody shot you."

"The average hunter," he says, "is not quite as sensitive as I am, but I think they do like animals. I don't know why they blast them. But we do, I mean every time we eat meat we're killing something. Veal, especially, and chicken, the way they have these concentration camps or whatever they are. Who are we kidding? We eat the damn things. So we're kind of hypocritical in that respect. And even grass, flowers. People like to grow flowers. We eat wheat, but that's living too, to a certain extent."

(II:AP-3)

## SURVEY STUDY: EXPERIENCES AND ATTITUDES

### INTRODUCTION

The interview studies provided information only about visitors who were engaged in the mammals exhibition. The survey study provided information about all types of visitors. The central questions of the survey study were “what portion of the NMNH audience visited the Mammals Hall” and “how did they differ from those who did not visit.” In particular, we wanted to find out whether some NMNH visitors might be staying away from the Mammals Hall because of negative attitudes about animal specimens, since we knew from the interview studies that a number of people expressed ambivalent feelings about them. Finally, the study was designed to explore the most satisfying experiences that visitors had in both the museum and the exhibition, with the expectation that this would help to clarify some of their other responses.

During a two-week survey period, December 2 to December 14, 1998, a total of 750 visitors completed interviews. Two groups of visitors were interviewed: (a) 222 visitors who exited the Mammals exhibition, and (b) 528 visitors who exited the NMNH building. The overall response rate for the study was 81%. The resulting data are representative of visitors to the museum and to the exhibition during this period.

### VISITORS TO THE MAMMALS HALL

The NMNH audience was divided equally between men and women. About half (47%) of the visitors were between the ages of 25 and 44, and 14% were between the ages of 12 and 24.<sup>4</sup> The majority (62%) lived in the United States outside of the Washington Metropolitan area (25% lived in the DC area). About one-quarter (24%) of all visit groups included an adult and at least one child. Approximately half of the visitors (47%) were coming to NMNH for the first time.

According to the recent year-long study of NMNH, this is the typical audience profile for this time of year. (See Table C.1.)<sup>5</sup>

Visits to the Mammals Hall. Overall, two out of three NMNH visitors (66%) leaving the museum had seen Mammals, if not that day, then at some time in the past:

30% saw the Mammals exhibition at NMNH that day for the first time;  
13% made a repeat visit to the Mammals exhibition that day;  
13% didn't go that day but had gone one to three times in the past; and  
10% didn't go that day but had gone four or more times in the past.<sup>6</sup>

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<sup>4</sup> Children younger than 12 years of age were not included in this survey.

<sup>5</sup> Supplementary survey tables are in Appendix C.

<sup>6</sup> Data on file, ISO.

Those who had visited the Mammals Hall differed significantly from the overall NMNH audience only in education: fewer visitors to the mammals exhibition had graduate level degrees (24% vs. 35%). Among first-time visitors to the museum, in particular, when all other characteristics are controlled for, those with graduate degrees were 21% less likely to visit.<sup>7</sup> (See Table C.1b.)

Awareness of the Mammals Hall. One-fifth of all visitors to NMNH did not know that there was a mammals exhibition in the museum. This percentage was higher among first-time visitors to the museum – 27% of first-time visitors did not know about the mammals, compared to 14% of repeat visitors who did not know. (See Table C.4.)

Many of those who do not visit the Mammals Hall are unaware of it. Altogether 21% of repeat visitors to NMNH have never been to the mammals exhibition; two-thirds of these non-visitors did not know about it. (See Table C.2.)

Popularity of the Mammals Hall. The Mammals Hall seems to be an important part of an NMNH visit, especially among first-time NMNH visitors—over half (52%) of first-time NMNH visitors saw the mammals exhibition that day. If we exclude those who did not know about a mammals exhibition, we find that three out of four first-time visitors who knew about it went to the mammals exhibition before they left the building (72%).<sup>8</sup>

Repeat visitors to NMNH were also fond of the exhibition: 35% of repeat visitors went to the exhibition on the day of their interview. (See Table C.3.)

Position of the Mammals Hall visit within the NMNH visit. NMNH visitors spent an average of 87 minutes<sup>9</sup> in the museum (based on their estimates of the time they entered NMNH). The longer the time that visitors spent in the museum, the more likely they were to visit the mammals exhibition. (See Figure 1.)

For those interviewed as they were exiting the Mammals Hall, the average reported time in the museum up to that point was 68 minutes.<sup>10</sup> The time data suggests to us that visitors tended to visit Mammals after they had visited at least several other exhibitions.

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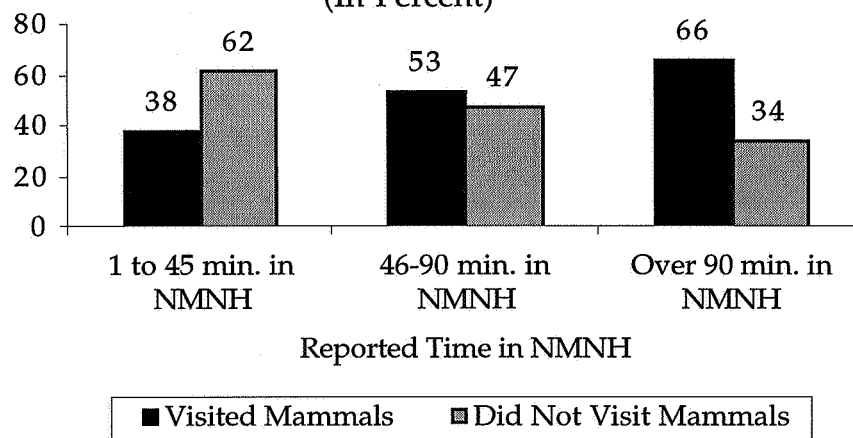
<sup>7</sup> Regression data on file, ISO.

<sup>8</sup> Data on file, ISO.

<sup>9</sup> Standard Deviation (SD): 67 minutes

<sup>10</sup> SD: 52 minutes

Figure 1  
Visits to Mammals, by Length of Stay  
 NMNH Exit Visitors Only  
 (In Percent)



Source: Table C.5.

## MOST SATISFYING EXPERIENCES

A major component of this study evolved out of ongoing research by the Institutional Studies Office into the kinds of experiences people find most satisfying during their museum visits. For the past two years, through in-depth interviews, survey studies, and analysis of visitor comments, we have constructed a working list of museum experiences in four major categories: social experiences, object experiences, cognitive experiences and introspective experiences.

Social experiences are defined as experiences with other people accompanying the respondent. The other three categories are defined as experiences with museum content or displays.

For this study, visitors were asked to select their most satisfying experience from a list that contained the following experiences.<sup>11</sup>

### Experiences with other people

#### Social experiences

- Spending time with friends/family/other people
- Seeing my children learning new things

<sup>11</sup> The list was used in several orders and without any indication of experience categories. First and second choices were recorded. If the visitor's first choice was a social experience, we used their second choice to represent their most satisfying experience with the contents or displays.

## Experiences with museum contents/displays

### Object experiences

Being moved by beauty

Seeing rare/uncommon/valuable things

### Cognitive experiences

Gaining knowledge or information

### Introspective experiences

Feeling a spiritual connection

Imagining other times or places

Thinking what it would be like to own such things

Recalling my travels/childhood experiences/ other memories

Reflecting on the meaning of what I was looking at

As a result of both personal inclination and past experience, individuals prefer certain kinds of museum experiences over others in a particular setting or at a particular time.

Museum exhibitions can also favor certain kinds of experiences. Some museums are very consistent and show the same preference in each exhibition. Other museums demonstrate more variety and have some exhibitions that are primarily designed to be an object experience, and others that are designed to be a cognitive experience, for example.

## MOST SATISFYING EXPERIENCES IN NMNH

Experiences with other people. For nearly half (47%) of the NMNH visitors who came with children, the most satisfying experience in the museum was seeing children learning new things; 5% of visitors who came with someone else said that their most satisfying experience was spending time with friends or family.<sup>12</sup>

Experiences with contents/displays. The most satisfying types of experiences with museum exhibitions for NMNH visitors were object experiences (47%), followed by cognitive experiences (30%) and introspective experiences (23%). (See Table C.6.) The distribution of most satisfying experiences for NMNH visitors reflects the different exhibitions where these experiences took place.

Where NMNH Visitors had their Most Satisfying Experiences. The Geology, Gems and Minerals Hall and the Dinosaurs Hall were especially satisfying exhibitions for NMNH visitors. Among all NMNH visitors:

41% said that their most satisfying exhibition experience was in the Geology, Gems and Minerals exhibition;

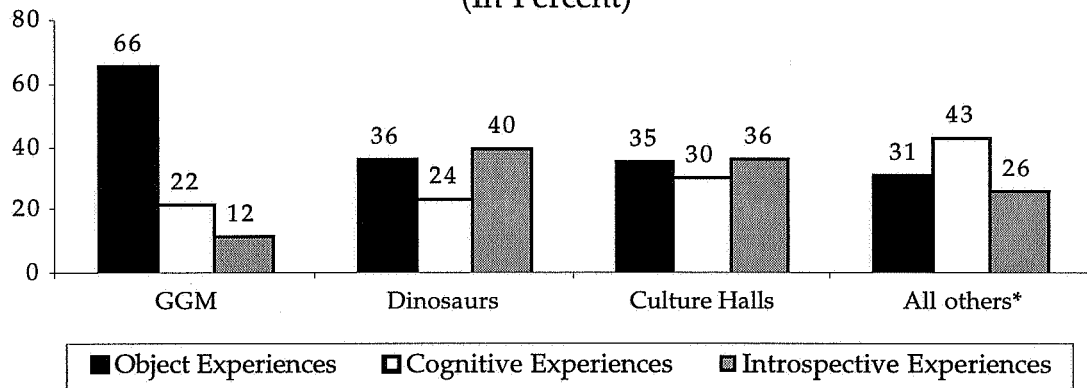
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<sup>12</sup> Data on file, ISO.

23% said it was in Dinosaurs;  
 9% said it was in the Culture Halls;  
 6% said it was in Marine Ecosystems;  
 5% said it was in Mammals;  
 2% said it was in the Insect Zoo; and  
 10% said it was in the museum as a whole.

If we compare the most satisfying experiences at each of these different locations in the museum (see Figure 2), we find that object experiences were most common in Geology, Gems, and Minerals; introspective experiences were most common in Dinosaurs and the Culture Halls; and cognitive experiences were most common in the rest of the museum overall.

Figure 2  
Most Satisfying Exhibition Experience, by Exhibition  
 NMNH Exit Visitors Only  
 (In Percent)



\*Includes Marine Ecosystems, Mammals, Insect Zoo, and the museum as a whole.  
 Source: Table C.8.

#### SATISFYING EXPERIENCES IN THE MAMMALS EXHIBITION

Visitors exiting the Mammals Hall were asked to choose their most satisfying experience in the mammals exhibition.

Experiences with other people. One-third (32%) of visitors with children were most satisfied by seeing their children learning new things in the mammals exhibition and 7% of visitors with others said that spending time with friends or family in the mammals exhibition was most satisfying.

Experiences with contents/displays. Visitors were equally likely to find the three types of experiences with content or displays most satisfying in the mammals exhibition—object, cognitive, and introspective experiences (See Table C.7).

## ATTITUDES, TIME, AND DISPLAY PREFERENCES

### VISITORS' FEELINGS ABOUT DISPLAYS OF ANIMAL SPECIMENS

We used information from the interview studies to develop a list of feelings that ranged from positive to negative. Visitors were asked to select from this list the ones which best described the way they felt about seeing displays of animal specimens. The list was shown to visitors in three different orders. The items were:

- I feel that it is exciting to see the animal specimens
- I don't feel bothered by the display of animal specimens
- I feel uneasy about how the animals died.
- I feel sad about the fact that the animals died.
- I feel disturbed by the display of animal specimens.

