

# The Sky Through the Eyes of Africa

*A Study of Visitors to African Cosmos: Stellar Arts*

At the National Museum of African Art



March 2013



Smithsonian Institution

Office of Policy and Analysis  
Washington, DC 20013

“The Sky through the Eyes of Africa: A Study of Visitors to *African Cosmos: Stellar Arts* at the National Museum of African Art”

Report to the *African Cosmos* exhibition team and staff of the National Museum of African Art (NMAfA)

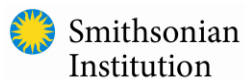
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Smithsonian Institution Office of Policy and Analysis (OP&A)

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Cover image:

Gavin Jantjes

b. 1948, South Africa

*Untitled*

1989-90

Acrylic on canvas

National Museum of African Art, purchased with funds provided by the Smithsonian Collections

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## Introduction

*African Cosmos: Stellar Arts* was an exhibition organized by the National Museum of African Art (NMAfA) and curated by its deputy director and chief curator Christine Mullen Kreamer. The exhibition brought together over 90 traditional and contemporary objects of sculpture, painting, photography, textiles, and video from the African continent and the African diaspora. It was created to show how the sky has inspired the arts of Africa for millennia, as well as to address the interconnected relationship of visual culture and science by exploring how Africans have used their celestial observations to make sense of their environments and the universe. According to *The New York Times* art review:

*It's a show about the extent and persistence of cosmological consciousness in art, old and new, from the African continent. It's also a bold demonstration of a more specific reality: In Africa art and science, including astronomy, have always intersected.*<sup>1</sup>

The exhibition—apart from one contemporary artwork, *Trembling Field*, on Sublevel 1—could be seen by visitors on the Museum's Sublevel 2 for the duration of its run (June 20, 2012 to December 9, 2012). NMAfA's Discovery Room (a semi-permanent space on Sublevel 2 dedicated to child-friendly activities and discovery) housed exhibition-related activities intended for families and visitors interested in hands-on engagement. A Star Sounds station was located in the corridor outside the exhibition (where visitors could watch visualizations of recorded star sounds) and a computer station was placed inside the main exhibition hall, near the Discovery Room. The exhibition's main entrance on Sublevel 2 functioned as the primary entrance and sometimes as the exit. (To avoid looping back through the exhibit, visitors could exit through a hallway beside the Discovery Room; in rare cases, visitors would enter through the "exit" hallway). On Sublevel 1, visitors could see *Trembling Field* and look through a balcony-like window into the main exhibition hall, just below on Sublevel 2, making a link between the two spaces.

*African Cosmos* presented audiences with nine thematic sections that addressed slices of the many facets of art, science, and the cosmos in African cultural life. The themes included: *Ancient sky-watchers* (Egyptian understanding of the sky); *Celestial deities in the time of the pharaohs*; *Cosmic connectors* (objects linking earth and sky through their forms and performance contexts); *The sun at which one cannot stare* (the Sun as a symbol of the divine); *Without the moon, there would be no life* (the importance of the Moon to human activity, including human and agricultural fertility); *Lunar enlightenment* (objects that illustrated the ways that ideas about the light of the moon, in its phases, was linked to ideas about positive social action and the powers of enlightenment conferred upon diviners and healers); *Cosmic models* (African models of the universe); *Celestial guidance* (the wisdom derived from the sky to inform day-to-day life and proper social behaviors); and *A universe of possibilities* (a selection of artwork by African artists of the 20<sup>th</sup> and 21<sup>st</sup> centuries who looked to the cosmos for inspiration). Some of these sections encompassed many geographical areas and/or time periods and included explanatory text and a variety of objects. Visitors could wander self-guided

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<sup>1</sup> Cotter, Holland. "Under an African Sky, Gazing Up With Awe: 'African Cosmos,' at National Museum of African Art." *New York Times*, August 30, 2012. Article accessed at <http://www.nytimes.com/2012/08/31/arts/design/african-cosmos-at-national-museum-of-african-art.html>.

through the exhibition to encounter the nine sections in different combinations, i.e., there was no one straightforward path through the exhibition.

Auxiliary educational programming (e.g., a Family Guide and lesson plans), special events (one-day performances, screenings, workshops), and web presence (e.g., online exhibit and social media) encouraged in-person and offsite visitors to engage with the exhibition's content in multiple ways.<sup>2</sup> Notable among these was a portable planetarium (developed by the National Air and Space Museum) that was installed in the museum's entrance pavilion each month to project a special African Skies program.

A scholarly catalogue with numerous essays, *African Cosmos: Stellar Arts* (2012), was published by NMAfA in conjunction with the exhibition.

It is important to note that the development of this exhibition featured several new efforts to better engage visitors. Label texts were drafted with intriguing headlines that could appeal more directly to different types of visitors, in line with the model of experience preferences discussed later in this document.

In addition, the exhibition team, for the first time in the museum's history, tested the major exhibition texts and their accompanying images with the public. In a series of sessions draft versions were shown to randomly selected visitors who were interviewed about their responses. Immediately after these interview sessions the exhibition team reconvened as a group to discuss how these visitor reactions should be taken into account. Panels were redrafted and redesigned as a result of these discussions and re-tested.

## Aims of This Study

This assessment of the exhibition was designed to address four areas:

**Perceptions:** What was the audience's level of awareness of the importance of science and the study of the heavens in Africa, and the connection between the study of the heavens and African art? To what extent did this awareness change as a result of the exhibition? What was the main idea that people felt the exhibition was trying to communicate? Was the idea new to them?

**Responses:** How did visitors to the exhibition rate their overall experiences? How did these ratings compare to expectations? Which experiences were especially satisfying? How did this compare to the experiences visitors were looking forward to? How did they feel about key exhibition features: texts, computers, type of art, activity room, exhibit design, etc.? What surprised them? What enhancements did they want?

**Interests:** How interested were visitors in African art, African culture, and astronomy? Did levels of interest change as a result of the exhibition? How many visitors had personal connections to Africa?

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<sup>2</sup> See <http://africa.si.edu/exhibits/cosmos/>

**Differences:** Were differences in perceptions, responses, or interests associated with differences in demographic characteristics, visit characteristics, advance knowledge of the exhibition, personal connections to Africa, or experience preferences?

Parallel studies of an interactive display and the Museum's Discovery Room supplemented the findings in the above four areas.

## Executive Summary

**Perceptions:** Half (51%) of entering visitors believed that the study of the heavens is particularly important in Africa; nearly two-thirds (64%) felt that science in general is particularly important in Africa, and two-fifths (40%) felt that study of the heavens and African art are strongly connected. The exhibition increased awareness of the importance of the study of the heavens in Africa for one in six visitors (16%), the importance of science for one in 17 visitors (6%), and the connection between study of the heavens and African art for one in five visitors (21%).

Visitors who responded to the question about the main idea of the exhibition reported a wide range of themes, from the more obvious topic of Africa, the study of the cosmos, and art to ideas about the interconnectedness of all humans with respect to an interest in the heavens, cultural diversity, spirituality, lessons from the cosmos, and time. More than two-fifths of visitors (44%) said that the idea was new to them. This was especially true for first-time visitors, who were more likely to indicate that the idea was new to them (51%) than repeat visitors (28%).

**Responses:** Exiting visitors as a whole rated their overall experience in the exhibition at a level that is close to both the Smithsonian average and the Museum's average (32% Poor/Fair/Good; 51% Excellent; 16% Superior). This was an 8% improvement over the expectation of entering visitors (40% Poor/Fair/Good; 47% Excellent; 12% Superior).

The most satisfying experience was Being exposed to different cultures (55%), followed by Seeing rare, valuable, or uncommon things (46%), Enriching my understanding (46%), Being moved by beauty (44%), and Gaining information/knowledge (41%). Comparing experiences that visitors were looking forward to reveals that Seeing rare things exceeded expectations (40% on entrance; 46% on exit), but that two other experiences fell short – Gaining information/knowledge (48% on entrance; 41% on exit) and Getting a sense of the everyday lives of others (21% on entrance; 15% on exit).

Less than half of visitors reported in the survey that they used the computer stations (48%) or stopped in the Discovery Room (40%). Among the exhibition features, the highest ratings were given to the design, traditional art, and readability of texts. The lowest ratings were given to the computer stations and the amount of text. Over one-quarter of visitors (26-27%) said that more information, music, and maps would have enhanced their visit.

Over two-fifths (43%) of exiting visitors reported that something surprised them. Aside from the topic of the exhibition itself, the surprises included its design, scope, and curation; content; beauty; and combination of traditional and contemporary art.

**Interest:** One-third (33%) of visitors reported that they were very interested in African art, and nearly two-fifths (38%) said they were very interested in African culture. Less than a quarter (23%) were very interested in astronomy. There were no differences between entrance and exit responses.

More than half of visitors (54% on entrance; 57% on exit) reported having a personal connection to Africa.

**Differences – Exhibition-specific Visitors vs. General Visitors:** Three in ten visitors (30%) came to the Museum specifically to see this exhibition. *African Cosmos* worked very differently for these visitors than it did for the 70% who came for a general visit. The intention-driven visitors were more likely to have heard about the exhibition through word of mouth (29% vs. 11% of general visitors), something in the newspaper (27% vs. 1%), an ad (13% vs. 2%), or the internet (13% vs. 2%), while most of the general visitors (77%) were just on a visit to the Museum.

Exhibition-specific visitors had more mixed responses to the exhibition. Among entering exhibition-specific visitors, Excellent was the dominant anticipated rating (69%); among exiting exhibition-specific visitors there was a 22% difference – 15% gave a higher score (Superior: 11% entrance; 26% exit), and 7% gave a lower rating (Poor/Fair/Good: 21% entrance; 28% exit). Among general visitors the shift from entrance to exit was 14% in the positive direction from Poor/Fair/Good to Excellent (40% to 54%; Superior was unchanged at 12%).

Fewer exiting than entering exhibition-specific visitors reported experiences of Enriched understanding (66% entrance; 46% exit) and Seeing rare objects (41% entrance; 31% exit). On the other hand, they found somewhat more exposure to different cultures (52% entrance; 59% exit) than was anticipated.

By comparison exiting general visitors came away with less of a Sense of the everyday lives of others than expected (21% entrance; 12% exit), Gaining information (46% entrance; 36% exit), and Exposure to different cultures (60% entrance; 53% exit) than entering general visitors were looking forward to. On the other hand, they reported more experiences of Seeing rare things (39% entrance; 52% exit) and Enriched understanding (37% entrance; 45% exit) on exit than they anticipated on entering.

The differences in anticipated and satisfying experiences highlight the different perspectives of these two key audience segments. Because the exhibition-specific visitors were more knowledgeable and connected to Africa (61% reported a personal connection to Africa, compared to 53% of general visitors), they sought understanding more than information, and were less satisfied by what was on display compared to general visitors. Their interest in learning is supported by the data on their experience preferences, as noted below. General visitors, by contrast, found it harder to get information while being more satisfied with the art on display.

**Experience Preferences:** The Office of Policy and Analysis has been conducting research to uncover factors that could help to explain the behavior of visitors in exhibitions and their overall responses. This has led to a typology of experience preferences, which identifies four key dimensions of experience to which individuals are drawn: Ideas, People, Objects, and Physical sensation (IPOP).

Visitors' fundamental interest in different kinds of experiences (Idea experiences, People experiences, Object experiences, or Physical experiences - IPOP) was associated with particular behaviors, interests, and expectations. With respect to behavior, visitors who came specifically to see *African Cosmos* had significantly higher Idea scores than other visitors, suggesting that the exhibition was conceptually attractive.

Visitors with a preference for People experiences were much more likely to be very interested in African art (51% vs. 25-30% for those with other preferences) and African culture (62% vs. 27-40% for those with other preferences).

Object preference visitors anticipated overall higher ratings (58% Excellent; 13% Superior) than Idea preference visitors (33% Excellent; 13% Superior). People preference visitors were particularly looking forward to connecting with their heritage (12% of Idea preference visitors; 35% People; 20% Object; 16% Physical; 18% No preference), and were more likely to have found out about the exhibition through word of mouth (12% Idea preference visitors; 30% People; 15% Object; 8% Physical; 21% No preference).

