# Front-end Analysis for a Traveling Exhibit at the Cincinnati Museum of Natural History

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## Background

The Cincinnati Museum of Natural History (CMNH) is a 175-year-old institution which in 1990 moved its exhibition and program facilities to a new location in the city's massive Union Terminal railroad station. This new facility (Museum Center) also houses The Cincinnati Historical Society Museum, The Historical Society Library, an Omnimax theater, and The Cincinnati Arts Consortium Black History Museum.

This move represented a great expansion for CMNH, which had under 20,000 square feet of exhibition space in its former building. Exhibition space in the new facility is approximately 90,000 square feet, including a 10,000-square-foot gallery for traveling exhibits. CMNH has booked exhibits into this gallery almost continuously.

Concurrent with its move to Museum Center, CMNH also began designing and constructing its own traveling exhibits. CMNH market research and visitor research at the Museum consistently shows that visitors want exhibits that change frequently, so visitors can see there is something new each time they visit.

The first CMNH-produced traveling exhibit premiered in Cincinnati in Spring 1994. At that time, planning was underway for the second traveling exhibit.

## Choice of Topic and Exhibit Goals

A combination of market research (national and local) and staff discussion/brainstorming led to the choice of the topic "In the Dark: Worlds without Light."

Primary goals for the exhibit were established during a series of meetings involving a cross-section of exhibit/programs personnel, research/collections staff, and outside science consultants. These goals were:

- to show that humans are not well-adapted to the dark, and that this gives rise to discomfort, fear, avoidance, and lack of knowledge;
- to take some of the mystery (and perhaps some of the fear) out of dark environments by showing and talking about creatures of darkness, their adaptations to their dark environments, and the processes which make life possible in unlighted worlds; and
- to show how dark environments are tied to the whole of life on Earth.

## Front-end Analysis Process

Front-end analysis for "In the Dark" was conducted by the Museum staff evaluator between April 16 and May 16, 1993. One-hundred-eighty-eight adult visitors to the Museum, and 362 sixth-graders at their own schools, were asked how they felt about and what they knew about darkness, dark environments, and the creatures who live there. The adult visitors to the Museum were a random sample, chosen through use of a "spotting point." After each subject had begun her/his survey, the next person at the "spotting point" was approached. Surveying was conducted on every day of the week including Saturday and Sunday. The sixth grade classes represented a cross-section, geographically and demographically, of schools that had visited the Museum in the past year. Administration of the surveys at the schools was done by the teachers themselves, under guidelines provided by the Museum evaluator.

## Results

The surveys show that "fear" or uneasiness in the dark is a very common human emotion, for both children and adults. The dark is seen as a foreign environment to humans, one to which we are not well adapted, and one which represents the unknown to a very profound degree.

Darkness was seen as important to life on Earth—as a time of rest, rejuvenation, "internal clock" regulation, and in a "holistic" sense, as the "other half of life."

Adults and children alike believe that animals come out at night for three main reasons: to get food, for their own safety, or because they see better at night. Children often say simply "because it is their habitat."

Places of constant darkness mentioned most often by both adults and children were caves and deep seas. Children also showed an extremely strong association with woods, forests, and jungles as dark places. Creatures of darkness mentioned most often by both adults and children were bats and owls. Most adults believe that humans and plants could NOT live in darkness, but that many animals can and do. Adults further believe that knowing how animals function in the dark could have scientific or technological applications for humans.

## Possible Misconceptions

A number of areas of possible misunderstanding arose: How does the human eye function in relation to darkness (and how does this differ from animal eyes? Can any type of plant life exist in the dark, and how do we define "plant" for the purposes of this exhibit? (Some people perceive mushrooms as plants and some think there are plants living in total darkness on the ocean floor). What percentage of life takes place in the dark? (Many people perceive night as a time of rest, not activity). Many people

seem to feel that animals come out at night because they have sensitive or keen eyes.

## Visitor Language

Adults use the words "nocturnal," "adapt," and "adaptation." Children use the words "nocturnal," "adapt," "adaptation," "habitat," "predator," and "prey."

## How Research Has Affected the Exhibit

The research provided a greater awareness of the "dark experience" across demographic groups, as well as providing a starting place for some of the language to be used. For exhibit, programming, and marketing purposes, the research provided valuable insight into the prevailing attitudes toward darkness.

More specifically, the research reinforced the tentative choice of dioramas to be constructed, and showed that the nocturnal forest diorama has the potential to be a powerful teaching tool for children. It showed that the inclusion of bats and owls in the exhibit should help establish visitor comfort level. It also suggested some specific areas to explore: (1) alternative processes to photosynthesis (chemosynthesis), and how photosynthesis still provides the energy base in most dark environments; (2) how animal vs. human night vision works; (3) theories about ecological "niches" and adaptations based on these; (4) the significant amount of life that goes on in the dark, unseen by humans.

## Conclusion

The front-end research has provided a constant source of reference as the design of the exhibit has progressed. Research is continuing with formative evaluation of key exhibit elements and concepts.