NMNH visitors overall were well-disposed to displays of animal specimens:

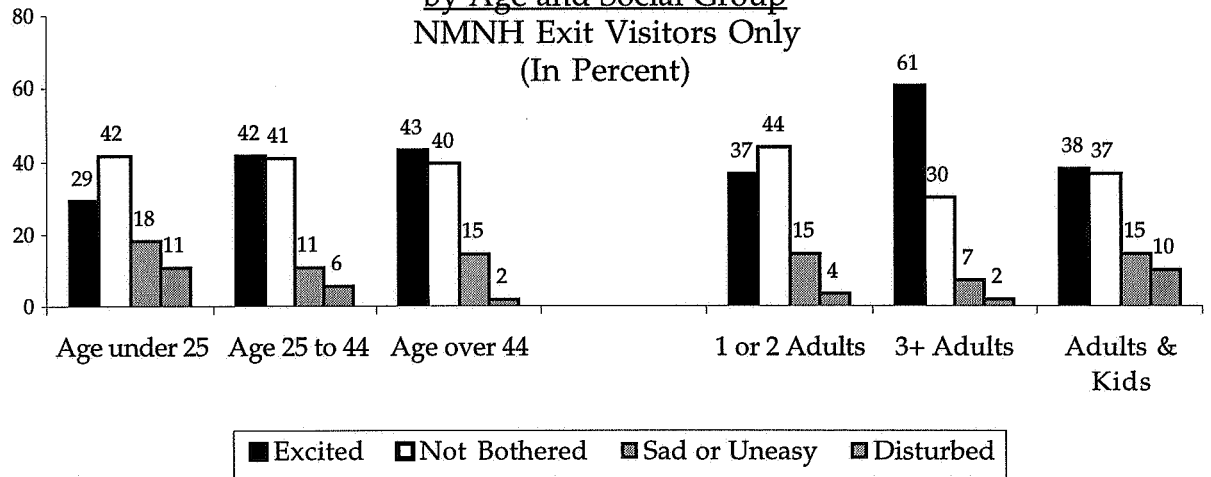
- 40% said they are excited by them;
- 41% said they are not bothered by them;
- 14% said they felt sad or uneasy but were not disturbed by them;
- 5% said they felt disturbed by them

Younger visitors and women were more likely to feel negative about seeing displays of animal specimens.

As Figure 3 illustrates, 11% of museum visitors between the ages of 12 and 24 said they felt disturbed by displays of animal specimens, compared to 6% of visitors between the ages of 25 and 44, and only 2% of visitors over age 44. In addition, 10% of adults visiting with children said they felt disturbed, compared to 6% of adults visiting without children.



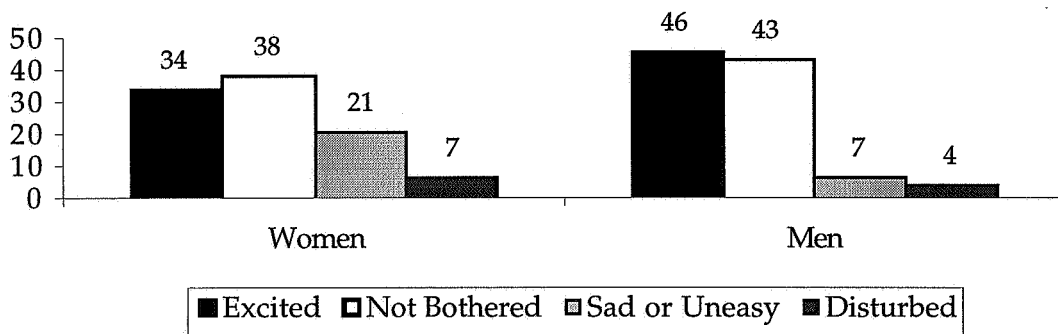
Figure 3  
Feelings Towards Mammal Displays,  
by Age and Social Group  
 NMNH Exit Visitors Only  
 (In Percent)



Source: Table C.10.

As shown in Figure 4, 21% of women said they felt sad or uneasy compared to men (7%)—the strength of this difference is greatest for women who have never visited the Mammals exhibition or who have only seen it one to three times.

Figure 4  
Feelings Towards Mammal Displays, by Gender  
 NMNH Exit Visitors Only  
 (In Percent)

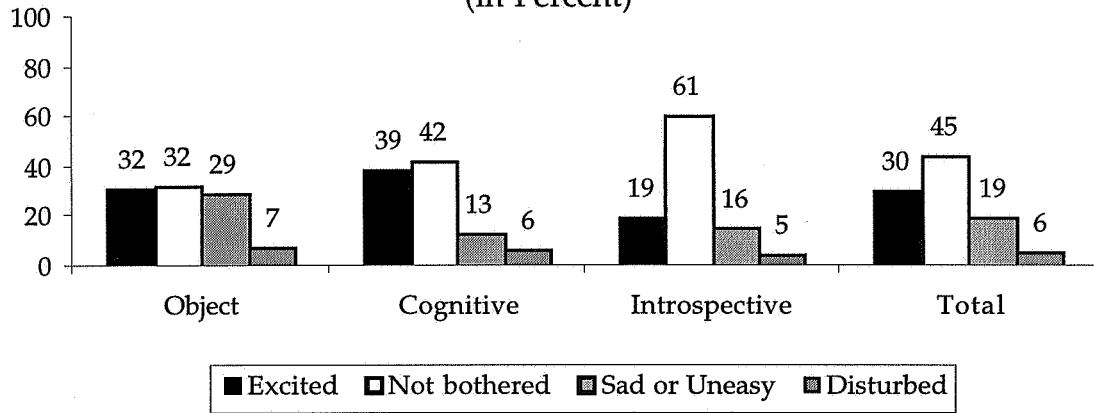


Source: Table C.10.

The way NMNH visitors as a whole felt about displays of animal specimens had no statistically significant relationships with whether or how often they visited the mammals exhibition, and the feelings of visitors interviewed at the mammals exhibition exit were the same as those of the overall NMNH audience.

Relationship of feelings with most satisfying experiences. For visitors interviewed leaving the mammals exhibition, feelings about animal specimens are closely related to their most satisfying experiences in the exhibition (see Figure 5).

Figure 5  
Feelings Toward Displays of Animal Specimens,  
by Most Satisfying Experience  
Mammals Hall Exit Visitors Only  
(in Percent)



Source: Table C.11.

Visitors who found object experiences most satisfying in the mammals exhibition were much more likely than others to feel sad or uneasy. Object-oriented visitors probably focused on the rarity and beauty of the specimens and may have thought more about the living animals they represent.

Visitors who were most satisfied by a cognitive experience in the mammals exhibition were more likely to be excited about seeing animal specimens. Cognitive visitors were probably excited by learning about the specimens.

Those who were most satisfied by an introspective experience in the mammals exhibition were more likely not to be bothered by displays of animal specimens compared to other visitors. Introspective visitors were probably more focused on personal experiences rather than the specimens and therefore less likely to be either excited or saddened by them.

#### TIME IN THE MAMMALS HALL

We asked visitors who were interviewed as they left the Mammals Hall to pick from a list of three statements the one which best described their time in the exhibition that day.

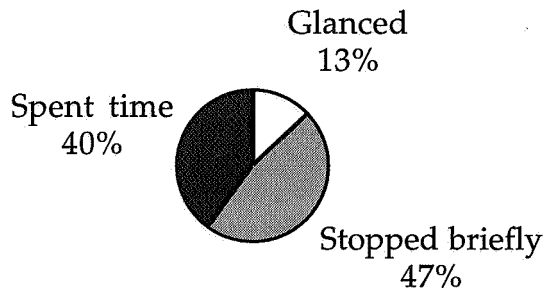
Their options were:

- I spent quite a bit of time at some displays.
- I stopped briefly in front of a few displays

I glanced at some of the displays while walking through.  
I did not really look at any of the displays.

Two out of five visitors reported spending a lot of time with the displays in the exhibition. Nearly half said they stopped briefly in front of a few displays (47%). A smaller percentage indicated that they glanced at some of the displays or didn't look at the displays while walking through (13% – see Figure 6).

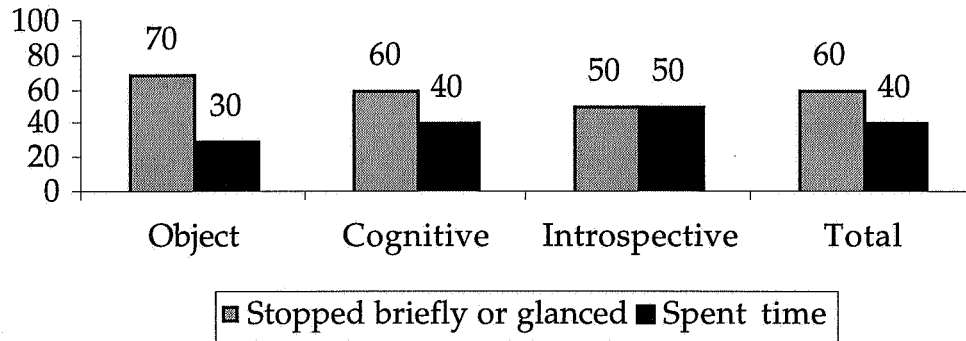
Figure 6  
Visitors' Characterizations of Time  
in the Mammals Hall  
Mammals Hall Exit Visitors Only  
(in Percent)



Source: Table C.17.

Visitors whose most satisfying experience in the Mammals Hall was an introspective experience were the most likely to say that they spent quite a bit of time with some displays in the exhibition. (See Figure 7.) Time was not related to feelings about displays of animal specimens.

Figure 7  
Time in the Mammals Hall,  
by Most Satisfying Experience  
Mammals Hall Exit Visitors Only  
(in Percent)



Source: Table C.11.

#### DISPLAY PREFERENCES IN THE MAMMALS EXHIBITION

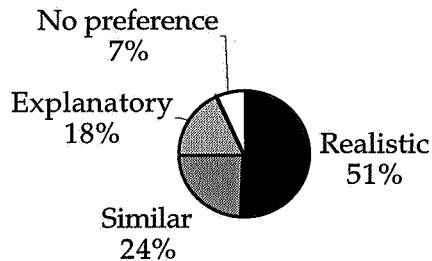
We categorized displays found in the Mammals exhibition into three types and asked visitors leaving the mammals exhibition to pick the one they preferred:

Realistic settings...	e.g., Zebras and Water Buffalo
Similar animals together...	e.g., Cats of the World and Wild Pigs of the World
Explanatory displays...	e.g., Adaptive Coloration in Animals and How Mammals get their Food

As Figure 8 shows, realistic settings were the most popular type of display.

51% of mammals exhibition visitors preferred realistic settings;  
24% preferred similar animals displayed together; and  
18% preferred explanatory displays.  
7% had no display preference.