**Bottom Line:** The exhibition had a measurable, positive impact on visitors' perceptions of African study of the heavens, science, and art. It also exceeded the experience expectations of both exhibition-specific visitors and general visitors and triggered new ideas for a substantial portion of the audience.

The study findings highlighted the diverse expectations of visitors, and the museum's challenge of balancing their differing desires for information, understanding, art objects, and stories of everyday life, across multiple levels of interest, personal connection, and knowledge.



## Methodology

### *Entrance and Exit Surveys*

For the quantitative portion of the study, OP&A administered two surveys: an entrance survey and an exit survey. During the survey administration sessions,<sup>3</sup> every visitor<sup>4</sup> was intercepted and asked to complete either an entrance or exit survey. A total of 260 visitors completed self-administered entrance questionnaires, with a response rate of 75%. A total of 285 visitors completed self-administered exit questionnaires, with a response rate of 74%. The entrance and exit survey questions are provided in Appendix A and B, respectively, and the frequencies of responses to the questions on the surveys are given in Appendix C.

The survey respondents constituted a census of visitors present in the exhibition at the times it was administered, and with some caveats,<sup>5</sup> may be treated as a representative sample of the larger population of exhibition visitors.

### *Observations and Interviews*

OP&A also conducted studies of visitors' actions and behaviors in NMAfA's Discovery Room, which offered family-friendly activities related to the exhibition, and *Trembling Field*, an interactive artwork on display as part of *African Cosmos* but physically separated from the exhibition by its location one floor above the main exhibition hall. OP&A staff observed and interviewed visitors at these two locations at various times during the exhibition (June 20 – Dec 9, 2012). The majority of the observation and interview sessions took place in December on both week and weekend days. The studies intended to capture visitors' experiences with and reactions to *Trembling Field* and the hands-on activities, exhibits, and videos in the Discovery Room. The observation forms for the Discovery Room and *Trembling Field* are reproduced in Appendix D and E, respectively. Visitors were randomly chosen using a selection process whereby the first person to enter a defined space was observed, regardless of age. His or her actions were carefully recorded until he or she left the space, at which time adult visitors were interviewed or, if the observed visitor was a minor, the interviewer spoke with the child's guardian (and in some circumstances spoke with the child with the guardian's permission). The process would begin anew with the next visitor who entered the space.

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<sup>3</sup> Each session was one-and-a-half hours, comprised of three 30-minute segments.

<sup>4</sup> Excluding SI staff/volunteers, visitors under 12, and organized groups.

<sup>5</sup> The study assumes that the visitor population at the times of the survey's administration did not systematically differ from the visitor population over the course of the exhibition's run. The census sample, high level of respondent cooperation, and large size of the entrance and exit samples support the reliability of this data as a record of visitor characteristics and responses during the study period. In comparing fixed characteristics across entrance and exit (e.g., first visit, gender, etc.), it was noted that those percentages differed by 5% or less, hence the analysis only discusses differences greater than 5%.

## Entrance and Exit Surveys

### Perceptions about Africa, the Study of the Heavens, Science, and Art

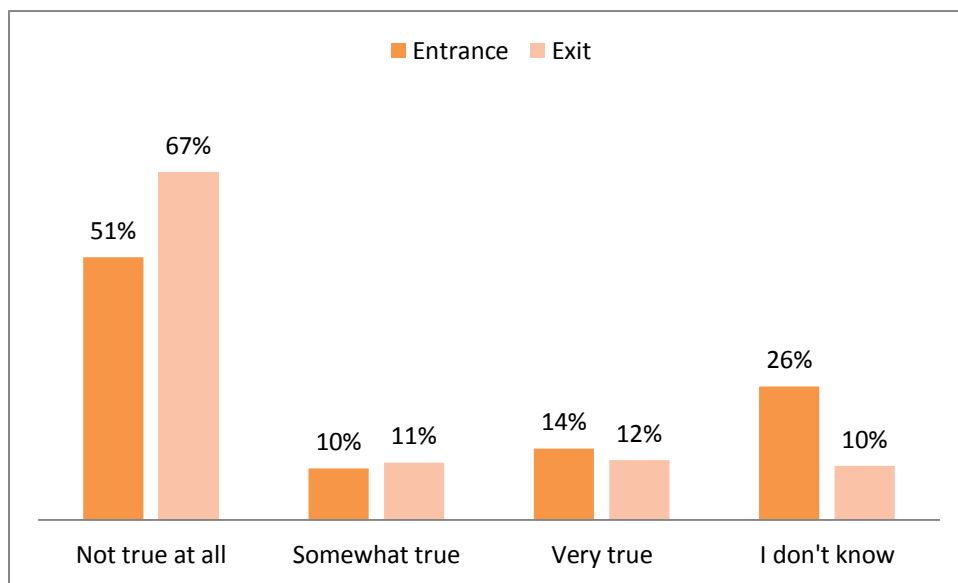
#### Statements

In order to measure the impact of the exhibition on ideas about Africa, the surveys asked entering and exiting visitors how much they agreed with three statements about the study of the heavens, science, and art in Africa.

Statement one: *The study of the heavens IS NOT particularly important in Africa.*

Half of entering visitors (51%) rejected this statement—that is, they believed that the study of the heavens IS particularly important in Africa. For exiting visitors, this group rose to two-thirds (67%), and exiting visitors were much less likely to say that they didn't know. (Figure 1)

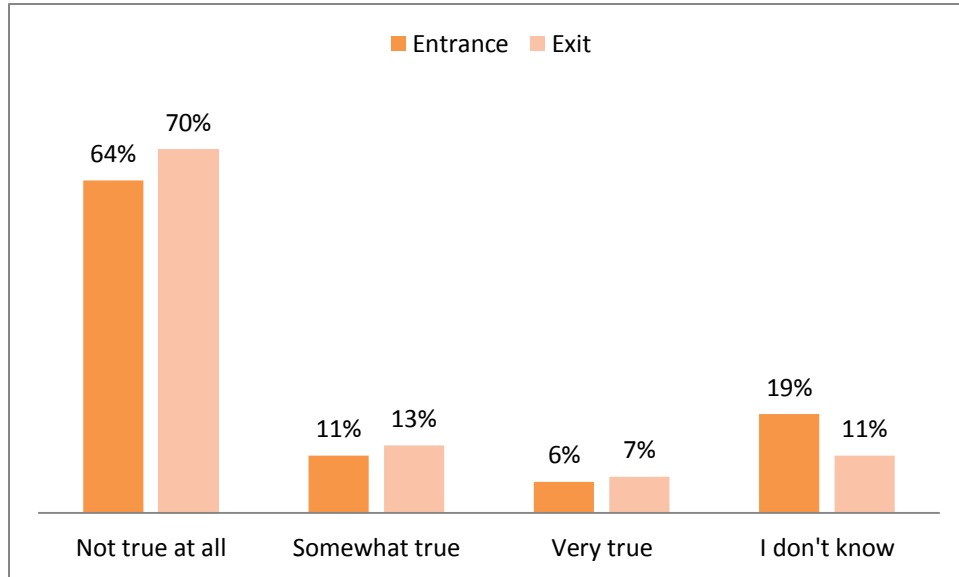
**Figure 1. The study of the heavens IS NOT particularly important in Africa, Entrance vs. Exit**



Statement two: *Science in general IS NOT particularly important in Africa.*

Most entering and exiting visitors found the statement to be untrue—to them, science IS important to Africa. A slightly higher percentage thought so after seeing the exhibition (64% on entrance vs. 70% on exit). This increase corresponds to a decrease in exiting visitors who didn't know (19% on entrance, 11% on exit). (Figure 2, next page)

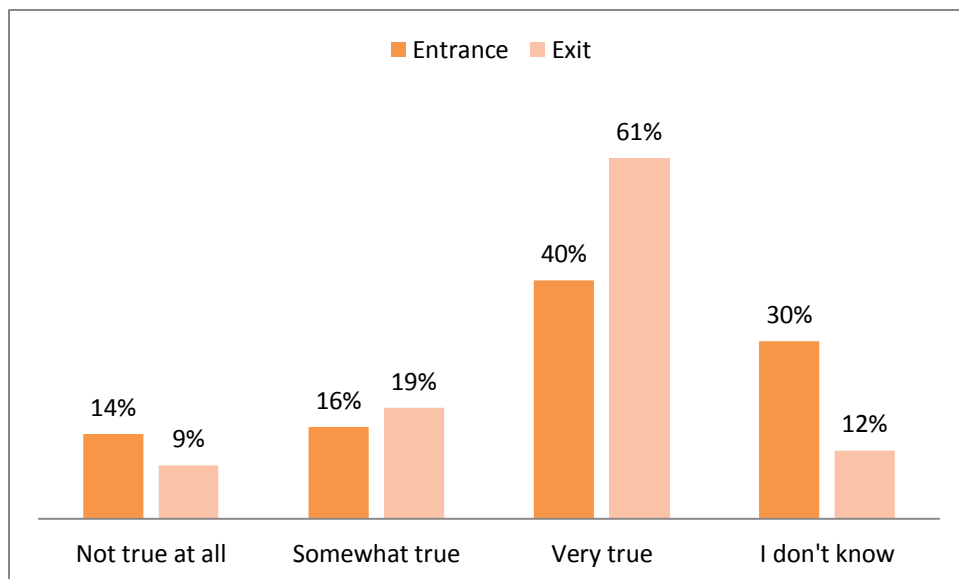
**Figure 2. Science in general IS NOT particularly important in Africa, Entrance vs. Exit**



Statement three: *The study of the heavens and African art ARE strongly connected*

Two-fifths of entering visitors (40%) thought this statement was very true. This increased to three-fifths (61%) among exiting visitors (Figure 3). The rise correlates to a decrease in those who did not know (30% to 12%).

**Figure 3. Study of the heavens and African art ARE strongly connected, Entrance vs. Exit**





stories, and art. Some visitors felt that the exhibition helped them to see the universe from a non-Western, non-European lens.

#### *Art and Culture*

Visitors mentioned beauty, art, heritage, culture, knowledge, and imagination as vital components of the exhibition.

#### *Religion and Spirituality*

Some visitors remarked on the religious and spiritual aspects inherent in the relationship between humans and the universe.

#### *Lessons*

Some visitors thought societies derive wisdom from the cosmos; they suggested that Africans and humankind more generally apply these insights to the ways that they behave and live day-to-day.

#### *Time*

Some of the comments alluded to time, history, tradition, and antiquity. This was especially true for those who mentioned Egypt. Some visitors wrote about the continuity of the past to the present. For example, the main idea of the exhibition for one visitor was “the powerful connection throughout time of people and the cosmos.”

#### *Unsure*

A portion of visitors was unsure what the theme was. Some gave little thought to the exhibition’s theme or were more interested in viewing the objects.

#### *Other*

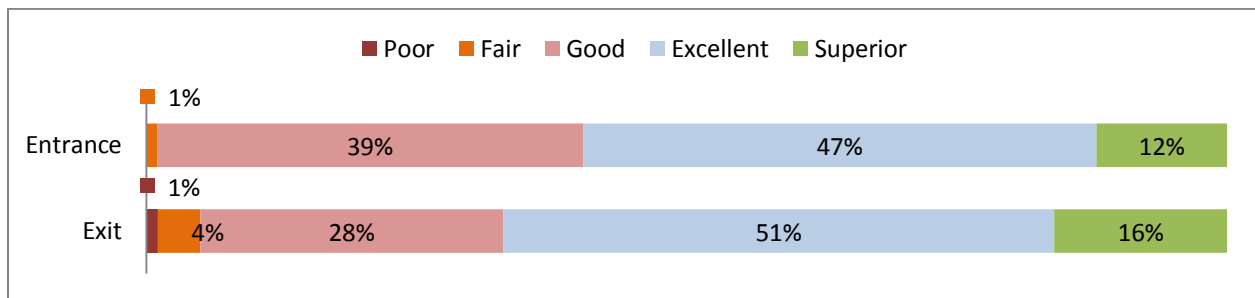
While visitors were overwhelmingly positive about the exhibition, a few had constructive feedback and/or expressed disappointment. One visitor wrote, “African history is interesting... there could have been better info for the public to learn about.”