**Figure 8**  
Display Preferences in the Mammals Hall  
 Mammals Hall Exit Visitors Only  
 (in Percent)

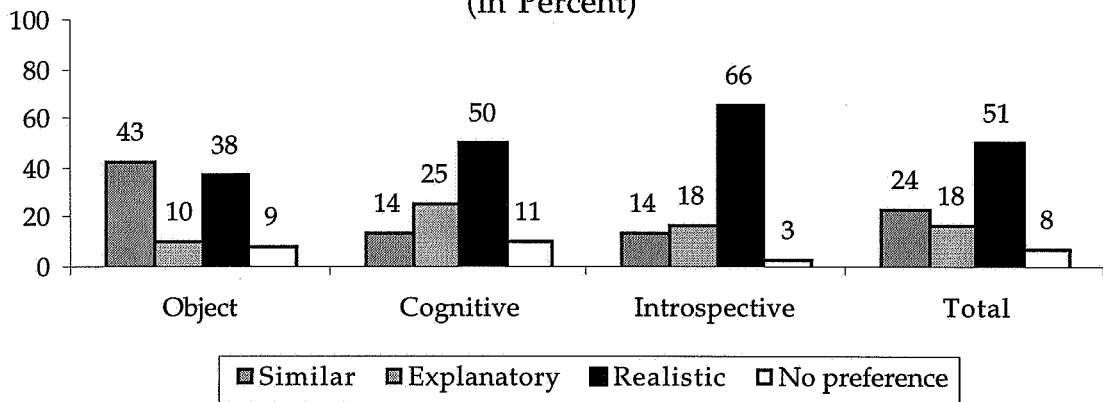


Source: Table C.11.

Preference for a certain display was unrelated to time spent at displays but was closely related to satisfying experiences in the exhibition (see Figure 9).

- Visitors whose most satisfying experience in the Mammals Hall was introspective had the highest preference for realistic displays compared to all visitors (66% vs. 51% for all visitors).
- Object-oriented visitors preferred displays of similar animals grouped together compared to all visitors (43% vs. 24% for all visitors).
- Cognitive-oriented visitors preferred explanatory displays compared to all visitors (25% vs. 18% for all visitors).

**Figure 9**  
Display Preferences in the Mammals Hall,  
by Most Satisfying Experience in the Mammals Hall  
 Mammals Hall Exit Visitors Only  
 (in Percent)



Source: Table C.11.

## VISITORS OPINIONS ABOUT CHANGING THE MAMMALS HALL

We asked all visitors in this study to choose from a list the alternative that they would like to see happen to the museum's collection of animal specimens. Their choices were: upgrade it, continue to display it as it is, remove it from public view by donating it, or remove it from public view by storing it.

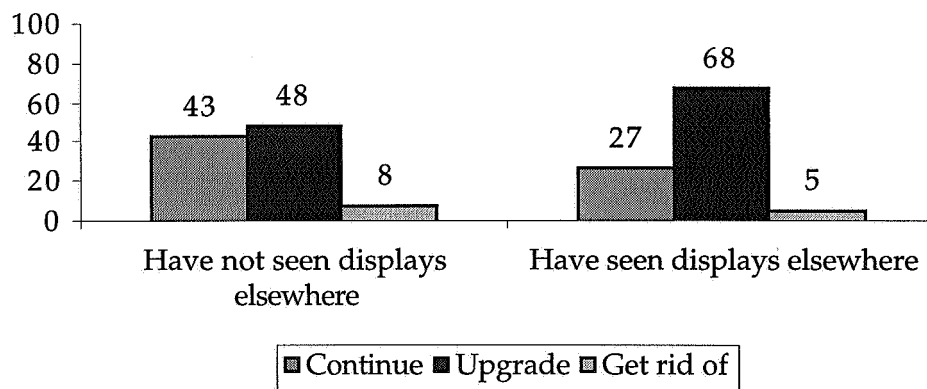
The majority of NMNH visitors who had seen the Mammals exhibition said that they would like to see it upgraded. Among those who had seen the mammals exhibition at least once:

- 59% said the exhibition should be upgraded;
- 38% said the exhibition should continue as it is, and;
- 3% said the exhibition should be removed.

These opinions are independent of how often visitors saw the exhibition. Visitors who had never seen the exhibition were nearly equally divided between continuing it as it is and upgrading it.<sup>13</sup>

Among visitors who were interviewed as they left the Mammals Hall, those who had seen displays of animal specimens elsewhere were 20% more likely to suggest upgrading the exhibition than visitors who had never seen other displays of animal specimens (68% vs. 48%; see Figure 10).

Figure 10  
Opinions about Changing the Mammals Hall,  
by Seeing Displays Elsewhere  
Mammals Hall Exit Visitors Only  
(in Percent)



Source: Table C.13.

Across the whole study, only one in twenty visitors indicated that the museum should get rid of the mammals collection. (See Table C.13.)

<sup>13</sup> Data on file, ISO.

Interestingly, no one who said they were disturbed by displays of animal specimens suggested that the museum get rid of the mammals collection.

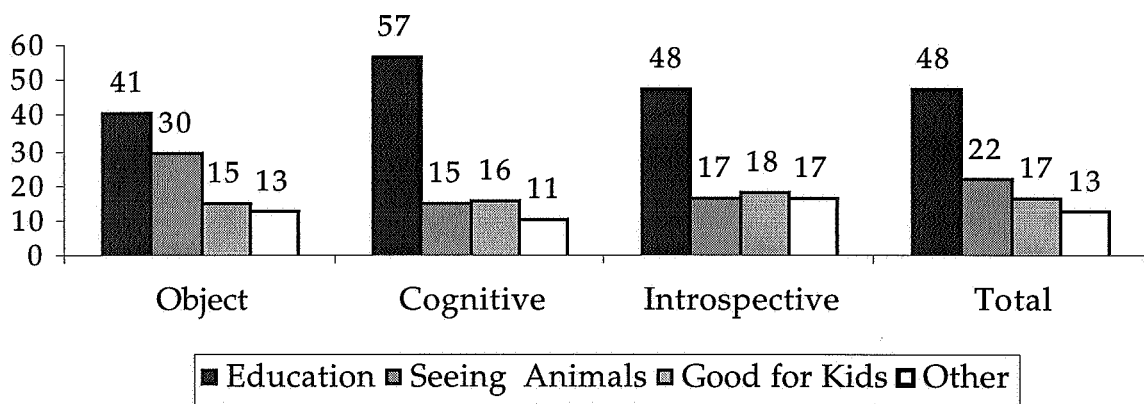
Reasons for Continuing the Display. When visitors indicated that they wanted to see the mammals display upgraded or continued as it is, we asked them what they thought was the most important reason for continuing to display the museum's collection of animal specimens.

Education was considered the most important reason for displaying the collection. Among all visitors to the museum:

- 48% said that education was the most important reason;
- 22% said that seeing the animals up-close or in person was most important;
- 17% said that it was good for children; and
- 13% gave other reasons or didn't know.

These opinions differed according to the types of experiences that visitors had found most satisfying in the museum as a whole. (See Figure 11). Education was a more important reason for those who found cognitive experiences most satisfying in the museum. Seeing the animals was more important for those who found object experiences most satisfying.

Figure 11  
Value of Mammals Display,  
by Most Satisfying Experience in NMNH  
 NMNH Exit Visitors who Want to Continue/Upgrade Only  
 (in Percent)



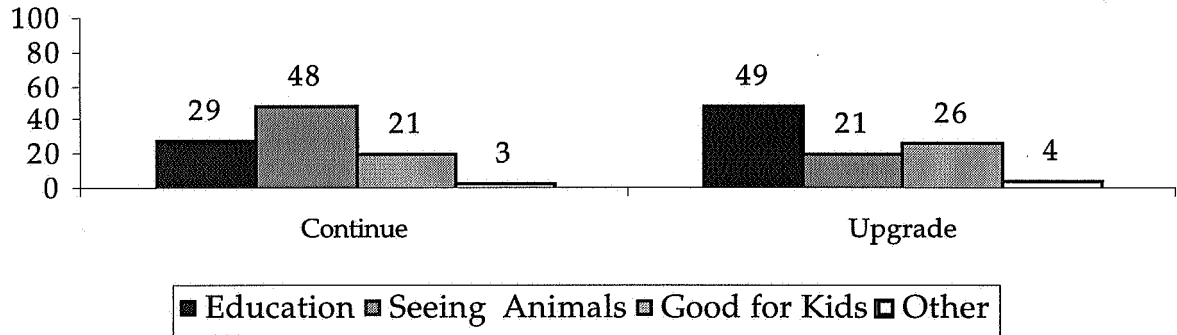
Source: Table C.9.

The reasons selected by visitors who were interviewed at the Mammals Hall exits were the same as those chosen by visitors interviewed at the museum exits.

Among those interviewed at the Mammals Hall exits, the opportunity to see the animal specimens was more important for visitors who thought the museum

should continue to display the exhibition as it is. The educational value of the exhibition was more important for visitors who thought the exhibition should be upgraded (see Figure 12).

Figure 12  
Value of Display, by Desire to Continue or Upgrade  
Mammals Hall Exit Visitors who Chose Continue/Upgrade Only  
(in Percent)



Source: Table C.14.



## Appendix A

### INTERVIEW STUDIES I AND II: SUPPLEMENTARY MATERIALS

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## INTERVIEW GUIDE FOR INTERVIEW STUDY I

7/20/98

### THE INTERVIEW:

The first student interviews uncovered the surprising fact that some visitors really liked these old, dated displays. Among the reasons they gave were "clarity," and "simplicity." But there were hints in the discussion that something more complex is at work here. Perhaps the museum as a whole seems to require too much effort and the displays are a relief. Perhaps the basic motivation of a visit is curiosity and the dioramas satisfy this directly. Perhaps something else still unsuspected. What is missing in our understanding of why visitors find this exhibition satisfying?

*Satisfaction with the exhibition.* This is the central interview issue. We want to find visitors who are satisfied and who can articulate that satisfaction. The best approach might be to ask what they were thinking about or talking about as they went through the exhibition. Focus on the specifics of the diorama or exhibition element they want to talk about. What exactly went on? Where else do they remember seeing dioramas like these? Or other dioramas. They might want to talk about childhood memories and that's good, too. Maybe their experiences in the wilderness. Memories will help highlight what is of longstanding importance in conceptualizing the experience.

*Aims in the museum.* This is a secondary issue that can be explored if it seems to suggest a connection with satisfaction. Don't ask anything direct like "what were your aims in the museum." The visitor can't really answer a question like that, but will make up an answer to satisfy the inquirer. Inquiry into aims should arise only where it naturally comes out of the discussion. For example, if the visitor were to talk about the mammals exhibition in a way that suggests that he/she sees it as a relief from the rest of the museum, then talk about what this means in terms of what else is on view, try to make an analytical leap to what the visitor may be looking for in a visit, and then ask the visitor to help you figure it out. In other words, work backwards from experience to aims in a way that will help the visitor (and you as collaborator) unpeel his/her own complex of motivations and experiences.

### Selection:

Interview visitors who have paid attention to the dioramas and who seem to be enjoying them to some extent.

Interview visitors who look like they want to talk to you.

If visitors are not articulate or do not give rich answers, it is better to move on than to try to squeeze something out of them. Such visitors might signal that they are poor candidates for this exercise. If so, they are probably right.

The ideal respondent will not only give articulate, rich answers but will be willing to work together with you to uncover the sources of their response. With such a visitor I would even go so far as to summarize the interview guide -- "this is what we are trying to understand. ...Got any insight into how this works out in your own experience beyond what we've already discussed?"

You might find that family groups are too hard to hold for rich interviews. In that case you should restrict yourself to couples or single visitors. If you're not holding anyone for more than a few minutes and not getting anything that seems unique and surprising, you may be choosing the wrong people or doing something wrong in the interview. Try a different approach to see if it helps. Remember to avoid giving the impression that this is a survey interview. No clipboard. No distancing or control signals. No script questions (if you use a question prepared in advance, make it seem spontaneous). This is a collaboration and should be fun for all.