## Other Visitor Responses

### Overall Experience Rating

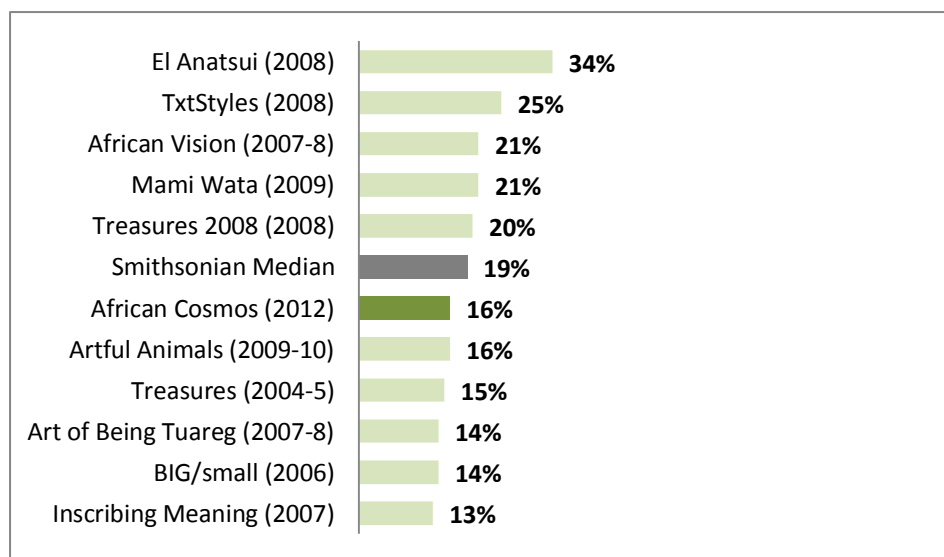
Visitors entering and exiting the exhibition were asked to rate their anticipated or actual overall experience on a response scale of Poor, Fair, Good, Excellent, Superior. In general, Smithsonian visitors who are satisfied with their overall experience give a rating of Excellent. Those who have some concerns tend to give a rating of Poor, Fair, or Good, depending on the nature of their criticisms. At the other end of the scale, those who are particularly pleased with their experiences choose Superior. Overall, the exit rating for *African Cosmos* exceeded the anticipated rating by a relatively modest 8% (4% higher for Excellent and 4% higher for Superior) (Figure 5).

**Figure 5. Visitors' Overall Experience Rating, Entrance vs. Exit**



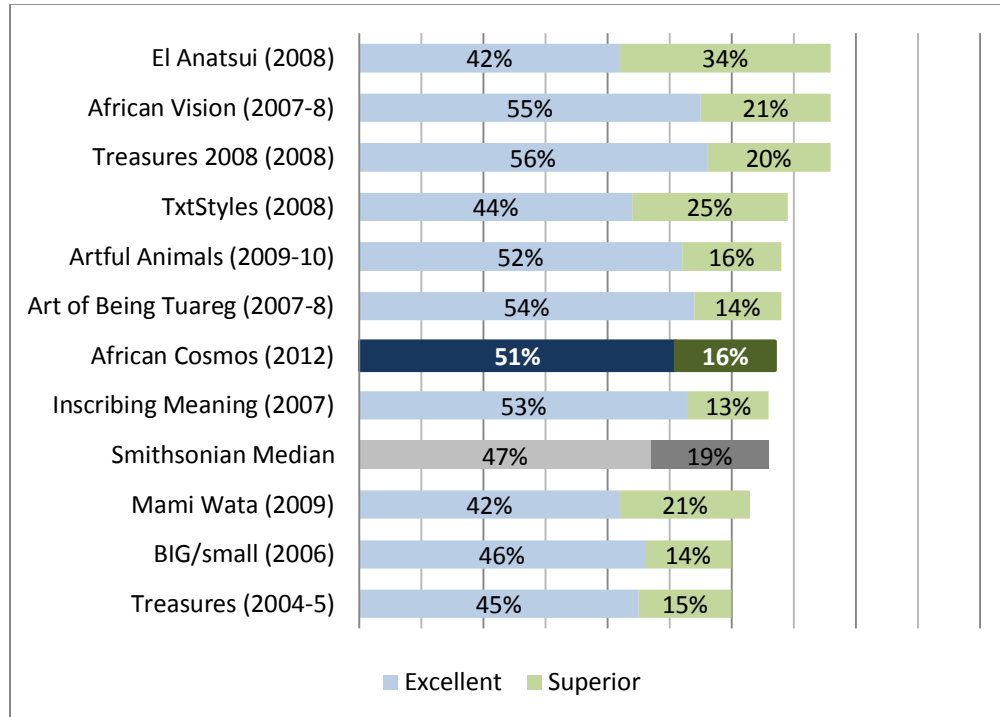
The *African Cosmos* visitor exit ratings can be put side-by-side with other NMAfA exhibition ratings and the Smithsonian median, based on data collected by OP&A, to show that *African Cosmos* falls slightly below the NMAfA and the Smithsonian's median ratings for Superior (Figure 6).

**Figure 6. Visitors' Superior Experience Ratings, NMAfA Exhibitions (2004-2012) and Smithsonian Median**



However, when Excellent and Superior ratings are combined, *African Cosmos* is on par with the Smithsonian median and within the Museum median range (Figure 7).

**Figure 7. Visitors' Excellent and Superior Experience Ratings, NMAfA Exhibitions (2004-2012) and Smithsonian Median**



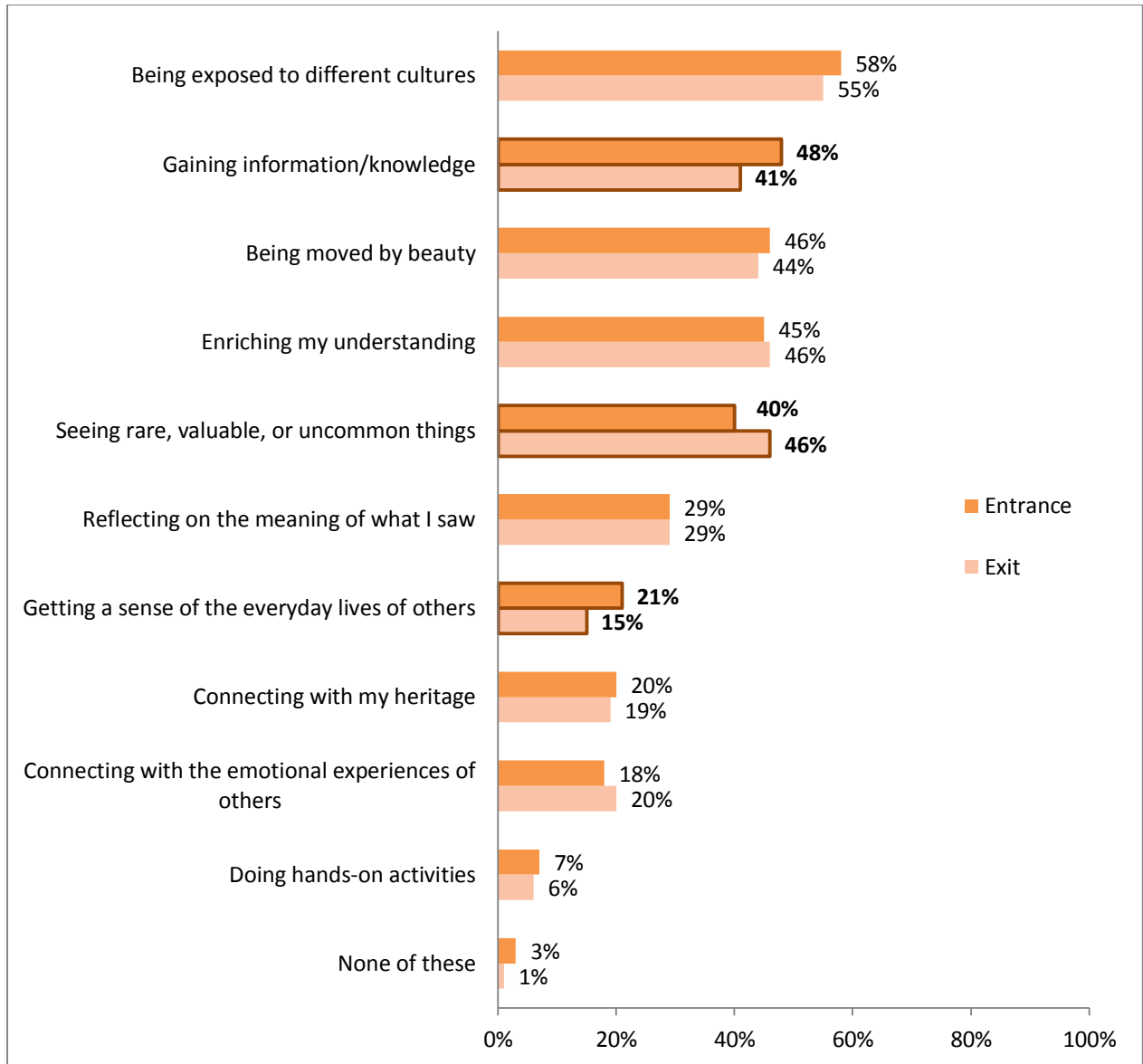
### Satisfying Experiences (Anticipated and Actual)

From a list of ten experiences, entering visitors chose the ones they were especially looking forward to, while exiting visitors chose the ones they found especially satisfying. Visitors could mark as many as they liked. The list included: Being exposed to different cultures; Enriching my understanding; Being moved by beauty; Gaining information/knowledge; Seeing rare, valuable, or uncommon things; Reflecting on the meaning of what I saw; Connecting with the emotional experiences of others; Connecting with my heritage; Getting a sense of the everyday lives of others; and Doing hands-on activities. Overall, with a few exceptions, entering and exiting visitors chose the various experiences with similar frequency.<sup>6</sup> Three categories stood out with a six to seven percentage-point difference. More entering visitors anticipated than exiting visitors found satisfying Gaining information and knowledge (48% on entrance, 41% on exit) and Getting a sense of the everyday lives of others (21% on

<sup>6</sup> For an overview of the use of this question at the Smithsonian Institution and its implications for understanding visitors, see Pekarik, A.J., and J.B. Schreiber, 2012. The Power of Expectation, *Curator: The Museum Journal*, 55(4): 487-496.

entrance, 15% on exit). A smaller percentage of visitors were looking forward to Seeing rare, valuable, or uncommon things than the percentage of visitors on exit who were especially satisfied with this experience (40% on entrance, 46% on exit) (Figure 8).

**Figure 8. Visitors' Experiences, Entrance vs. Exit**



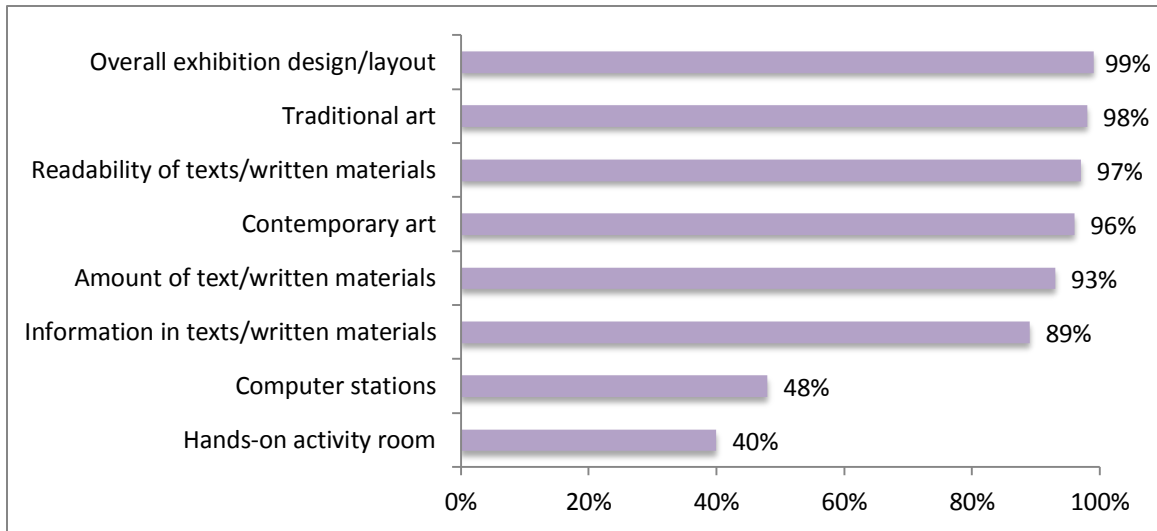


## Responses to Exhibition Features

### Feature Ratings

Exiting visitors were asked to rate several exhibition features on a five-point scale—Poor, Fair, Good, Excellent, Superior. Visitors could also select “Didn’t see/use.” As shown in Figure 9, 93% or more of all visitors saw/used most features; three features had lower percentages—89% for reading any texts, 48% for a computer station, and 40% for the hands-on activity room (a.k.a. the Discovery Room).

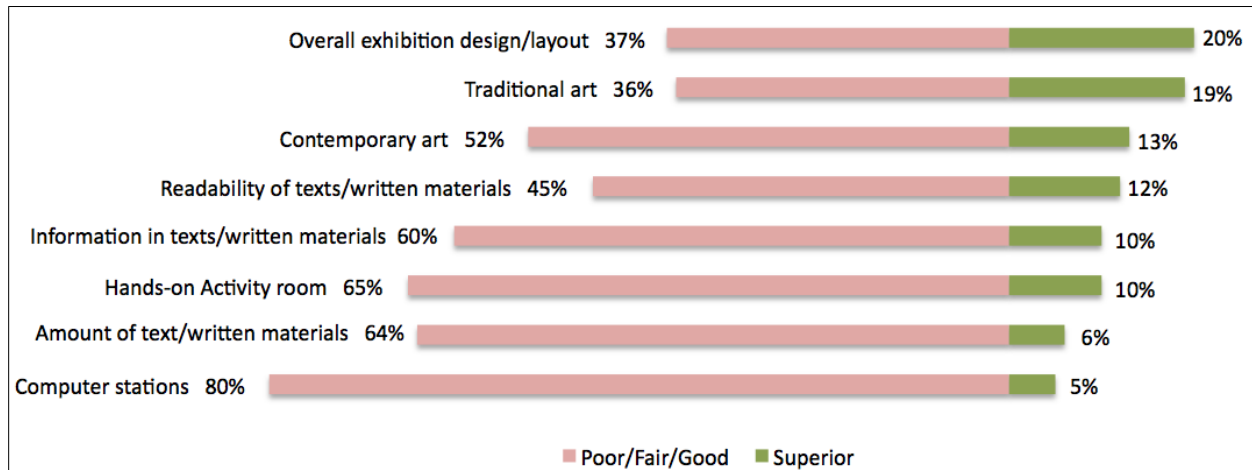
**Figure 9. Exhibition Features Seen/Used**



Since the percentage of visitors selecting Poor and Fair was relatively low, and since Poor, Fair, and Good ratings tend to be negative ratings, while Superior ratings are very positive, OP&A combined Poor, Fair, and Good ratings into one variable—Poor/Fair/Good—and compared it to Superior. Excellent is temporarily set aside, as it tends to be a positive, but middle-of-the-spectrum, satisfaction rating.

As shown in Figure 10 (next page), among those who reported seeing or using a feature, the highest Superior ratings were given to exhibition design and traditional art. The lowest Superior ratings went to the amount of text provided and computer stations; the latter had by far the most negative ratings (80%). Note that while visitors were unhappy with the amount of written materials, they were less critical of their content and much less critical of their readability.

**Figure 10. Ratings of Exhibition Features**



### Features to Enhance the Exhibition

On the exit survey, over a quarter of visitors responded that background music, maps, and additional information would have enhanced their experiences in the exhibition (27%, 27%, and 26%, respectively).

A tenth of visitors marked “Other.” Several respondents wrote that the exhibition was fine as it was. A few wished they had more time to visit. Others offered suggestions, including better placement of the maps and computers; more geographical and explanatory information in the form of guides, brochures, videos, or exhibits; larger font sizes; Spanish translations; and more objects. Some visitors wanted to be able to take photographs. For a complete list of visitors’ comments, see Appendix E.

### Surprises

Exiting visitors were asked, “What surprised you the most about this exhibition?” Under half of the visitors (43%) marked “I was surprised that...” and wrote in what surprised them. Under a third of visitors (30%) marked “Nothing,” and the remaining quarter (27%) did not answer the question.

The key topic areas to emerge from visitors’ comments about what surprised them are summarized below. The complete list of comments is included in Appendix F.

#### *Design, Scope, and Curation*

A number of visitors praised the organization and presentation of the material.

#### *Existence of the Exhibition*

Some visitors were surprised to find the exhibition at all.

#### *Content*

Many of the visitors commented on the exhibition’s content, themes, and scope. Some visitors were surprised by the information they gained.

### *Emotional Response*

Some visitors were moved emotionally by the exhibition. One visitor wrote, “I had an overwhelming sense of belonging.”

### *Beauty*

The aesthetics of some of the African art was surprising for several visitors.

### *Art*

Several visitors commented on the artwork.

### *Specific Artworks*

A large number of visitors wrote about specific artworks that surprised and/or excited them. The sculpture “Rainbow Serpent” by Benin artist Hazoumè was mentioned several times.



Romuald Hazoumè

b. 1962, Republic of Benin

*Rainbow Serpent (Dan-Ayido-Houedo)*

2007

### *Combinations*

The juxtaposition of traditional and contemporary art was surprising for some visitors. One visitor commented on the mix of science and art in the exhibition.

### *Variety*

Some visitors remarked on the diversity of the art and topics covered in the exhibition.

### *Imbalance*

A few visitors thought that Nigeria and South Africa were over-represented.

### *Quick Response (QR) Codes*

The QR Codes surprised a couple of visitors.

### *No Photography*

Several visitors were surprised that they could not take photographs.

### *What Was Lacking*

Some visitors thought that the exhibition was lacking in the following areas: listening stations, amount of information and explanation, amount of traditional art, connection between art and science, and age of the artworks.

### *Other*

Visitors were also surprised by the existence of the Discovery Room, the location of the exhibition in the Museum, that most of the contemporary artists studied abroad and did not live in Africa, and that there were a low number of visitors at the Museum.

## **Visitor Characteristics**

### **Demographics**

#### *Age*

Both the average and median age of all survey respondents was 43 years old.

The exiting group was slightly older (average age 45 and median age 46) than the entering group (both median and average age 41).

#### *Sex*

More women (58%) than men (43%) were surveyed.

#### *Residence*

The majority of respondents resided in the United States (86%); the rest (14%) were visiting from other countries.

### **Visit Features**

#### *Visit History*

Over two-thirds of the visitors (69%) were at NMAfA for the first time. The remaining visitors (31%) had been to the Museum before.

#### *Group Composition*

Most visitors (62%) were at the Museum with one or more adults. Under one-third of visitors (30%) visited alone, followed by 4% in an organized group, 4% with teens, and 3% with children.

#### *Awareness of and Attraction to the Exhibition*

Three in ten visitors (30%) were at NMAfA specifically to see *African Cosmos*. A majority (70%) of visitors were at the Museum for a general visit.

A majority of entering<sup>7</sup> visitors (60%) found out about the exhibition while visiting the museum; 17% heard about it from friends, family, or colleagues; 8% read about it in a newspaper article; 6%

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<sup>7</sup> This question only appeared on the entrance survey.

discovered it on the internet, 5% through a poster, billboard, or ad, and 1% through social media; and 7% of respondents marked “Other.”<sup>8</sup> Their written responses included visiting because of a class assignment (University of Maryland and ARTH 275 were mentioned); a personal connection to NMAfA staff; a guidebook/sightseeing map; an article in *The New York Times*; a scavenger hunt; and chance.

## Visitor Interests and Connections

### *Interest in African Art, African Culture, and/or Astronomy*

Survey respondents gauged their interest in African art, African culture, and astronomy on a four-point scale—Not interested, Somewhat interested, Interested, Very interested. Entering and exiting visitors’ interest levels did not differ in any of the three categories.

Almost all visitors expressed some degree of interest in African art and African culture. A negligible number of visitors (2%) were not interested in either.

One-third (33%) of visitors were very interested in African art. Two-fifths (38%) were interested and over a quarter (27%) were somewhat interested.

Generally, visitors were slightly more interested in African culture than African art, with most (40%) being very interested, followed by just over one-third (34%) who were interested and under a quarter (24%) who were somewhat interested.

Visitors were less interested in astronomy. Less than a quarter (23%) of visitors were very interested, a third (33%) were interested, and approximately another third (35%) were somewhat interested. Roughly one in ten visitors (9%) had no interest.

### *Connection to Africa*

Over half (56%) of visitors said that they felt personally connected to Africa. Visitors who came specifically to see *African Cosmos* were more likely than general visitors to feel personal connections (61% vs. 53%). Repeat visitors were more apt to have personal connections to Africa than first-time visitors (61% vs. 53%). Where visitors lived also made a difference: US residents tended to be more connected to Africa than international visitors (57% vs. 45%).

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<sup>8</sup> The percentages add up to more than a hundred because respondents were able to choose more than one source.

## Differences Among Sub-groups

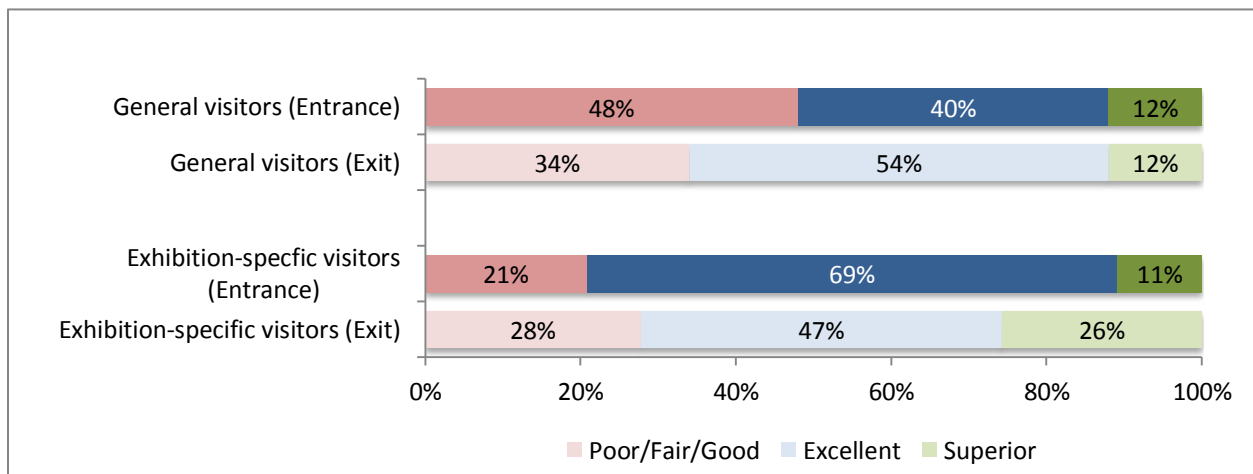
### Exhibition-specific Visitors and General Visitors

Three in ten visitors (30%) came to the Museum specifically to see *African Cosmos*. The exhibition worked very differently for these visitors than it did for the 70% who came for a general visit.

The exhibition-specific visitors were more likely to have heard about the exhibition through word of mouth (29% vs. 11% of general visitors), something in the newspaper (27% vs. 1%), an ad (13% vs. 2%), or the internet (12% vs. 3%), while most of the general visitors (77%) were just visiting the museum.

Exhibition-specific visitors had a more mixed response to the exhibition than general visitors did. Among entering exhibition-specific visitors, Excellent was the dominant anticipated rating (69%); among exiting exhibition-specific visitors there was a 22% difference – 15% gave a higher score (Superior: 11% entrance; 26% exit), and 7% gave a lower rating (Poor/Fair/Good: 21% entrance; 28% exit) (Figure 11). Among general visitors the shift from entrance to exit was 14% in the positive direction, from Poor/Fair/Good to Excellent (Excellent increased from 40% to 54%; Superior was unchanged at 12%).