### Location:

Avoid the African mammal dioramas at the end of ecosystems because they will be around in the future. The key dioramas are in the hallway that leads out from the rotunda. Somewhere near the end of that, perhaps where the room connects to the Marine Ecosystems Hall might be a good location. Obviously a place with seating is best, since it will encourage visitors to talk longer. You should also conduct some interviews in or near the hall of North American mammals (some of the dioramas in that hall have videos and it would be interesting to know if these change the experience in any meaningful way.)

Other:

Remember to make notes after each interview in your notebook. Summarize everything you remember from the interview, also whatever you observed about the way that the visitor was using the exhibition, and any identifying features of the respondent (e.g., estimated age, gender, etc.). These notes will help the interviewing process since they firm up in your mind what you are hearing. This aids the next interview and helps you notice points that you had overlooked.

A final thought:

No interview is too long, provided that it is on the topic (or likely to yield useful insights into the topic in your opinion) and providing unique information. If you luck out with a great informant, go as far as you can with it, even if it means changing tapes in mid-stream. One fabulous interview is a very good day's work. And remember to have fun!

## QUOTATIONS ORGANIZED BY THEME

### Theme 1: Connection to the zoo experience

- Natural History displays and zoos "complement" one another .

*Like this exhibit here, primates, you can see a vast variety of primates, their color, their fur, their size, but it's a nice complement to zoos because in zoos you can see them live and they're active. (JK-9)*

- In a zoo you can't see animals up close, but in the museum you can.

*At the zoo they either move around a lot...or are hiding. But here they're close up and you can get a better glimpse of them. (ST-3)*

*You get to see them close, whereas in a zoo I always feel really sorry for the animals, and [here]you still get to see them up close. It's a shame these guys are all dead, but before they were extinct or endangered, it was accepted, and I can look and see these animals really close. (JK-10)*

- In zoo habitats the animals are often not visible at all.

*The good thing and bad thing about zoos is that they make the natural environment for the animals and if they don't happen to be out and about or near where people can see them, then you don't see them. (JK-9)*

- In the museum you see animals that zoos don't have and that you would never be able to see otherwise.

*I like to see the animals that are extinct now, because you can't see those in the zoo. (JK-4)*

- In zoos the animals you want to compare might not be together in the same place.

*I do like seeing them in their habitats, as far as how they live and exist and stuff like that. But this is also nice as far as seeing, you know, animals together that...you might not normally, you know, see right up next to each other like that. (ST-3)*

- Museum displays are better for learning. When you see the animals up close and not moving, you can observe detail, make comparisons, appreciate the variety, and look as long as you want.

*I am a fifth grade teacher in Montgomery County and you cannot see the animals arrayed like you do with the bears and the wolves and the cats up close. You go to the zoo and they're way far away, they're behind the bushes, you can't see them, you can't compare the teeth, the herbivores and carnivores, you see the difference in the construction of the teeth so you can figure out what a skull is that you might find, you don't see the differences in the climates and what it is the animals need to exist in different climates. (JK-8)*

## Theme 2: What you can learn from displays

- You can really see it.

*I've never actually seen a beaver up close. So when you see it here, it's like an animal from your country [Canada]. You can see it. You know what it looks like now. (ST-6)*

- A sense of scale

*Some of the animals you only see on TV you don't know how big they are. (JK-2)*

- How mammals are classified

*You can learn more if it is classified the way it is here. (JK-1)*

- Information

*I read the things over and over and over again. Even if I know them already I always like them cause it's animals I've seen at home and stuff. I know where my dog comes from now . . . I like to see the size of the animals and stuff but it's mostly just reading the things that I enjoy. (JK-2)*

*I liked having things there like the Kodiak bear. I always thought that the Kodiak bear was larger than the Polar bear, which, I guess, is wrong. [laughs] So it said that the Polar bear is the largest and most aggressive. So, hey, cool, I learned something today. (SB-4)*

- Variety

*(Asked what he liked best in mammals.) Just the displays. The way you show, you know, a little bit of everything in there, like that one right there, you've got all the different type wolves and foxes and jackals and everything. (ST-2)*

- Animals you don't normally see

*all the cool animals that I can't see around my house (JK-4)*

*[Here you can see] all the kinds of bears and how they compare to one another or like the wombat and some of those things you've only heard of, or the Tasmanian devil that you've only seen in cartoons, but never actually.... And a zoo is not like seeing it. It is kind of like in between seeing it in the wild and here. (JK-3)*

- What your children know

*There are a lot of things they knew that surprised me...It's good to see that they recognize things, and, you know, our daughter's six and she says "Look at that. That's a such-and-such." And you go, "I didn't know she knew that." (JK-7)*

### Theme 3: The effects of the presentation style

- Without settings you can easily spot what you are interested in knowing more about.

*It's easy to learn. Of course your eyes glaze over very quickly, but if you're interested in something it's right there in front of you. (JK-1)*

- Background settings can be distracting.

*He just likes to see the animals, not what the back looks like. (JK-4)*

*You can see the animals more clearly [without settings]. (ST-6)*

- Background settings are usually fake.

*Somewhere else you can have plants from different regions. You can do without plastic plants. (SB-4)*

- Groupings are helpful.

*I liked the organization -- putting the monkeys together, putting the cats together-- and having a large variety of them, species from all over the world, so that you can see the differences between what's evolved in America, what's evolved in Africa. (SB-4)*

- Settings aid the imagination.

*It gives you a better idea of... you know, reminiscing? This [without settings] is more like textbook stuff. That [display with settings] is more - you can visualize - these were actually real animals in a real place, doing things for 10, 20 30 years, raising their little babies and stuff like that. (ST-4)*

- Naturalistic settings enhance realism.

Interviewer: *Which [setting or no setting] do you like better?*

Boy (age 7): *I like them up there [with setting].*

Interviewer: *How come you like them better up there?*

Boy: *They look more realer.*

*(ST-4)*

- It's good that there isn't a lot more information.

*Over in the American History museum they have these [word unclear] all over the place. More information than you'd ever want to read in a day. It gets really mundane after a while. You don't bother reading them, you just go past them. You just want to get past the writing because you don't want to take the time to read them. ...This one is pretty nice. There's just enough information. You don't get a lot of information that you probably wouldn't remember anyways. (SB-4)*

#### Theme 4: Connections to personal experience

- At home

*[The children] say 'Oh look, here's a mole, this is what grandma has in her yard, tearing her yard all up.'* (ST-1)

*I liked the groupings. The different kinds of bears. Then you had one on unusual kinds of mammals. Coyotes. About what they eat. Because we have a growing coyote population in central Illinois, so that was interesting.* (JK-3)

- At school

*He [13-yr.-old grandson] likes to show me the things he's learned about in school. ..like I didn't know that foxes were considered dogs. He's known this for a long time.* (JK-4)

*Girl (age 10): We read about them. We talked about them. Too many darn books in school.*

*Interviewer: This is better than the books? How come?*

*Girl: Because you actually get to see the animals.* (JK-5)

- With peers

*Girl (age 10): My friend, Coral, likes animals a lot, so she knows a lot about it, and she tells me. So I looked at the Tasmanian wolf and I saw its name and I immediately knew it was extinct.* (JK-5)

- In the wild

*I got to see the real thing in the wild, I can see how big it was, how it moved, that was really neat, but I didn't get the chance to pick up on detail. I can just sit here and take the time and look at this thing and then I can pick up all the detail I missed.* (JK-7)

- Past events

*My daughter was able to go to Zaire and see the gorillas a couple years ago, so every time you get to see something like that you get to thinking about her being there and just being... getting an idea of the size, you know, and just, the perception changes when you see something like that.* (LP-5)

- Future events

*We've never actually gone to a wildlife park to see them in the natural habitat. Someday hopefully we're going to go to see them actually in open areas, not just in cages and zoos and stuff like that. Sometimes we talk about vacations we're going to take.* (SB-4)



## Theme 5: Animal specimens as "real thing"

- animal specimens are authentic.

Interviewer: *What has particularly impressed you today?*

Man (age 20): *The fact that they're all taxidermy, they're not just replicas or sculptures. (KW-5)*

*They're not statues. They are actual real specimens that are stuffed or wired, or whatever. (SB-4)*

- Are the animals real?

Interviewer: *When you look at the animals, and you talk to your mom about them, what kinds of things do you think about?*

Boy (age 7): *If they're real or not. What they like to do to play. (ST-4)*

Boy (age 12): *They look very real. Some of the other museums just don't make them look too good. They aren't as good as this...They just put it sloppy together. They put fur here and splash paint everywhere. And some of them are carved out of wood.*

Mother: *These were all original, weren't they? That were stuffed? Taxidermy?*

Interviewer: *Yes*

Boy: *Oh, no wonder they look real.*

...

Mother: *I was saying to them [her son and daughter], they didn't think that they were [real]. But I said years ago they didn't have as many rules about tracking the animals, so they could get real ones. (JK-1)*

- They communicate what it would be like to be there.

*You can use a lot of your imagination, and actually be like, wow, like the tiger that's jumping out, you can be like, whoa, that's what it would be like if a tiger was jumping at you, you know. (A woman added how scared she'd been for a second when she saw the whale.) (KW-7)*

- They arouse a response because of their realism.

*This is mood setting. This makes you stand and say Oh my god, all it would take would be one little touch of that paw and I would be dead. This is wonderful. (LP-5)*

*The more realistic the exhibits are, or the more kept up they are, the better condition they are, the bigger impact they make. It really drives home the point of seeing something. You can see a video, you can see a picture, but seeing a stuffed animal there -- and I have a problem with stuffed animals -- really to me makes a big impact. This is what it really looks like. (JK-7)*

## Theme 6: Interactions with displays

- Imaginative

*It was interesting and full of information and it's not really anything that's 'there, you just go up and read it' it's something that you can go there and look at it and you can use your imagination and imagine what they are actually doing. (JK-9)*

- Fantasy

*(Interviewer asked daughter, age 6, what she was thinking about when she stared at the animals. At that time, she was staring at the dogs.)*

*Girl: I'm in the picture with the animals.*

*Interviewer: So you're kind of imagining yourself in there? What kinds of things do you imagine?*

*Girl: Like I was in there with the wolves and the wolves wouldn't, you know, growl at me and stuff and get mad and stuff.*

*Interviewer: They wouldn't? How come?*

*Girl: Because I was, like, in the pack.*

*Interviewer: Oh, so you'd be part of the pack. That'd be very exciting. Do you think of things like that about any of the other animals?*

*Girl: Not really.*

*Interviewer: You like the wolves especially? How come?*

*Girl: Cause we have a dog that's my favorite and his name is Max, and he looks like a wolf sort of.*

*(ST-2)*

- A basis for group discussion

*We talk about the different kinds of furs, the different markings on the animals, the kinds of things that they eat, the places that they live. The food chain was very interesting. (JK-8)*

- Thinking about evolution

*Man: Well, I was looking at the monkeys. I'm trying to see development along... up the chain.*

*Interviewer: What kinds of things do you think about when you look at these animals?*

*Man: Well, I just told you, more or less the development from species, you know through the evolutionary line. I try to see the resemblance up through the different monkeys. Same thing with these animals, the little ones, see if I can't see a development. I try to see how they can progress. (ST-5)*

*We were just looking at the primates and I was saying that that group was closely related to us. (SB-2)*

## Theme 7: Past encounters with dioramas

- Childhood memories

(He remembered that when he was a kid he had a book that really made him want to come see the Smithsonian exhibits.) *It was a book on the Smithsonian and I remember it had pictures of all this -- my mother's probably still got it -- it had pictures of the dioramas in it, that's what I meant, and as a kid I was very like, "wow, I want to SEE that." When I finally did see them I was very satisfied with what I saw. I was like "wow this is great," and I'm still like that. My son, he's the same way. He walked in here with me, the first thing he said was "WOW, look!" (Discussing the displays, he said he liked the naturalistic dioramas best, that those were what he remembered the most.) (KW-3)*

- Sentimental value of particular dioramas

*There's also the sentimental value having been here when I was eight, from Buffalo, New York, been here when I was ten, fourteen, and whatever. We always come back here. We always come back to see the elk and the bison because you don't see those things up close, especially if you live here. There's no way that you're going to see them up close. So we definitely want it to stay. (JK-8)*

## Theme 8: Evaluative remarks

### Praise:

- Excellent mounts

*Some of the animals looked like they're really alive, like they're gonna get up and move. (ST-2)*

- Impressive numbers

Interviewer: *How would you compare this to the Zoo in Tulsa?*

Son: *This is a lot bigger. More things!* [Said very enthusiastically] (ST-4)

*Especially here, being a national museum, you expect it to be larger and more comprehensive....a representative collection (SB-4)*

- The amount of information here is just right.