**Figure 11. Overall Experience Ratings: Exhibition-specific Visitors and General Visitors  
Entrance vs. Exit**



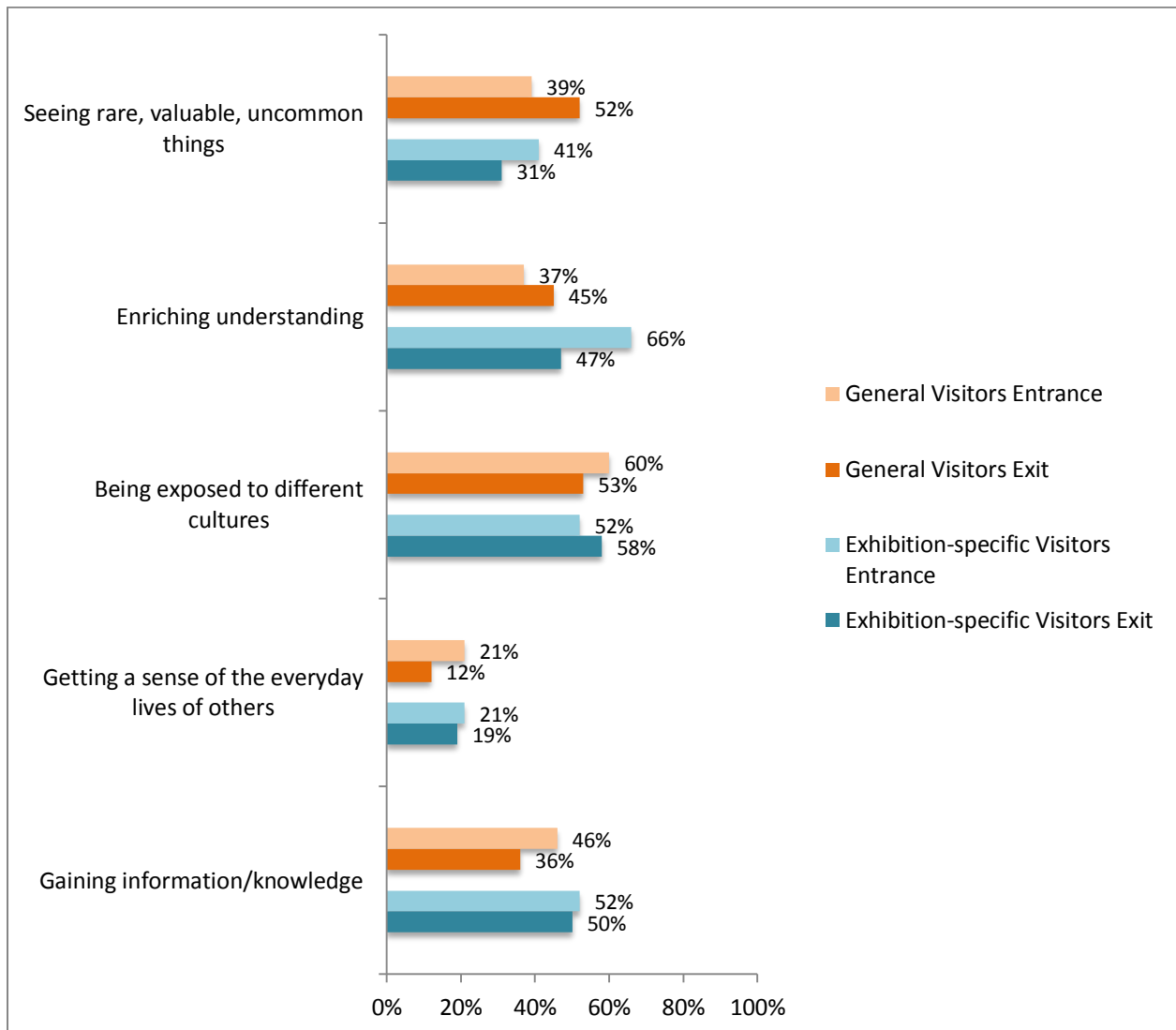
Exhibition-specific visitors and general visitors also differed with respect to the experiences they found satisfying compared to the ones they anticipated (see Figure 12, next page). Entering general and exhibition-specific visitors were equally looking forward to Seeing rare things (39% and 41% respectively), but exiting general visitors reported many more satisfying experiences of this kind, while exiting exhibition-specific visitors reported many less. In other words, although these two groups started with equal levels of anticipation with respect to the art, what they saw was more satisfying than expected for general visitors, and less satisfying than expected for exhibition-specific ones.

When it came to Enriching understanding, the two groups started very differently. General visitors were looking forward to this experience much less than were exhibition-specific visitors (37% vs. 66%), but they both ended up at the same place (45% and 47%, respectively). In other words, general visitors reported getting more than they were looking for, while exhibition-specific visitors reported getting much less.

For the experience of Being exposed to different cultures, general visitors reported coming away with less than expected (60% entrance; 53% exit), while exhibition-specific visitors reported coming away with more (52% entrance; 58% exit), although the differences were smaller.

In the case of Getting a sense of the everyday lives of others and Gaining information/knowledge, the experience for exhibition-specific visitors was they anticipated, whereas general visitors reported getting substantially less than anticipated (21% entrance; 12% exit).

**Figure 12. Anticipated and Actual Experiences: Exhibition-specific Visitors and General Visitors**



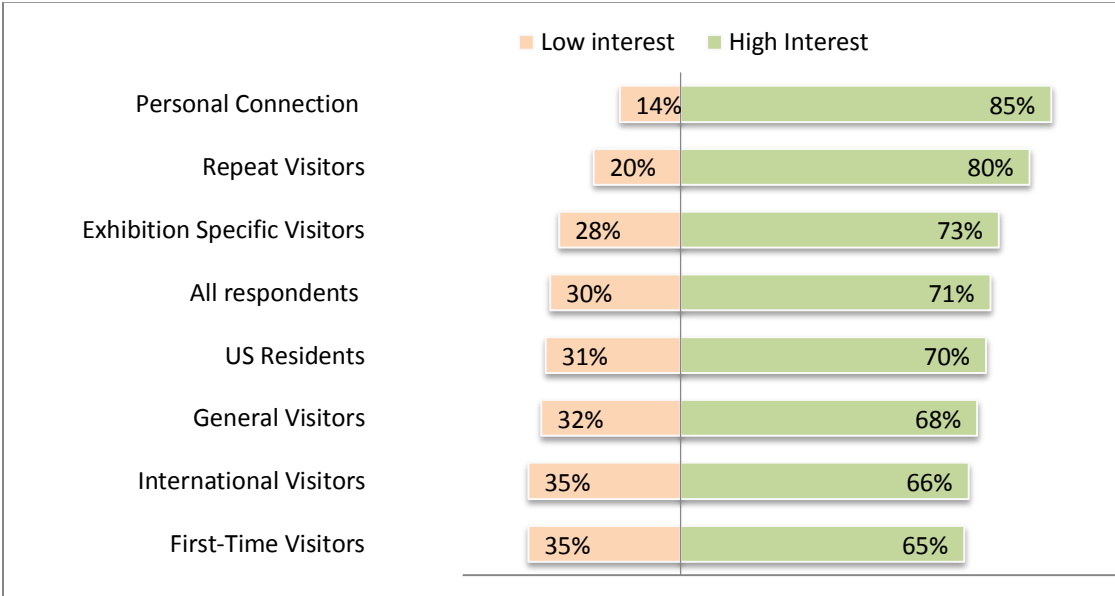
These differences in anticipated and satisfying experiences highlight the varying perspectives of these two key audience segments. Compared to general visitors, exhibition-specific visitors sought understanding more than information. The interest of exhibition-specific visitors in ideas is supported by the data on their experience preferences, as discussed below. General visitors, by contrast, may have found it harder to get the information they were looking forward to, yet their experiences of the art on display exceeded their expectations.

Both exhibition-specific visitors and general visitors gave higher ratings to traditional art than to contemporary art, and although the two groups rated contemporary art equally, exhibition-specific visitors were twice as likely to give a Superior rating to traditional art (29% vs. 14%), compared to general visitors.

**Interest Differences Among Visitor Types**

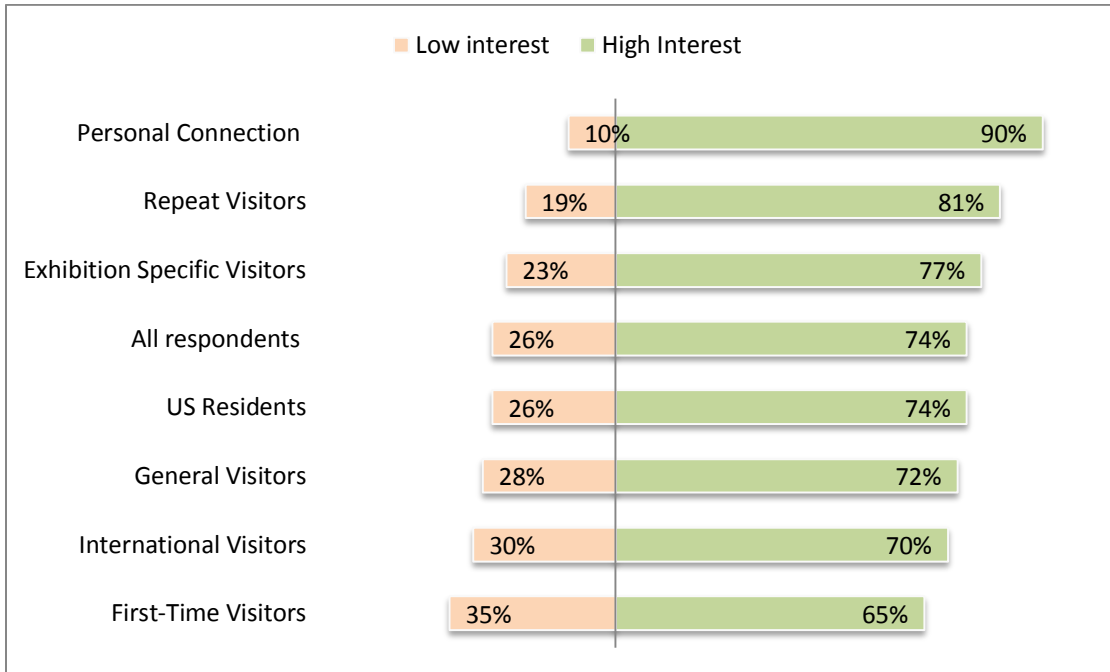
For a sharper understanding of the audiences' interest levels, OP&A combined Not interested and Somewhat interested into the variable Low interest, and Interested and Very interested into the variable High interest, and examined the interest levels of different types of visitors (Figures 13-15). Visitors with connections to Africa scored their interest levels in African art and culture higher than did visitors with no connection to Africa. Having personal connections to Africa did not affect interest in astronomy. Repeat and exhibition-specific visitors were more likely than first-time and general visitors to be highly interested in African art, African culture, and astronomy. US residents were slightly more likely than international visitors to have a High interest in all three categories. Men expressed more interest than women did in astronomy, the only category with a gender difference.