*Just enough [information]. There's just so much here [in the museum] that you don't want to spend a lot of time in one particular area. So just enough reading material to give you something new but not so much that you're, overwhelmed. It's such a grandiose place to begin with. (JK-3)*

- Easy to learn from

*My seven-year-old niece very easily could see the food chain combination and who ate the most different things and which ones didn't have anybody eating them. It's a very strong visual effect for young kids. (JK-8)*

*I love the educational value of this, as well as, just, -- people love to come and see the bizarre animals. It's like a circus side-show to see some of these very unusual animals. --But I also really like the mammal sonar. That's a great exhibit. The things that are a little more educational, showing people something they haven't seen before. Make them think about something. (JK-10)*

- Nice mural

Interviewer: *What should we keep?*

Girl (age 13): *I like that [the mural]. (ST-6)*

- I like it the way it is.

*One of the comments she [her niece] made when she saw the pelts was "oh, poor animals," but we discussed how you would be able to get a pelt without harming the animal -- maybe from the zoo when they died, or whatever -- but we don't feel that this should be taken away. I like it the way it is. (JK-8)*

## Criticism:

- Deteriorating condition

*The cats are really getting moth-eaten ...It really detracts when one looks really ratty. You can still see the animal, but... If you were in the zoo you wouldn't want to see unhealthy animals. ...The same thing would apply here. A ratty, moth-eaten, run-down stuffed animal detracts from the overall quality. And you think maybe these guys aren't second-rate, maybe they're in decline, because they're not keeping up their exhibits.*

(JK-7)

*I guess the biggest thing I'm noticing, and I know it's impossible that it doesn't happen, is the aging of the exhibits and the colors are not quite what they should be, but still most people don't know that. (LP-5)*

*I am surprised at the condition. Some of them seem to be very old. But, on the other hand, since the old ones are endangered, I'd rather seem them old than new, endangered animals. (JK-10)*

- Crowds can be a problem.

*I think the museum is best if it isn't terribly crowded and you can kind feel that that display is kind of yours for that little minute or two you're standing in front of it. Now if you're trying to push in there with a mob that sort of spoils it, for me anyway. (KW-2)*

- Not all animal origins are identified.

*On all of the exhibits I would like to see their place of origin. Like this one happens to have it. Not all of the exhibits have that. (KW-3)*

## Suggestions:

- More colorful monkeys, more benches

*I'd say, have more colorful monkeys. I know some of the monkeys are awfully colorful... More variety, visual variety... More benches. (ST-4)*

- More colors in the design

*I think all the things are pretty much the same background color and when you go from thing to thing to thing, you start noticing that kind of stuff. So make it a bit more different. (ST-6)*

- More hands-on

*It would be nice to be able to feel the different types of skins. (SB-1)*

*Maybe add a room for hands-on stuff. .... You could have things where you put your hands in and try to guess what it is. So you could have fur or something. Or when there's, like, questions on the wall and you, like, lift it up. (ST-6)*

- Show/explain about DNA similarities.

*Particularly on the primates, you might want to consider showing the DNA visually. It's a whole lot more similar in that group than in some other group. There'd be a whole lot of educational benefit right there. With chimpanzees I think it's about 97% the same. Using DNA they're able to put together the branches a whole lot better than they were ten years ago. (SB-2)*

## INTERVIEW GUIDE FOR INTERVIEW STUDY II

8/27/98

### THE INTERVIEW:

The purpose of this study is to uncover one or more central concepts that underlie people's connection to these mammal displays. The first study revealed that visitors were making meaningful personal connections to this exhibition and gave hints of a deeper level underneath. For example, we have reports of visitors who imagined themselves inside the dioramas, or who wondered about where humans fit into the evolution process, or who said that they are interested in animals because "they are alive." This suggests the possibility that "our identity as mammals," i.e., the place of humans in the natural world of other living things, may be an underlying concept. Is it? Are there others more central? What is the heart of the visitor-mammal interface?

### Key issues:

*Interest* -- What is the visitor's interest in natural history?  
Is it an interest in science? An interest in nature? An interest in life?

*Meaning* -- What does it mean to feel connected to these displays?  
Where is the heart of the interest? Why look at these? Why be engaged by these things? What do they think about? What does it mean to them?

*Values* -- What values/beliefs are being reinforced by this experience?  
If the issue of protecting the environment or saving animals comes up, we want to uncover why that is important to them. Is there a spiritual component to this experience? A sense of the role and nature of humans in the universe?

*Relationship* -- What do people think about the nature of the relationship between humans and animals, as reflected in these displays? How would they describe it? What metaphor is most appropriate (once upon a time it was the metaphor of a ruler and his/her subjects -- are we family? neighbors? descendants? caregivers?)?

### Selection:

Select people who are showing some level of interest and/or involvement in the mammal displays, whether active (e.g., talking about a display) or passive (e.g., those imaginative types). A few children should be interviewed. Several of the most interesting and revealing statements in the prior series were from young people, especially in their early teens.

### Additions to the interview guide:

9/11/98

From the interviews we've heard so far, it seems that there is a strong emotional connection being made in the galleries. This is not a "scientific" or "intellectual" experience, as much as an emotional one. Nature and Life are dominant values.

Specifically, some of the main points respondents have made are:

- We need to respect animals. We are very much like them.
- Animals think and feel. They're smart. We can communicate with them.
- Animals were here first. We took their space. We share the world with them.
- We are responsible for them, especially since we've messed up so badly in the past.
- A lot is being done to improve their situation, take care of endangered species, etc.
- These mammals reflect the glorious diversity of our world.
- They are cute and remind us of our pets.
- We don't want to think about the fact that they were killed to be put here.

Can we go deeper than this?

If a visitor brings up some of these points, then inquire into:

*Experiences* - What kind of experiences have they had that made them feel the connection between people and animals that they're feeling in this mammals hall? Get stories.

*Values* - Why is it important to take care of these animals or the environment, or to treat them with respect? What is the source or ground for that value? Is it spiritual? Practical? Emotional? Intellectual?



TRANSCRIBED INTERVIEW (SD-1)

INTERVIEWER: First I would just like to ask you what brought you to the museum as a whole today.

VISITOR: I was hoping to draw.

INTERVIEWER: And what exactly were you hoping to draw?

VISITOR: Mammals and birds. I knew there were a couple of halls [inaudible].

INTERVIEWER: And so specifically mammals and birds you wanted to draw, and is this just for your general interest, or --

VISITOR: For artwork.

INTERVIEWER: And you do that as a hobby, or --

VISITOR: Mostly hobby. Some of it I do for work.

INTERVIEWER: And were you specifically assigned to do specific birds or mammals today?

VISITOR: No. No. Just whatever catches my eye.

INTERVIEWER: And that's how you select what you are going to draw, whatever catches your eye?

VISITOR: Yes. I mean if I know that there is a project that I'm going to have coming up, then I'll probably do that, look at some of those, but it's just kind of [inaudible] interesting.

INTERVIEWER: And how often have you visited the Natural History Museum before today?

VISITOR: This is the first time I've been to Washington, D.C.

INTERVIEWER: Oh, okay.

VISITOR: So this is it.

INTERVIEWER: This is it.

VISITOR: Yes.

INTERVIEWER: And have you gone to other things in this building before hitting the Mammals Hall?

VISITOR: I went to the birds. And then came to mammals, and now I'm going back.

INTERVIEWER: And you are here specifically to draw today? Okay. Is there any other reason that you are here to look at mammals?

VISITOR: Like what?

INTERVIEWER: Like does anything else draw you in here?

VISITOR: I don't know. I'm a biologist, so --

INTERVIEWER: You are?

VISITOR: -- I'm interested -- yes. Yes. So I'm just interested in anything and being able to see them up close and particularly, I work with endangered species, so any of those.

INTERVIEWER: So what is it about seeing them up close that is satisfying to you?

VISITOR: Because I don't usually get to. You know, most biologists any more, you don't necessarily handle [inaudible]. So most of the time you are just looking at photographs or seeing it from a distance, so it's good to be able to see them up close, and kind of get a better idea of what they are about.

INTERVIEWER: And what are you thinking when you look at the mammals?

VISITOR: What am I thinking? Well, let's see. Mammals versus birds? Or just --

INTERVIEWER: Well, if you could talk more about mammals, that would be good.

VISITOR: Okay. I wasn't sure, I wasn't sure [inaudible].

INTERVIEWER: But you can compare, if you would like.

VISITOR: Well, this isn't as depressing. The bird hall is a little more depressing.

INTERVIEWER: How so?

VISITOR: Well, just some of them extinct and some of them declining, and it's a little upsetting. So I don't know what I'm thinking when I'm looking at them. It depends on what it is. I don't really do primates. I'm not -- they're okay, but I'm not really interested in them. I'm mostly interested in canids and cats. It kind of depends on what it is. It's just, you know, like really cool. Red wolf, I mean. It's on the endangered species list. We're reintroducing it to the southeast and it's really neat to be able to see it up close and personal --

INTERVIEWER: Did you say "we are introducing it to the southeast," as in "humans," or --

VISITOR: Well, I work for the U.S. Fish and Wildlife Service, so yes, we have a reintroduction program in the southeast. Yes, I just -- it depends on what it is. I mean, you look at the musk ox, and it's like so cool, and it's big and furry and awesome, and I just imagine running into one in the wild, and what would it be like, and --

INTERVIEWER: Well, what would it be like?

VISITOR: What would it? It would be scary. It would be really cool, but scary. I hope I wouldn't do anything stupid and it would attack.

INTERVIEWER: So you think it's cool? And you describe that more by saying this is big and furry and awesome?

VISITOR: Just, I mean, the reason I went into wildlife was because I was fascinated by them, and the way they behave and the way they look, and how

different they are from people, and how they live and adapt to their world, and so it's --

INTERVIEWER: How do you think they're different from people?

VISITOR: How are they different from people? They don't have the power to ruin their world. I mean, no, I mean, people are very similar. It's just that we have the luxury of not, that everything isn't a fight to survive any more. You know, we have the luxury of being bored and being depressed, and go to museums and study things, and so we're in some ways we are above the rest of the world and out of touch with the rest of the world.

INTERVIEWER: You talked about how people are different from animals, so how do you think about animals? Like, do you have sort of an admiration for that way of being, or --

VISITOR: I don't know. It's -- I think it's more cut and dried. It's like eating -- you live or you die, compared to people. We're just on a different level now. I don't know if it's a better level -- it's a different level. So in some ways, in some ways they are better than people, yes. Because most of them don't have the ability or the knowledge to do the kind of destructive things we do -- not that, you know, if they had the ability, if they had the knowledge, they might do it -- but they don't, and it's just a much more simple way to live. A lot more black and white, and, I don't know.

INTERVIEWER: Would you say that you have a conservationist interest?

VISITOR: Yes.

INTERVIEWER: And how did that come about? Have you always sort of had that sense?

VISITOR: Yes, I guess. I always liked animals. I always felt very comfortable with animals, and enjoy going out in the woods and seeing things [inaudible], and it's become stronger, because the more you know, the more -- for me, the more I know, the more concerned I am about the world, and that's why eventually I -- well, originally I was going to be a zoo veterinarian, and there aren't that many zoos out there, and so I settled for the wildlife, and specialized in endangered species management, and so part of it is understanding animals and understanding what is going on in the world, and knowing how our activities affect the natural world, and so, and then it's kind of like, well, somebody's got to do it, and there's a great need out there for people to protect the natural world for other generations, and the more developed our society is getting, to a certain extent, the more they are appreciating what they don't have and what they are losing, and so it's kind of like hanging on to it for future generations.

INTERVIEWER: And when you are in the Mammals Hall looking at the animals in the cases, how much is this sort of thought process in your head?

VISITOR: It's kind of there all the time, unfortunately. It's part of it, the way I think. It would be nice if it wasn't.

INTERVIEWER: Why do you say that?

VISITOR: Well, it's just that it's hard sometimes, to deal with it and not dwell on it, get depressed by it, and try to live in the moment. And I, I mean, I think it's great that people are coming here and I don't always know how much they are learning, and [inaudible], "oh, that's neat," and well, there was this woman looking at the cats, and she'd go, "Ew, spotted leopard. Ew, tiger." What does that mean, "ew." What's that "ew" from? I don't know. Is that a good "ew," a bad "ew"? It was helping her connect, although I think it's great when the little ones, especially the ones that live in the cities, can [inaudible].

INTERVIEWER: Is it helping you connect?

VISITOR: Yes. Some of these I'm not going to get to see in my life. I'd like to. [inaudible].

INTERVIEWER: And how would you describe that connection?

VISITOR: I just feel like I understand better what they're like, and it just makes it real, like you don't get it if you are [inaudible], and --

INTERVIEWER: Understand better what they are like in what ways?

VISITOR: Oh, everything, you know. How they [inaudible] function. How they adapt to their environment. Maybe a little bit about personality and attitude.

INTERVIEWER: How do you think you're getting personality and attitude?

VISITOR: Oh, just the way they stand, and it's just a whole impression. You get a lot different impression. I get a different impression from something like a giraffe or an antelope than I do [inaudible].

INTERVIEWER: Just a certain indescribable sense, would you say?

VISITOR: Yes. Because I can't describe it. Yes, yes. And part of it is the way their body is made -- like the musk ox is very stocky and stiff, and some of these little guys are just very small and very delicate.

INTERVIEWER: So if you had to summarize the meaning to you of this experience, what would you say?

VISITOR: Well, I don't know if I can summarize it, and part of it's learning -- that I'll go away thinking that I know more about them than when I came -- and part of it is just getting to draw, having that kind of creative flow going, which is really good for me to do. And that's it.

INTERVIEWER: Let me see. Do you feel that there are values or beliefs that are being reinforced for you in the Mammals Hall?

VISITOR: Yes, just like the diversity of life.

INTERVIEWER: The diversity of life?

VISITOR: Yes. And the value of an individual species, how different it is, the niche it has in the world. [inaudible]. Individuality [inaudible], and it makes me feel better about what I'm doing, I guess.

INTERVIEWER: As a profession?

VISITOR: That's pretty much it.

INTERVIEWER: Okay. This is a good one for you, I think.

VISITOR: Okay.

INTERVIEWER: How would you characterize the relationship between humans and animals? Specifically what do you think would be the best metaphor to use?

VISITOR: Best metaphor. [inaudible]. What was the question again?

INTERVIEWER: How would you characterize the relationship between humans and animals? Let me see what the suggested metaphors were.

VISITOR: Okay.

INTERVIEWER: Are we family? Neighbors, descendants, care-givers?

VISITOR: I think that we should be more family, we should be more neighbors but we're not. A lot of people aren't connected at all. They don't care. And definitely care-givers. That's what it's turning into. We're doing so much that we're spending a lot of time trying to fix what we're doing, fix the impacts [inaudible]. But for a lot of people the relationship isn't there. It's very [inaudible].

INTERVIEWER: So you think it has evolved into a state of care-giving?

VISITOR: Yes. Yes. Well, it used to be, of course, competitive, that we saw them like the predators who were taking our stock. Well, a lot of people still think that. They were taking things that we wanted, and we needed to get rid of them, because we needed more ground, and we were more important. A lot of people, seems like a lot of more urban people, think of them as big pets. They go to Yellowstone and want to go out and pet the bison and get killed. People, a lot of people, don't have the respect for them that I think they should have, as a separate species, and as something that exists in its own right, and, you know, if we wink out, mostly they'll still be here, and people tend to see themselves as the center of the universe, and not a part of the universe, and I wish that wasn't happening.

INTERVIEWER: Could you describe, specifically, just how looking at these things ties into this whole spectrum of values and beliefs that you already have?

VISITOR: How does it tie into values and beliefs? Well like I said, each one of them is very individual, and working with endangered species, we focus a lot on an individual species, and try to make a case about that it was a value in the world, and being able to see things up close really reinforces that for me, that they're something unique, something very real, and something worth fighting for, I guess.

INTERVIEWER: Let me see. So would you say that your interest is in earth science or nature or life or all of these things?

VISITOR: Yes, I guess all of the above. Since I'm a biologist I have a certain amount of scientific interest, but I also like to think about how these things fit in, where they live, and then also as an artist, how they're shaped and look.

INTERVIEWER: So you have the scientific knowledge, and your artistic sense about the animals and the awe that you talked about, especially in relation to that animal, and all these things. What would you say is the most predominant sense?

VISITOR: Right now? I'm probably focusing more on the art end of things right now than I am necessarily the science end. What species is.

INTERVIEWER: Oh, really? Why is that?

VISITOR: Well, just because it's something that I've worked with or something that my agency is working on. If I know it's endangered, then the more science end clicks in, and studying it from that point of view. I mean, comparing it to another species, how it's different, [inaudible]. And if it's something that I'm not familiar with, then I'm studying it more from the scientific point of view than I may be from an artistic point of view.

INTERVIEWER: So what makes you have the artistic point of view more so?

VISITOR: Oh, I guess if it's something I'm familiar with, then -- or I'm drawing quite a bit of, then maybe that. If it's something that I'm thinking of doing a project on, and if it's something that just looks like it would be fun to draw.

INTERVIEWER: And what makes something fun to draw?

VISITOR: Oh, it could be like texture is fun, antlers are fun.

INTERVIEWER: Why?

VISITOR: They're cool. They're so varied, and, in their shape, and so --

INTERVIEWER: From animal to animal or species to species?

VISITOR: Species to species. They are just very varied, and they just have really interesting shapes, textures. They're fun.

INTERVIEWER: How do you feel about the presentation of the mammals, the fact that these are stuffed animals, and found this way?

VISITOR: I've done it. I've done that myself, so it doesn't bother me.

INTERVIEWER: You've done taxidermy yourself?

VISITOR: Yes. Just for classes and stuff, [inaudible]. Not that they came out this good, but I have done that. And it's really the best way to relate to them, a lot more than photographs.

INTERVIEWER: Because it seems more real?

VISITOR: It is, yes, because it is real, and sitting there, and you can see -- I like to look at the way the hair goes, the direction that the hair goes.

INTERVIEWER: Why do you like to do that?

VISITOR: Because that's an art thing, so that if I draw one, then I know how to make it more realistic. And I think it makes you recognize that, if you've seen them as much as I've seen them, it's okay, that isn't just a name in a book, it's a real animal. It makes it a lot more personal.

INTERVIEWER: Personal --

VISITOR: Real, close, closer to them, not an abstract concept. An endangered species [inaudible] This is an animal that's out there.

INTERVIEWER: You talked about the realness and the conservationist feelings that you have. Would you say that you have a spiritual connection?

VISITOR: Yes. Yes. Very much.

INTERVIEWER: In what way?

VISITOR: I guess it's part of my well-being, you know. That the animals are there. I have the opportunity to see them, and it makes you feel, the more I know about them, the more connected I feel to them, and yes. And I -- and personally I feel, I get a lot of peace, if I go back into a forest or something, it brings a sense of peace.

INTERVIEWER: Just to know that these animals exist?

VISITOR: Yes. That they exist, and that the world is full of many strange and different, weird things, and --

INTERVIEWER: And why does that bring you a sense of peace?

VISITOR: Because it's -- I don't know. Because it's fun, like whoever invented the platypus had to have a sense of humor. It's nice to know that there are so many different things out there, and that I can see them, if I make the opportunity.

INTERVIEWER: So that you may have the possibility to see something like this, and the biodiversity --

VISITOR: Yes.

INTERVIEWER: Let me see.

VISITOR: Are those questions really on there?

INTERVIEWER: No, no. They come in vague concepts I'm trying to get at.

VISITOR: Okay.

INTERVIEWER: You talked about your interest in the Hall and the kind of meaning that it has to you on the different levels, what you are thinking about when you look at things like this, the values and beliefs that it reinforces for you, and the relationship you feel between humans and animals. The one question that I had a while back that I kind of filed away was when you were talking about the differences between humans and animals, I wanted to ask you what you think the similarities are between humans and animals.

VISITOR: Well, I believe in the theory of evolution, so I think we're related, and we have a lot of the same gut level, basic instincts, and reflexes, and you know,

the primates, I think we have a lot of the same kinds of thought patterns. We take them in [inaudible] direction, but we are very similar, at the gut level, to all these animals.

INTERVIEWER: How so?

VISITOR: I don't know. I guess we have a veneer of sophistication, and under that, we are just animals, the same thing they are. We just hide it a lot better, and we fool ourselves into thinking we are better, but we need food, we need shelter, we need our own little niche, we mark our territories with fences and doors and things. The whole sex thing is the exact same thing. We just make it a little different ritual, and we've got the same response. We've got the same [inaudible].

INTERVIEWER: Why did you talk about that specifically in references to the apes?

VISITOR: Well, they are more closely related. There was this class and they said genetically we are 98 percent similar to apes like gorillas and things like that. So, yes. We're not that far from them really. [inaudible].

INTERVIEWER: Is there anything else that you would want to say about what you get out of looking at the mammals?

VISITOR: No, I think I said it all.

INTERVIEWER: Okay. That's great.