**Figure 13. Interest in African Art by Visitor Types, Entrance and Exit Combined**

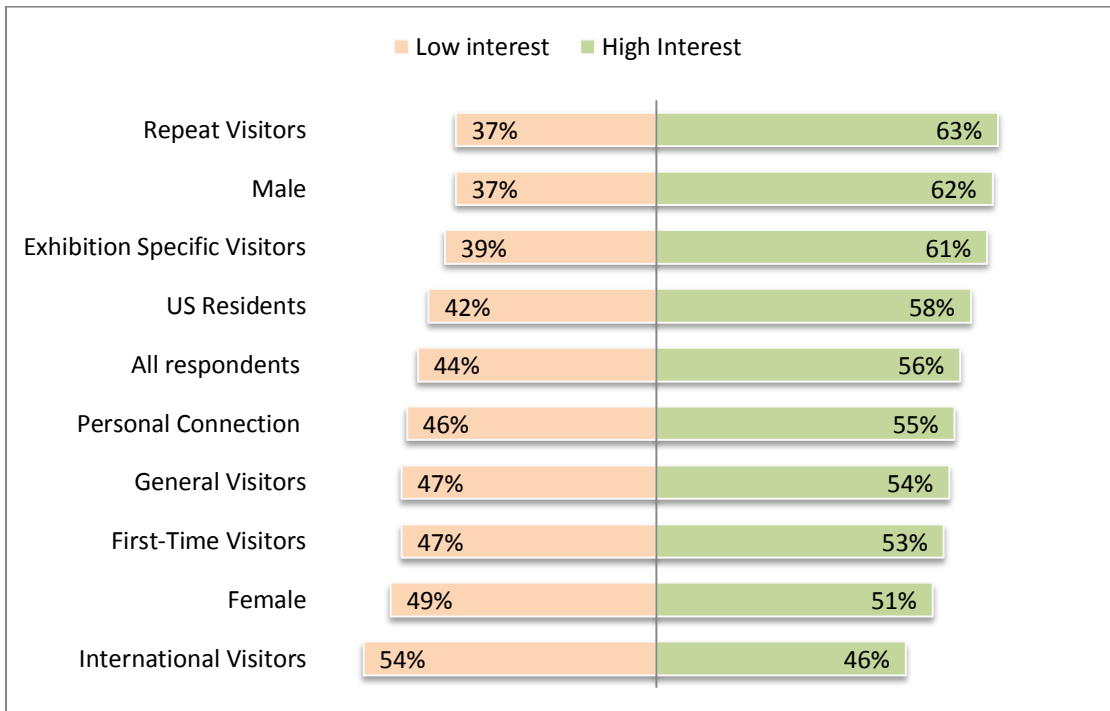




**Figure 14. Interest in African Culture by Visitor Types**



**Figure 15. Interest in Astronomy by Visitor Types**



## Idea, People, Object, and Physical Preferences

The Office of Policy and Analysis has been conducting research to uncover factors that could help to explain the behavior of visitors in exhibitions and their overall responses. This has led to a typology of experience preferences, which identifies four key dimensions of experience to which individuals are drawn: Ideas, People, Objects, and Physical sensation (IPOP).<sup>9</sup> Those with Idea experience preferences are especially drawn to concepts, explanations, reasoning, abstract thinking, facts, and informational statistics. Those with People experience preferences are attracted to the emotional dimension, including narrative, stories, how other people feel, and engagement with others. The Object experience preference is an attraction to things, style, artistic quality, aesthetics, connoisseurship, and visual language. The Physical experience preference is found with people who are particularly drawn to strong physical sensations, including touch, dance, lights, sounds, and smells.

As part of this ongoing research project, and as a way to gain further insight into what draws visitors to the exhibition, the entrance survey included a set of eight questions asking visitors about their preferred activities. The questions are extracted from the larger set that has been the basis of the IPOP research so far. OP&A calculated a standardized score for each respondent in each of the four areas relative to the more than 2,000 individuals in its current database.

The audience drawn to this exhibition was fairly evenly divided across experience preferences: 26% had an Idea preference; 23%, People preference; 16%, Object preference; 20%, Physical preference; and 16% No preference.

Visitors' fundamental interest in different kinds of experiences (Ideas, People, Objects, or Physical) was associated with particular behaviors, interests, and expectations. With respect to behavior, visitors who came specifically to see *African Cosmos* had significantly higher Idea scores than other visitors, suggesting that the exhibition was conceptually attractive.

Visitors with a preference for People experiences were much more likely to be very interested in African art (51% vs. 25-30% for those with other preferences) and African culture (62% vs. 27-40% for those with other preferences), and to feel a personal connection to Africa (67% vs. 45-53% for those with other preferences). Object preference visitors anticipated that they would give the exhibition higher ratings (58% Excellent; 13% Superior) than did Idea preference visitors (33% Excellent; 13% Superior). People preference visitors were particularly looking forward to connecting with their heritage (12% of Idea preference visitors; 35% People; 20% Object; 16% Physical; 18% No preference), and were more likely to have found out about the exhibition through word of mouth (12% Idea; 30% People; 15% Object; 8% Physical; 21% No preference).

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<sup>9</sup> An earlier stage of this research is reported in Pekarik, A. J., and B. Mogel, 2010. Ideas, Objects, or People? A Smithsonian Exhibition Team Views Visitors Anew. *Curator: The Museum Journal* 53(4): 465-482. For a recent application of this model, see *How Do You Improve the Experience of Museum Visitors? An Experiment at the National Museum of Natural History*, 2013. Office of Policy and Analysis. Accessed at: <http://www.si.edu/content/opanda/docs/Rpts2013/13.01.NMNHConcierge.Final.pdf>

## Discussion

Just under two-thirds of visitors (64%) wrote on the survey what they thought the main idea of the exhibition was. The data shows that nearly half (44%) of the respondents who answered the follow-on question—“Was that idea new to you?”—said that they were exposed to an idea that was new to them; these ideas were self-identified and believed to be the main ideas of the exhibition. This was especially true for first-time visitors, who were nearly twice as likely to indicate that the idea was new to them, compared to repeat visitors. This suggests that the exhibition was successful in promoting contemplation and new thoughts—especially for new visitors—about the objects, topics, and themes represented in *African Cosmos*.

The study demonstrated that the exhibition had a measurable, positive impact on visitors’ perceptions of African study of the heavens, science, and art. *African Cosmos* also exceeded the overall experience expectations of both exhibition-specific visitors and general visitors.

The study findings highlighted the diverse expectations of visitors, and the museum’s challenge of how to balance their differing desires for information, understanding, art objects, and stories of everyday life, across multiple levels of interest, personal connection, and knowledge.

Visitors rated the traditional art in the exhibition more favorably than the contemporary art. This suggests that Museum visitors were more interested in traditional art than contemporary art in general or that the traditional art displayed in *African Cosmos* was especially impressive and/or the contemporary art was especially unimpressive. This could relate to visitors expectations; interviews with NMAfA visitors at past events such as Community Day in 2011 and 2012 revealed that often visitors come expecting traditional art.<sup>10</sup> Exhibition-specific visitors gave higher ratings to the traditional art than did the general visitors, although it should be noted that both exhibition-specific and general visitors gave equal ratings to contemporary art.

One in five visitors (21%) entered the exhibition with the hope of Getting a sense of the everyday lives of others. Upon exit, exhibition-specific visitors had this experience to the same degree (19% on exit), but general visitors reported much less than they anticipated (12% on exit). Visitors with People preferences were more interested in African art and culture than were the other preference types, and were looking forward to connecting with their heritage. This is an area for further research, experimentation, and growth. Some visitors desired more opportunities to immerse themselves in the lives of others and, in the context of this Museum, the lives of African peoples.

The majority of exiting visitors did not use or see the computers or Discovery Room, and just under one-in-ten visitors looked forward to/enjoyed the hands-on activities in the exhibition. Despite the low level of attention and use, the Discovery Room visitors who were interviewed by OP&A after using the space reported benefiting from their experiences. (For more, see the Observation and Interview Studies section of the report.)

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<sup>10</sup> See Community Day 2011 and Community Day 2012 reports at [opanda.si.edu](http://opanda.si.edu)

## Observation and Interview Studies

### Background

OP&A conducted two additional studies to capture visitors' reactions to and experiences with the Museum's Discovery Room and *Trembling Field* artwork.

### Discovery Room

The Discovery Room is a space on Sublevel 2 of the Museum dedicated to educational hands-on activities, usually connected to exhibitions on display. By design, it is especially attractive to families. The activities in the Discovery Room for the duration of *African Cosmos* related to the exhibition's content; visitors could learn about constellations and then draw their own constellations and write stories connected to their drawings. Visitors' drawings were displayed on the walls for others to see. There was also a television monitor playing astronomy videos and a small exhibit case with objects.

Outside the entrance to the Discovery Room was *Star Sounds*, a video installation where visitors could press a button to play an audiovisual construction of star sounds.

### Visitation

Throughout the observation sessions, and especially on weekdays, the visitation to the space was low; however, more than 3,000 constellation drawings were left behind in the room by visitors of all ages, and there were many more who likely took their drawings home, which suggests good usage. The Discovery Room was much busier on weekend days and according to Museum staff, the room experiences the most traffic during the spring and summer when there are more school field trips to the Museum and families visiting.

### Methodology

The OP&A study team observed and/or interviewed a total of 35 visitors, which included teachers and their students, families, children, and adults. The majority of the sessions took place in December on both week and weekend days. The studies intended to capture visitors' experiences with (and reactions to) the hands-on activities, exhibits, and videos in the Discovery Room. Visitors were chosen using a selection process where the first person to enter a defined space was observed, regardless of age. His or her actions were carefully recorded until he or she left the space, at which time adult visitors were interviewed (see the interview questions below), and, if the observed visitor was a minor, the interviewer spoke with the child's guardian (or in some circumstances spoke with the child with the guardian's permission). The process would begin anew with the next visitor who entered the space.

### Interview Questions

1. What did you like about the activity?
2. What did you learn?
3. Do you have any suggestions?
4. What were your expectations/what did you want to see?
5. How would you rate your experience in this room on a scale of Poor, Fair, Good, Excellent, and Superior?

## Interviews

### What did you like about the activity?

"I like how relaxing the environment is for kids because we get tired from walking around. It's a peaceful place to take a break."

"I like looking at the videos."

"Very imaginative, creative, also very educational."

"I like to color, I like arts and . . . sort of things."

"It was the only part of the Museum that captured her son's attention."

### What did you learn?

"[We] didn't know there was a peacock constellation. When I go home [I will look up] where [the peacock constellation is located] in the sky. That's what [my son] wants to know."

"We learned about constellations and about other people's imagination [in creating their own constellations]. It was interesting."

"I learned that designing a constellation is really hard!"

"I learned that [scientists] found the nearest star [while working] in Africa."

### Do you have any suggestions?

"Add a star chart. . . I'd like something like this to be ongoing. It's very important to have art and science in the same place."

"You could also put in some paintbrushes. You could have bigger paper."

"I would add windows, more air. . . because it is a little bit stuffy here."

### What were your expectations/what did you want to see?

"I didn't know [the Discovery Room] existed. I'm just looking; I thought it was going to be books on the table and a computer. I didn't expect videos and the artwork that's on the wall. So it is different from my expectations. My expectation was just books and pamphlets that people could read."

"Yes, we didn't know about it."

"Actually, we just walked by, and it was a surprise."

"No, I didn't know it was here ... so I didn't have any expectations."

## Rating

Most visitors rated their experiences Excellent or Superior. Many said they enjoyed the Discovery Room and appreciated that it existed.

## Star Sounds Video

“There should be someone speaking over it, explaining it to you like you were explaining it to us; someone should explain on the video because I didn’t really know . . . I was reading it [the panel], but you gave us more of an explanation.”

“It’s good as far as it goes. A lot of people are going to think that there is sound in space; it may be somewhat deceiving because it may be over-simplified. Even though the [short] text over there alludes to the shifting of the frequencies... and you know there are sound waves in the stars at various frequencies which [scientists] can sense, that’s I guess optically by the observations. But then there’s no sound in space because there’s nothing to carry sound waves. So, that might be a little misleading that they’ve taken the observations [and] shifted them into a range that people can hear. And then also looped them. [One of the videos] has a very rhythmic drumming pattern. [Maybe] they [looped] [a brief section] about twelve to fifteen times, like a human would create a drumming rhythm.”

## Observations

### Time Spent

The average time that visitors spent in the Discovery Room was 8 minutes. The longest someone was observed in the room was 25 minutes.

### Actions and Behaviors

Most often, visitors would pop their heads in and then leave. However, once visitors sat down, they were likely to stay for several minutes.

Some visitors spent time looking at past visitors’ drawings and would talk about the drawings with others in their groups.

It was observed that young children (10 and under) and their guardians seemed to enjoy the space the most.

## Suggestions and Comments

Additional signage may help to direct traffic to the room. More information about the *Star Sounds* on the video station may have been useful for visitors who were curious about the work.

The study team noticed that the drawings by past visitors, which hung around the room, made the space feel more welcoming and well used. It also provided a visual cue for visitors, giving them direction on how they could use the room.