Table A.1  
Interviews in Interview Study I

Interviewer	No.	Date	Respondent(s)			
			Number	Gender(s)	Est. Age(s)	Relationships, etc.
Jean Kalata						
JK	1	7/20/98	3	F, F, M	40, 13, 12	Mother, Daughter, Son, from Massachusetts
	2	7/20/98	1	M	35	from Montreal
	3	7/20/98	2	M, F	45	from Illinois, M is a farmer
	4	7/20/98	2	M, F	13, 60	local boy with his grandmother
	5	7/20/98	2	F, F	11, 40	girl with her mother
	6	7/20/98	2	M, F	70s	couple from Florida, M is a hunter
	7	7/20/98	2	M, F	40s	local couple with children
	8	7/20/98	1	F	40s	local teacher
	9	7/20/98	2	M, F	40, 14	Father and daughter, from Idaho
	10	7/20/98	2	M, F	60s	couple from Texas, former Park Service
Kathryn Wycoff						
KW	1	7/20/98	3	M, M, M	35, 5, 8	father and sons
	2	7/20/98	2	M, F	60	couple
	3	7/20/98	2	M, M	35, 10	father and son
	4	7/20/98	1	M	38	professional mammologist
	5	7/20/98	1	M	20	
	6	7/20/98	3	M, F, F	20, 4, 8	mother and daughters, from Uruguay
	7	7/20/98	4	M, F, M, F	20	two couples
	8	7/20/98	5	W		3 women and 2 teenage girls
Laura Parkham						
LP	1	7/16/98	1	M	16	
	2	7/16/98	1	M	35	from DC
	3	7/16/98	3	F, M, F	35, 8, 10	woman with son and daughter, from Ohio
	4	7/16/98	2	F, F	40, 20	from England
	5	7/16/98	2	M, F	55	couple from Texas
	6	7/16/98	2	F, M	45, 18	mother and son, from Canada
Stacey Bielick						
SB	1	7/20/98	2	M, F	20s	couple
	2	7/20/98	3	M, M, M	30s, 8, 4	father and sons
	3	7/20/98	2	M, F	20s	couple
	4	7/20/98	1	F	15	
Susan Timberlake						
ST	1	7/20/98	1	F	60	visiting with children and 4 grandchildren
	2	7/20/98	2	M, F	30s, 6	father and daughter, from Georgia
	3	7/20/98	2	F, M	30s, 11	mother and son, from Connecticut
	4	7/20/98	2	F, M	30s, 7	mother and son, from Oklahoma
	5	7/20/98	1	M	70s	local, hunter
	6	7/20/98	2	F, F	13	from Canada
Zahava D. Doering						
ZD	1	7/20/98	2	M, F	40s	local
	2	7/20/98	1	M	40s	local
	3	7/20/98	4	M, F, M, M	30, 30, 8, 2	parents and children, from Florida
	4	7/20/98	1	F	20s	

Table A.2  
Interviews in Interview Study II

Interviewer	No.	Date	Respondent(s)			
			Number	Gender(s)	Est. Age(s)	Relationships, etc.
Sarah Diehl SD	1	8/29/98	1	F	30s	biologist
	2	8/29/98	3	M, F, F	30s, 60, 60	in DC for reunion
	3	8/29/98	1	F	20s	
	4	8/29/98	1	M	20s	
	5	8/29/98	1	M	30s	with sister, nieces and nephews
	6	9/13/98	1	F	25	from New Zealand
	7	9/13/98	1	M	35	
	8	9/13/98	1	M	13	visiting with parents and younger brother
	9	9/13/98	1	M	25	from England
	10	9/13/98	1	F	30s	from Wisconsin, former zookeeper
	11	9/13/98	1	F	30s	
	12	9/13/98	1	F	20s	
Andrew Pekarik AP	1	9/9/98	2	M, F	20s	couple from Louisiana
	2	9/9/98	1	F	30	
	3	9/9/98	1	M	70	from Pennsylvania
	4	9/9/98	1	F	30s	from Australia
Stacey Bielick SB	1	9/11/98	1	M	60s	
	2	9/11/98	2	M, F	30s	husband and wife (parents)

## Appendix B

### SURVEY STUDY: METHOD AND QUESTIONNAIRES

This section briefly discusses how the survey was conducted, including the schedules for data collection, sample selection procedures, and completion rates.

Overall Design. During a two-week survey period, December 2 to December 14, 1998, two groups of visitors were selected for interviews: (a) those who exited the Mammals exhibition, and (b) those who exited the NMNH building. Data were collected in personal interviews, approximately 10 minutes in duration. Four interviewing sessions were conducted on each day.

For this project we used a "continuous sampling" technique, a special procedure developed for sampling a mobile population.<sup>14</sup> We used teams of two or three people to survey visitors. Interviews were restricted to voluntary visitors; i.e., individuals clearly visiting the museum as part of a group were not selected for interviews.

In preparation for the main study, preliminary interviews were conducted with about 100 visitors. As a result of these interviews, and after consultation with NMNH staff, we developed the major topics for the questionnaire.

The questionnaire for the main study collected five types of information: characteristics of the individual, information about the visit, attitudes towards animal specimens, experiences in the exhibition, and satisfying experiences during the visit. The questionnaire also included a section for recording administrative information. This included the time, date and location of the interview, and the reason, if applicable, that an interview was not completed (e.g., Smithsonian employee).

Sample Design and Selection. Interviews were conducted everyday and, within each day, there were four sessions (11:00 AM -12:00 PM, 1:00 PM - 2:00 PM, 2:15 PM – 3:15PM and 3:30 – 4:30).<sup>15</sup>

Sample selection followed procedures established by ISO for its studies.<sup>16</sup> Teams of three individuals – one acting as a team leader – collected data during each session. The team leader had two major responsibilities: (a) to count and record the number of people approaching the exhibition during 15-minute intervals, and (b) to identify individuals to be interviewed. An imaginary line was selected

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<sup>14</sup> The procedure and its rationale are described in Doering, Z. D., Kindlon, A. E. , & Bickford, A. (1993). *The Power of Maps: A Study of an Exhibition at the Cooper-Hewitt National Museum of Design* (Report 93-5). Washington, D. C.: Smithsonian Institution.

<sup>15</sup> The schedule is on file, ISO.

<sup>16</sup> This method of selecting a sample keeps the interviewers fully occupied, compared to an equal interval selection method; the counter is essentially incorporating a self-adjusting selection interval.

near the interviewing location to clearly define who was approaching the exhibition. The team leader recorded the ongoing tally on a Sample Selection Form with the help of a mechanical counter and a watch. A training manual was developed for the study.<sup>17</sup>

Smithsonian staff and contractors, members of formal tour or school groups, and people ineligible for the study because they were not making a museum visit (e.g., looking for family or group members in the building) were excluded from the study. For logistical and technical reasons, interviews were not conducted with members of school or tour groups. Thus, our data pertain to "voluntary visitors."

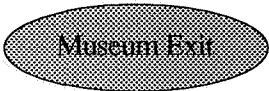
Data Preparation and Coding. The questionnaires were reviewed in the office to ensure that the data file included the appropriate information for weighting the data. Numeric codes were developed for the open-ended items.

Completion Rates and Response Bias. Of the 930 individuals intercepted, 750 completed interviews (81%)—19 percent of people intercepted refused to participate in the survey. A few refusals (5%) were due to language difficulties, and the rest (15%) were for "other" reasons (e.g., visitors in a hurry, not wanting to detain companions, etc.).

To check for possible bias in the survey, we compared separate demographic characteristics available for both visitors who completed interviews and visitors who refused for any reason (from observations). These include, residence, age, gender, and racial/ethnic identification, and interview location. There were no significant differences between individuals interviewed upon entering the exhibition and those exiting.

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<sup>17</sup> On file at ISO.



id

interv

Count \_\_\_\_\_

Hi. My name is \_\_\_\_\_. I work for the Smithsonian. I'm talking to people today about their visit.

\*1. Where do you live? statecity   
 Washington, DC     Other US \_\_\_\_\_  
 MD/VA suburbs     Foreign \_\_\_\_\_

2. At about what time did you enter the museum today? time  :

3. Is today your first visit to this museum?   
 Yes [goto Q6]    q3atimes  
 No: 3a. How many times have you been here before today? \_\_\_\_\_

6. On this card are some of the kinds of experiences that people have told us were satisfying to them in this museum. [SHOW CARD] Which one comes closest to describing your most satisfying experience in this museum today? First Choice \_\_\_\_\_

B. 1 Beauty    I. 6 Imagined      
G. 2 Friend/family    C. 7 Children    SatA    SatB    SatC  
R. 3 Rare/valuable    O. 8 Owning  
K. 4 Knowledge    W. 9 Reflected  
S. 5 Spiritual    M. 0 Memories   

6a. Where in the museum did you have this satisfying experience? q6awhere \_\_\_\_\_

6b. What would be your second and third choices from the list? 2nd \_\_\_\_\_ 3rd \_\_\_\_\_

8. Did you know that the museum has a Mammals exhibition displaying animal specimens?  
 Yes     No (skip to Q11)

9. Did you visit the Mammals exhibition today?  
 Yes     No

10. [If Q3=No:] Before today, how many times have you been to the Mammals exhibition?

- Never     4-9 times
- 1-3 times     10 or more times

11. Have you seen displays of animal specimens elsewhere?

- Yes     No

12. Some people have told us they have mixed feelings about seeing animal specimens. Which of the following statements apply to you? [SHOW CARD] Choose as many as you feel apply.

- E. Exciting     S. Sad      
 F. Disturbed     D. Not bothered    q12other  
 B. Uneasy     X. Other \_\_\_\_\_

13. The museum is being renovated. What do you think should be done with the museum's collection of animal specimens? [SHOW CARD] Mark one.

- C. Continue     O. Donate (skip to Q15)
- U. Upgrade     P. Store it (skip to Q15)

14. In your opinion, what is the most important reason for continuing to display the Mammals collection?

\_\_\_\_\_ q14opin

Now just a few questions about you ...

\*15. Who are you here with today? (code whole group)

- Alone     Adult(s) with child(ren)/teens
- 2 adults     2+ teens
- 3+ adults     Tour/school group

\*16. What is your age? \_\_\_\_\_ age

17. What is the highest level of education you have completed?

- HS grad or less     Bachelor's degree
- Assoc/Jr/Tech     Some graduate study
- Some college     MA/Ph.D/Profess.

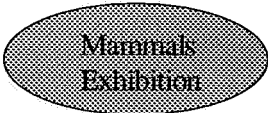
THANK YOU

\*18. Mark gender:  Female  
 Male

ADMIN BOX  
session   
segment  1     3    location  Mall Side    card  a    status  Interview     Ref: lang  
 2     4     Constitution     b     SI staff     Ref: other  
 c     Inelig.

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id

interv

Count \_\_\_\_\_

Hi. My name is \_\_\_\_\_. I work for the Smithsonian. I'm talking to people today about their visit.

\*1. Where do you live? statecity   
 Washington, DC     Other US \_\_\_\_\_  
 MD/VA suburbs     Foreign \_\_\_\_\_

2. At about what time did you enter the museum today? time  :

3. Is today your first visit to this museum?   
 Yes [goto Q5]    q3atimes  
 No : 3a. How many times have you been here before today? \_\_\_\_\_

4. Have you ever been to this Mammals exhibition before?   
 Yes : 4a. How many times have you seen it before today? q4atimes  
 No \_\_\_\_\_

5. Which of the following most closely describes your visit to the Mammals exhibition today? [SHOW CARD] Mark one.  
 N. Did not look     S. Stopped  
 G. Glanced     T. Spent time

6. On the other side of the card are some of the kinds of experiences that people have told us were satisfying to them in this exhibition. [SHOW CARD] Which one comes closest to describing your most satisfying experience in the Mammals exhibition today? First Choice \_\_\_\_\_

- B. 1 Beauty    I. 6 Imagined
  - G. 2 Friend/family    C. 7 Children
  - R. 3 Rare/valuable    O. 8 Owning
  - K. 4 Knowledge    W.9 Reflected
  - S. 5 Spiritual    M. 0 Memories
- SatA   SatB   SatC

6b. What would be your second and third choices from the list? 2nd \_\_\_\_\_ 3rd \_\_\_\_\_

7. In this Mammals exhibition, which kind of display did you prefer? [SHOW CARD] Mark one.  
 C. Similar animals     R. Realistic  
 E. Explanatory     X. No preference

11. Have you seen displays of animal specimens elsewhere?  
 Yes     No

12. Some people have told us they have mixed feelings about seeing animal specimens. Which of the following statements apply to you? [SHOW CARD] Choose as many as you feel apply.  
 E. Exciting     S. Sad  
 F. Disturbed     D. Not bothered    q12other  
 B. Uneasy     X. Other \_\_\_\_\_

13. The museum is being renovated. What do you think should be done with the museum's collection of animal specimens?[SHOW CARD] Mark one.  
 C. Continue     O. Donate (skip to Q15)  
 U. Upgrade     P. Store it (skip to Q15)

14. In your opinion, what is the most important reason for continuing to display the Mammals collection? q14opin  
\_\_\_\_\_  
\_\_\_\_\_

Now just a few questions about you ...

\*15. Who are you here with today? (code whole group)  
 Alone     Adult(s) with child(ren)/teens  
 2 adults     2+ teens  
 3+ adults     Tour/school group

\*16. What is your age? age

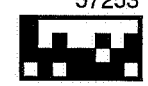
17. What is the highest level of education you have completed?  
 HS grad or less     Bachelor's degree  
 Assoc/Jr/Tech     Some graduate study  
 Some college     MA/Ph.D/Profess.

THANK YOU

\*18. Mark gender:  Female  
 Male

ADMIN BOX	segment	location	card	status
session	<input type="radio"/> 1	<input type="radio"/> Mammals Door	<input type="radio"/> a	<input type="radio"/> Interview <input type="radio"/> Ref: lang
<input type="text"/> <input type="text"/>	<input type="radio"/> 2	<input type="radio"/> Birds	<input type="radio"/> b	<input type="radio"/> SI staff <input type="radio"/> Ref. other
	<input type="radio"/> 3		<input type="radio"/> c	<input type="radio"/> Inelig.
	<input type="radio"/> 4			

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## Appendix C

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Table C.1  
Characteristics of Visitors to NMNH in December 1998 and December 1994\*  
(In Percent)

Characteristic	December 1998	December 1994**	Characteristic	December 1998	December 1994**
<b>Gender</b>			<b>Visit Group</b>		
Male	50	46	Adult alone	27	35
Female	<u>50</u>	<u>54</u>	Two Adults	37	25
Total	100	100	Three or more Adults	12	10
			Adults and Children	<u>24</u>	<u>30</u>
			Total	100	100
<b>Age</b>			<b>Visits to NMNH</b>		
Under 25	14	16	New Visitor	47	31
Age 25 to 44	47	52	1 to 3 Visits	21	30
Over 45	<u>39</u>	<u>32</u>	4 or more Visits	<u>32</u>	<u>39</u>
Total	100	100	Total	100	100
<b>Residence</b>			<b>Time in NMNH</b>		
D.C. Metro Area	25	38 ***	1 to 45 minutes	29	
Other U.S.	62	52	46 to 90 minutes	33	
Foreign	<u>13</u>	<u>10</u>	Over 90 minutes	<u>38</u>	
Total	100	100	Total	100	n/a
<b>Education (Age 25 or older)</b>					
High School or less	24	27			
Bachelors degree	41	31			
Graduate degree	<u>35</u>	<u>42</u>			
Total	100	100			

\* All data reported for visitors age 12 or older.

\*\* December 1994 data based on Bielick, S., Pekarik, A.J., & Doering, Z.D. (1995) *Beyond the Elephant: A Report Based on the 1994-95 National Museum of Natural History Visitor Study* (Report 95-6B). Washington, D.C.: Smithsonian Institution.

\*\*\* Includes all of Maryland and Virginia.



Table C.1b  
Demographic Characteristics, NMNH and Mammals Visitors  
(In Percent)

Characteristic	Mammals	NMNH
<u>Gender</u>		
Male	48	50
Female	<u>52</u>	<u>50</u>
Total	100	100
<u>Age</u>		
Under 25	20	14
Age 25 to 44	49	47
Over 45	<u>31</u>	<u>39</u>
Total	100	100
<u>Residence</u>		
D.C. Metro Area	14	25
Other U.S.	69	62
Foreign	<u>17</u>	<u>13</u>
Total	100	100
<u>Education Age 25+</u>		
High School or less	35	24
Bachelors degree	40	41
Graduate degree	<u>24</u>	<u>35</u>
Total	100	100
<u>Visit Group</u>		
Adult alone	23	27
Two Adults	28	37
Three or more Adults	9	12
Adults and Children	<u>40</u>	<u>24</u>
Total	100	100

\* All data reported for visitors age 12 or older.

\*\*\* Includes all of Maryland and Virginia.

Table C.2  
NMNH Visit type by Mammal type  
(In Percent)

NMNH Visit type	Mammals Visit type				Total
	Never been to Mammals	1st visit	1 to 3 visits	4+ visits	
New Visitor	48	52	0	0	100
1 to 3 visits	21	24	51	4	96
4+ visits	21	2	33	45	56

Table C.3  
Visitor Type by Having Seen Mammals on the Day of the Interview  
(In Percent)

NMNH Visitors	New Visitor	Repeat Visitor	Total
Saw Mammals that day	52	35	43
Did not see Mammals that day	<u>48</u>	<u>65</u>	<u>57</u>
Total	100	100	100

Table C.4  
Visitor Type by Awareness of Mammals Exhibition  
(In Percent)

NMNH Visitors	New Visitor	Repeat Visitor	Total
Aware of Mammals Exhibition	73	86	79
Not Aware of Mammals Exhibition	<u>27</u>	<u>14</u>	<u>21</u>
Total	100	100	100

Table C.5  
Reported time in NMNH by Visiting Mammals, NMNH Visitors  
(In Percent)

Time in NMNH	Visited Mammals	Did Not Visit Mammals	Total
1 to 45 min. in NMNH	38	62	100
46-90 min. in NMNH	53	47	100
Over 90 min. in NMNH	66	34	100

Table C.6  
Most Satisfying Individual Experiences of NMNH Visitors  
(In Percent)

Type	Satisfying Experience	Percentage of visitors reporting experience
<u>Object Experiences</u>		<u>47</u>
	I saw rare/unusual/valuable things.	34
	I was moved by beauty.	10
	I thought what it would be like to own such things.	3
<u>Cognitive Experiences</u>		<u>30</u>
	I gained knowledge or information.	30
<u>Introspective Experiences</u>		<u>23</u>
	I imagined other times or places.	12
	I reflected on the meaning of what I was looking at.	5
	I recalled my travels, childhood experiences, other memories.	5
	I felt a spiritual connection.	2
Total		100

Table C.7  
Most Satisfying Individual Experiences of Mammals Exhibition Visitors  
(In Percent)

Type	Satisfying Experience	Percentage of visitors reporting experience
<u>Object Experiences</u>		<u>34</u>
	I saw rare/unusual/valuable things.	22
	I was moved by beauty.	8
	I thought what it would be like to own such things.	5
<u>Cognitive Experiences</u>		<u>34</u>
	I gained knowledge or information.	34
<u>Introspective Experiences</u>		<u>32</u>
	I imagined other times or places.	15
	I reflected on the meaning of what I was looking at.	8
	I recalled my travels, childhood experiences, other memories.	8
	I felt a spiritual connection.	1
Total		100

Table C.8  
Type of Satisfying Individual Experience by Exhibition, NMNH Visitors  
(In Percent)

Experience	<u>Exhibition</u>				Total
	GGM	Dinosaurs	Culture Halls	All others*	
Object Experiences	66	36	35	31	47
Cognitive Experiences	22	24	30	43	30
Introspective Experiences	<u>12</u>	<u>40</u>	<u>36</u>	<u>26</u>	<u>23</u>
Total	100	100	101	100	100

Table C.9  
Type of Satisfying Individual Experience by Reason to Display Mammals  
Collection, NMNH Visitors  
(In Percent)

Experience	<u>Reason to Display Collection</u>				Total
	Education	Seeing Animals	Good for Kids	Other	
Object Experience	41	30	15	14	100
Cognitive Experience	58	15	16	11	100
Introspective Experience	48	17	18	17	100
Total	48	22	17	13	100

Table C.10  
Feelings toward animal displays by age, visit group, and gender  
(In Percent)

Characteristic	<u>Feeling toward animal displays</u>				Total
	Excited	Not Bothered	Sad or Uneasy	Disturbed	
<u>Age</u>					
Age under 25	29	42	18	11	100
Age 25 to 44	42	41	11	6	100
Age over 44	43	40	15	2	100
<u>Visit Group</u>					
1 or 2 Adults	37	44	15	4	100
3+ Adults	61	30	7	2	100
Adults & Kids	38	37	15	10	100
<u>Gender</u>					
Women	34	38	21	7	100
Men	46	43	7	4	100

Table C.11  
Most Satisfying Experiences in the Mammals Exhibition  
(in Percent)

Characteristic	Most Satisfying Experience			Total
	Object	Cognitive	Introspective	
<b>Visitation Pattern</b>				
Spent quite a bit of time at the displays	30	40	51	40
Did not stop at the displays for any length of time	<u>70</u>	<u>60</u>	<u>50</u>	<u>60</u>
Total	100	100	100	100
<b>Display Preference</b>				
Displays of similar animals together	43	14	14	24
Displays of animals with explanatory text	10	26	18	18
Displays of animals in realistic settings	38	50	66	51
No preference	<u>9</u>	<u>11</u>	<u>3</u>	<u>7</u>
Total	100	100	100	100
<b>Feelings about Displays of Animal Specimens</b>				
Felt that it is exciting to see the animal specimens	32	39	19	30
Did not feel bothered by the display	32	42	61	44
Felt sad or uneasy about the animals' deaths	29	13	16	19
Felt disturbed by the display of specimens	<u>7</u>	<u>6</u>	<u>5</u>	<u>6</u>
Total	100	100	100	100

Table C.12  
Feelings of Mammals Exhibition Visitors  
about Displays of Animal Specimens  
(in Percent)

Characteristic	Exciting To See	Not Bothered	Sad or Uneasy	Disturbed	Total
<b>Display Preference</b>					
Displays of similar animals together	23	21	40	16	24
Displays of animals with explanatory text	17	21	15	0	18
Displays of animals in realistic settings	60	52	38	43	51
No preference	<u>1</u>	<u>6</u>	<u>7</u>	<u>41</u>	<u>7</u>
Total	100	100	100	100	100
<b>What should be done with the collection?</b>					
Continue to display it as is	29	37	29	31	38
Upgrade it and then continue to display it	65	59	59	69	59
Store it and not display/Donate to other museums	<u>6</u>	<u>4</u>	<u>12</u>	<u>0</u>	<u>3</u>
Total	100	100	100	100	100



Table C.13  
Visitors who have Seen Displays of  
Animal Specimens Elsewhere  
(in Percent)

Characteristic	Have Seen	Have Not Seen	Total
<b>What should be done with the collection?</b>			
Continue to display it as is	27	44	38
Upgrade it and then continue to display it	68	48	59
Store it & not display/Donate to other museums	<u>5</u>	<u>8</u>	<u>3</u>
Total	100	100	100

Table C.14  
Why Mammals Visitors want to Upgrade and Continue  
to Display the Mammals Collection  
(in Percent)

Value of Display	Continue to Display	Upgrade & Continue	Total
Education	29	49	48
Seeing Animal Specimens	48	21	22
Good for Children	21	26	17
Don't Know/Other	<u>3</u>	<u>4</u>	<u>13</u>
Total	100	100	100