## Trembling Field

*Trembling Field*, an interactive sculpture by contemporary South African artist Karel Nel that explores the ephemeral qualities of light as it diminishes into the far reaches of space, was on display as part of *African Cosmos*. Visitors were able to touch the artwork (a pool of water, a mirror, and projected light) and observe how touching the water affected the artwork's look and feel (the water would ripple and create patterns). The artwork was located on Sublevel 1 of the Museum, one floor above the rest of the *African Cosmos* exhibition (which was viewable from a balcony-like window).

## Methodology

The study team observed visitors who stopped to look at *Trembling Field*. Some of the visitors were interviewed as they left the exhibit space (see Interview Questions below). During the sessions, an average of 30 people per hour walked by *Trembling Field*—many of these individuals passed by and entered the other exhibitions that were on the same floor, e.g., *African Mosaic* and *Walt Disney's Tishman African Art Collection*. OP&A observed 43 visitors and interviewed all but one of them.

## Interview Questions

1. Do you know *Trembling Field* is a part of the *African Cosmos* exhibit?
2. Did you know that you could touch the water?
3. What did you like most and least? Why?
4. How would you rate your experience on a scale of Poor, Fair, Good, Excellent, and Superior? If lower than Excellent, why?

## Interviews

### *Trembling Field's* Connection to *African Cosmos*

A majority of visitors did not know that the artwork was a part of *African Cosmos*, while some visitors did, and a few were unsure.

### Interaction with the Artwork

Most interviewees said that they knew that they could touch the water after reading the sign or seeing others touch it.

### Reactions

Visitors were asked about what they liked and disliked about the artwork. Most visitors said that they enjoyed that it was interactive and unique.

"I like the interactive piece because it's interesting and makes you think. I like minimalistic art. And it's a very pretty museum."

"I like the fact that it is interactive and it leaves a lot to the imagination in terms of the cosmos and the light reflection. [...] When I think of cosmos, a lot can be imagined and interpreted by the viewer. It is the same with this artwork."

"I like it. I've never seen this before."

“I like the fact that it is so different. It’s nothing like I’ve ever seen before. I like that I can change it, mold it, and become part of it. [...] From a distance, it is hard to imagine it as a work of art. [It is not] until you see the rippling effect and you read [the label], [that] you realize that it is actually a work of art. It’s a good thing, but I would have thought that it is just projected light as opposed to it being reflected from the water. It is very beautiful.”

“I think the work stands out from the [other] works in the museums that I have seen today.”

“I think it’s interesting . . . the artwork is so different.”

Visitors had little to say about what they disliked.

“What do I dislike about it? I don’t know; nothing.”

“What I don’t like about it? I guess when you come in and look at it it’s very hard to... I would have walked right past it.”

Some of the interviewees were confused (at least initially) about what the artwork was.

“I couldn’t identify it as a work of art from a distance, or I didn’t think about it as a work of art. From [where I am standing], I can tell that [part of the artwork is made of] water, but when I was standing [further away] it was hard to tell. I thought [the water] was a projection until I read [the label].”

Some visitors suggested that signage would have made it *more* obvious that it was an artwork and that visitors could touch it (nonetheless, most the interviewees were aware that the artwork was interactive, usually after reading the sign). Some visitors also wanted more information about the artwork and artist.

“[The label] could do a better job [of saying], ‘Hey, you can touch me!’”

“There needs to be more signage. I didn’t know what it was.”

“It needs an explanation.”

“More explanation about the artist.”

For some, the signage was difficult to read.

“I cannot read the labels because of my old age—don’t make me work”

“The type size needs to be larger. A banner . . . otherwise I just walk through. Labels could be on the columns.”

## Rating

Of the interviewees who rated their experiences, most rated it positively (i.e., Excellent or above). The visitors who rated their experience low (i.e., Good or below) were asked why.



“I'm just not crazy about the piece.”

“I don't know the significance of it [in relation to] the rest of the exhibit.”

### **Observations**

#### **Time Spent**

The average time that visitors spent in the display area was just over one minute (77 seconds). Visitors spent an average of 9 seconds viewing *Trembling Field*. The longest someone was observed viewing the artwork was 5 minutes.

#### **Actions and Behaviors**

A high number of the observed visitors touched the water; only a few did not.

School groups visiting the Museum appeared to be very captivated by *Trembling Field*. Schoolchildren played with the water and looked at the ripples they made. The children would often see the display before their guardians and run straight toward it and their guardians would follow, look at the work, and read the label.

Most visitors focused on *Trembling Field* more than the other objects in nearby display cases. Most visitors who stopped to see *Trembling Field* also looked over the balcony to see the rest of *African Cosmos* on the floor below.



Karel Nel

b. 1955, South Africa

*Trembling Field*, 2009

Carbon silicate, etched dark mirror, water, light

Collection of the artist

# Appendix A: Entrance Survey

6818117664

National Museum of African Art  
*African Cosmos: Stellar Arts*

Entrance

Is this your first visit to this museum, the National Museum of African Art?

No  Yes

How do you think you will rate your overall experience in this exhibition, *African Cosmos*, when you leave?

Poor  Fair  Good  Excellent  Superior

Which of the following experiences are you especially looking forward to in this exhibition, *African Cosmos*? *[Mark one or more]*

- Being exposed to different cultures
- Being moved by beauty
- Connecting with my heritage
- Connecting with the emotional experiences of others
- Doing hands-on activities
- Enriching my understanding
- Gaining information/knowledge
- Getting a sense of the everyday lives of others
- Reflecting on the meaning of what I saw
- Seeing rare, valuable, or uncommon things
- None of these

Do you feel a personal connection to Africa?

No  Yes

Do you live in the United States or another country?

United States, specify zip code:

Another country, specify: \_\_\_\_\_

What is your age?

Are you male or female?

Male  Female

With whom are you visiting today? *[Mark one or more]*

- I am alone
- I am with one or more adults
- I am with one or more teens
- I am with one or more children (under age 12)
- I am with an organized group

Did you come to today specifically to see this exhibition, *African Cosmos*?

No  Yes

Where did you find out about this exhibition? *[Mark one or more]*

- Visiting the museum today
- Friends / Family / Colleagues
- Poster / Billboard / Ad
- Newspaper article
- Social media (Facebook, Twitter, etc.)
- Internet
- Other: \_\_\_\_\_

In general, how interested are you in...	Not interested	Somewhat interested	Interested	Very interested
<i>African art</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>African culture</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Astronomy (the study of matter outside the earth's atmosphere)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In your opinion, how true is each of these statements?

Statement	Not true at all	Somewhat true	Very true	I don't know
<i>Study of the heavens IS NOT particularly important in Africa</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Science in general IS NOT particularly important in Africa</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<i>Study of the heavens and African art ARE strongly connected</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Help us to understand your interests. For each of the following items, please indicate the degree to which that activity describes you.

Activity	Not me at all	A little me	Me	Very much me
...bring people together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...divide things into categories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...identify patterns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...jog/run for fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...know how things are made	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...play competitive sports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...spend my leisure time with other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***If you have any other comments or suggestions, please let us know on the back of this form.***



## Appendix C: Frequencies Chart

	Entrance	Exit	All respondents
<b>Is this your first visit to this museum, the National Museum of African Art?</b>			
No			31%
Yes			69%
<b>What is your age?</b>			
Mean	41	45	43
Median	41	46	43
<b>Please rate your overall experience in this exhibition, <i>African Cosmos</i>. / How do you think you will rate your overall experience in this exhibition, <i>African Cosmos</i>, when you leave?</b>			
Poor	0%	1%	
Fair	1%	4%	
Good	39%	28%	
Excellent	47%	51%	
Superior	12%	16%	
<b>Today, did you come specifically to see this exhibition, <i>African Cosmos</i>?</b>			
No			70%
Yes			30%
<b>Do you live in the United States or another country?</b>			
United States			86%
Another country			14%
<b>Are you male or female?</b>			
Male			43%
Female			58%
<b>With whom are you visiting today? [Mark one or more]</b>			
I am alone			30%
I am with one or more adults			62%
I am with one or more teens			4%
I am with one or more children (under age 12)			3%
I am with an organized group			4%
<b>Do you feel a personal connection to Africa?</b>			

No

Yes

**Which of the following experiences are you especially looking forward to in this exhibition? [Mark one or more]**

- Being exposed to different cultures
- Being moved by beauty
- Connecting with my heritage
- Connecting with the emotional experiences of others
- Doing hands-on activities
- Enriching my understanding
- Gaining information/knowledge
- Getting a sense of the everyday lives of others
- Reflecting on the meaning of what I saw
- Seeing rare, valuable, or uncommon things
- None of these

**Entrance only: Where did you find out about this exhibition? [Mark one or more]**

- Visiting the museum today
- Friends / Family / Colleagues
- Poster / Billboard / Ad
- Newspaper article
- Social media (Facebook, Twitter, etc.)
- Internet
- Other

**In your opinion, how true is each of these statements?**

***Study of the heavens IS NOT particularly important in Africa***

- Not true at all
- Somewhat true
- Very true
- I don't know

***Science in general IS NOT particularly important in Africa***

- Not true at all
- Somewhat true
- Very true
- I don't know

Entrance	Exit	All respondents
46%	43%	44%
54%	57%	56%
58%	55%	
46%	44%	
20%	19%	
18%	20%	
7%	6%	
45%	46%	
48%	41%	
21%	15%	
29%	29%	
40%	46%	
3%	1%	
60%		
17%		
5%		
8%		
1%		
6%		
7%		
51%	67%	
10%	11%	
14%	12%	
26%	10%	
64%	70%	
11%	13%	
6%	7%	
19%	11%	

***Study of the heavens and African art ARE strongly connected***

Not true at all  
Somewhat true  
Very true  
I don't know

***In general, how interested are you in...  
African art***

Not interested  
Somewhat interested  
Interested  
Very interested

Low interest (Not & Somewhat combined)  
High interest (Interested and Very combined)

***African culture***

Not interested  
Somewhat interested  
Interested  
Very interested

Low interest (Not & Somewhat combined)  
High interest (Interested and Very combined)

***Astronomy***

Not interested  
Somewhat interested  
Interested  
Very interested

Low interest (Not & Somewhat combined)  
High interest (Interested and Very combined)

	Entrance	Exit	All respondents
	14%	9%	
	16%	19%	
	40%	61%	
	30%	12%	
	3%	2%	
	26%	29%	
	38%	37%	
	33%	32%	
			30%
			70%
	2%	2%	
	25%	23%	
	32%	36%	
	41%	39%	
			26%
			74%
	5%	12%	
	38%	32%	
	34%	32%	
	23%	24%	
			44%
			56%

**Exit only:** Which of the following would have enhanced your visit in this exhibition? [Mark one or more]

- Background music
- Maps
- More information
- Other

**Exit only:** In your opinion, what is the main idea this exhibition, *African Cosmos*, is trying to communicate?

(Write a response)

**Exit only:** Was this idea new to you?

- No
- Yes

**Exit only:** Please rate each of these exhibition features

***Amount of text / written materials***

- Didn't see/use
- Poor
- Fair
- Good
- Excellent
- Superior

***Computer stations***

- Didn't see/use
- Poor
- Fair
- Good
- Excellent
- Superior

***Contemporary art***

- Didn't see/use
- Poor
- Fair
- Good
- Excellent
- Superior

Entrance	Exit	All respondents
	27%	
	27%	
	26%	
	13%	
	64%	
	56%	
	44%	
	7%	
	1%	
	12%	
	47%	
	28%	
	6%	
	52%	
	5%	
	10%	
	23%	
	8%	
	2%	
	4%	
	0%	
	7%	
	42%	
	34%	
	12%	

***Hands-on activity room***

Didn't see/use  
 Poor  
 Fair  
 Good  
 Excellent  
 Superior

***Information in texts / written materials***

Didn't see/use  
 Poor  
 Fair  
 Good  
 Excellent  
 Superior

***Overall exhibition design / layout***

Didn't see/use  
 Poor  
 Fair  
 Good  
 Excellent  
 Superior

***Readability of texts / written materials***

Didn't see/use  
 Poor  
 Fair  
 Good  
 Excellent  
 Superior

***Traditional art***

Didn't see/use  
 Poor  
 Fair  
 Good  
 Excellent  
 Superior

Entrance	Exit	All respondents
	60%	
	2%	
	6%	
	18%	
	10%	
	4%	
	11%	
	0%	
	11%	
	43%	
	27%	
	9%	
	1%	
	1%	
	7%	
	29%	
	43%	
	20%	
	3%	
	0%	
	7%	
	37%	
	41%	
	12%	
	2%	
	1%	
	4%	
	31%	
	45%	
	18%	



**Exit only:** Please rate each of these exhibition features - **(Rating among those who saw/used only)**

**Amount of text / written materials**

- Poor/Fair/Good
- Excellent
- Superior

**Computer stations**

- Poor/Fair/Good
- Excellent
- Superior

**Contemporary art**

- Poor/Fair/Good
- Excellent
- Superior

**Hands-on activity room**

- Poor/Fair/Good
- Excellent
- Superior

**Information in texts / written materials**

- Poor/Fair/Good
- Excellent
- Superior

**Overall exhibition design / layout**

- Poor/Fair/Good
- Excellent
- Superior

**Readability of texts / written materials**

- Poor
- Excellent
- Superior

**Traditional art**

- Poor
- Excellent

Entrance	Exit	All respondents
	64%	
	30%	
	6%	
	79%	
	16%	
	5%	
	52%	
	35%	
	13%	
	65%	
	25%	
	10%	
	60%	
	30%	
	10%	
	38%	
	43%	
	20%	
	45%	
	43%	
	12%	
	36%	
	45%	

Superior

**Exit only: What surprised you the most about this exhibition?**

Nothing

I was surprised that...

Missing

Entrance	Exit	All respondents
	19%	
	30%	
	43%	
	27%	

## Appendix D: Main Idea, Visitor Comments

### Africa-specific

#### ***Astronomy***

The relationship of astronomy and science in the heritage and life of the African peoples  
The perception and meaning of the skies attributed by African cultures  
The important connection between the sky/celestial with different African cultures  
Africa contributed to modern astronomy  
African art is getting influenced by stars moon astronomy  
Africans feel they are influenced by the sun, moon, and stars and pay homage to them  
African culture has been strongly connected to astronomy since ancient times  
African culture influenced by space  
African culture with science/study of space  
African Cosmos  
Universe through the eyes of African artists  
Africans worked with astronomy  
Connecting Africa and astronomy  
Connection of African people to stars/moon/celestial bodies through time  
That many African people felt a keep connection to the cosmos above especially the sun, moon and stars  
The connection between astronomy and Africa  
How Africans looked at the sky  
How the Africans integrated their lifestyle according to the cosmos  
How African relate to the universe, the stars and the heaven above them  
How Africans expressed their understanding/connection to the celestial  
How Africans perceive outer space  
That African cultures also had a particular view and knowledge on the world and the surrounding cosmos  
How African used the astronomical symbols as it related to rituals and beliefs  
How important the cosmos were to Africans and how they experienced it in their belief/daily lives  
The connection between cosmos & African culture  
That many cultures including Africa studied the cosmos and used this information in their daily lives  
That the African people have stories and a history with the cosmos  
That the solar system was important to the lives of people across Africa  
The importance of astrology to the African culture  
The historical com of Africans with the stars and celestial bodies  
The culture of African natures in relation to their concepts of the celestial

#### ***Culture & History***

African culture and the link  
African heritage  
African history is interesting... there could have been better info for the public to learn about regarding  
African understanding of the universe  
Enlighten the world on African American History  
To know the African culture  
It's a live, diverse complex place. African art is not an oxymoron  
The African were the first people on earth

The daily life about African people

***Specific Countries in Africa***

Ancient Africa Pharaoh's idols spirituality

The Egyptian gods having a connection with the sun and moon

That South Africa has a lot of Astronomy capability

**Connection**

***Among all people***

All cultures are connected

Connecting people

The universal connection of all culture

All life is connected

Man's connection

The connection between the origin of creation and the motherland of humanity

Connection

Connection

***Among people and environment/universe***

Interconnectedness of world

Unity among people and the environment

Our connection to the universe

We are all connected in this world

Amazing sounds, sites that are all around us

Connection between Man and a spiritual and cosmic relationship

***To the cosmos***

Connectedness of humanity and the heavens

All cultures are inspired by the sky

Role of the celestial across all cultures

The importance of the cosmos to all people

Connecting to the larger cosmos

Connection between sky inhabitants and earth dwellers

Continuity through time or our interest in the cosmos

How the people connected to the cosmos

Man's connection to spirit/nature

Man's place in the cosmos

Our connection to other worlds goes beyond what we can see/touch/feel

The powerful connection throughout time of people and the cosmos

There is a connection with us all to the universe, and always has been

***Search for meaning***

We are all trying to find another world + connection & meaning

Man's search for the higher spiritual values

Cosmos related to humans understanding at his destiny

People have always looked to the stars and moon to communicate their emotion and explain existence

### ***In art***

Universality of artistic motifs in all belief systems

Mankind's connection to the cosmos being manifested through material objects (focus on Africa)

Connection of art to nature and observation of the sky

### **Exposure to Ideas and Multiple Perspectives**

#### ***Understanding Africa***

Culture and the understanding African heritage

Explore Africa to the new comers

To show the real part of African life. Enriching understanding

To communicate the differences of culture and art in Africa

#### ***Perspectives and Culture***

Varieties of perspectives

Unique perspective of meaning of space

Conveying a version of astronomy

Different cultures give us different views and that is important to the future generation

Different cultures and different forms of beauty through the eye of the artist

Different cultures have so many similarities that are not expressed the same way

Different life styles

Different uses each culture has of the sky

Diversity, connections with heavens/sky

Exposure different cultures

Give a different perspective on common daily life

A different view of the stars other than the western one

That other cultures have a perspective on the universe besides Europeans

Different culture in a [...] context ... not [...] seen in USA

The diversity of the world

There are many different way of seeing and understanding the sky

To expose the different cultures. Let us know about different area the people's life style.

All peoples depend on nature to live, though they understand and depict it in various ways

We're all curious about the cosmos and have different interpretations of it

Cultural appreciation to the spiritual matters

Cultural diversity

### **Art and Culture**

Art and culture

Tradition and cultural beliefs

Cultural significances

Cultural beliefs

Cultural things

### **Art and Science**

Outer space and astronomical phenomenon are a major theme in African art

Relation of art to astronomy

That the cosmos is pervasive in African art, particularly embodied through different human/family form  
The connection between the cosmos (nature) and the creation of African art

### **History / Time-Based Comments**

Beginning of time

Heritage

History

History

The ancient utilizations by cosmos

Phenomena for hundreds of years

That ancient and/or tribal cultures have a sophisticated, metaphoric relationship to cosmology

The ways Africa people – in the past and today – think about make meaning of the cosmos (space of time)

The meaning of nature and ancient culture

The various interpretations of the night sky throughout African through time

### **Cosmos, Astronomy, Celestial Objects**

Cosmology

Deeper level of understanding of solar workings and studies

Galaxy in relation to earth

Moon

Outside influences

Celestial mystery and beauty

The size and depth of the cosmos

The immensity of the cosmos and a man's search to understand and be inspired by it

Universe

Shrinking the universe down so it doesn't seem as immense

To gain interest in the universe

### **Artists**

Experience the different artists

Many African artists are very interested in the properties of light

That artists learn from the stars and the universe

Imagination

Pushing frontiers

That the African culture is significant and capable of highly skilled art

### **Making Meaning / Impact on Everyday Life**

How important the cosmos are in making sense of every life

How important the cosmos are relative to everyday life

Human understand they are a part of a greater whole or cosmic universe

Perhaps the early study of the cosmos affecting the everyday live such as farming etc.

That former Africa could have accurate [...] of universe [...] that they can communicate their perception of the cosmos through art

That every culture is pulled into the mysticism of the understanding of moon & stars

The connection with the unknown of our insight

The infinite potential of the celestial [...] human understanding

The influence of the universe and its [...] of infinite possibilities  
Many people of Africa have created art inspired by and attached symbolic meaning to astrological much  
can be learned through cosmos  
Quest for understanding sky and putting it in daily culture  
Primitive African dependence on the cosmos regarding time of day, day or month of year for planting,  
etc.  
Way of life  
Way of life, atmosphere of learnings

### **Religion/ Spirituality**

Spirituality  
Spirituality is important in life & art  
Symbolism obtained from the sky  
The celestial being; the cosmos of the formation of the world. Earth and heaven.  
The connection between Man and the universal God  
The sky connections to God's provide a variety of inspirations  
The need of people to connect to something bigger  
How Africans communicate and expressed religion through artistic renderings of the cosmos

### **Beauty**

The beauty of African night sky  
The wonder of the African sky  
The beauty of diverse cultures

### **Lessons**

We should respect the earth in its entirety  
What was created will guide us always  
We need to search beyond ourselves  
Guidance about life from those above

### **Other Comments / Negative Feedback**

I would have though it there would be more astronomy to it  
I am more interested in the individual objects than the theme  
This exhibit was lacking. There are so many things that should have been included for this type of  
exhibit. I was very disappointed.

### **Other**

Too much to put in words in available time and space (which might be the idea)  
Actually quite exciting

### **Unsure**

Don't know  
Have no idea  
I don't know  
I really gave little thought to the culture there  
Not sure  
Nothing I look at it  
Really I don't know. I am familiar with Ancient Egyptian beliefs.

Unsure

Unsure: connection with beauty in stuff or other forms



## **Appendix E: Enhancements, Visitor Comments**

### **Fine as is**

Nothing

Nothing

Enjoyed it as it is

It was fine as is, No music

None

Felt it was good as is

Excellent as is

### **More time**

More time to visit

To spend more time

More time, less children

### **Layout/Design**

Better placement of cast map

I know where these computers are, but many don't

Larger print on materials

### **Information**

Guides

Brochure

More exhibits

More sense of time/ history

More background info about the specific was a little disconnected

More explanations near each work

Video-more-someone explaining

More geographical information

More by exhibits from different costumes

Spanish translation

You all didn't even reference the Pyramid's alignment to star

### **More objects**

More artifacts

Painting by Owusu

Photography

More paintings and cloths

### **Ability to take photographs**

Photography with no flash being allowed-or more reproductions to purchase

Being able to take pictures on level #2

Ability to take pictures

**Music**

The music I heard sounded classical not African

**Other**

Beauty

## **Appendix F: Surprise, Visitor Comments**

### **Design, Scope, and Curation**

Incredible curatorial effort  
Layout, complexity, feeling of magic mystery  
Layout  
Well displayed  
How organized it is  
The design and art  
Space feel  
The setting was beautifully ensembled  
It is the building a reflection of the exhibition  
The wide scope of the exhibit  
There was so much to see  
Very well presented  
Light and installation showed me things I had not seen in familiar works

### **Existence of the Exhibition**

This was being done  
This is being show  
This was here  
There was an African Cosmos exhibit  
I was surprised

### **Content**

Ancient Egyptians through the sun was swallowed by a new each night and digested  
The meaning and representation of the sun  
The teaching of: we want to talk to you  
African cosmos is realistic but do not know about Africa  
The complexity of the relationship of these cultures to astronomy cosmology  
Sophistication of traditional astronomy  
It still goes on strongly these days  
(As it relates to Africa) what I've seen on TV/internet as related to the cosmos is missing  
The amount of info not taught in schools  
There was so much African history in the US  
I realized I didn't know much about this growing up  
Information  
That art that was on display let me get a glimpse of any history.  
There is great African influence upon the world  
Connection between African art and cosmos  
The moon appears in the art /rituals of so many different African people.  
There was so much information on this subject  
So many different cultures incorporated the cosmos in their art  
The tradition of art and the cosmos costumes  
African art is so connected to Astronomy  
They were made with expansion to the heavens  
The levels of African interest in the cosmos  
How colorful of African culture

### **Everything**

Everything is new for me  
Everything  
Everything  
Everything  
All things

### **Emotional Response**

Fully satisfied  
I had an overwhelming sense of belonging  
I was really engaged  
It could be that moving  
Emotional resonance of the works (e.g., cloth worn by the leader who was excited by British)

### **Beauty**

The beauty of African art  
The beauty  
It was beautiful  
Such beautiful art could be made from unusual material  
It was so beautiful and so many visitors were here  
I knew it would be nice

### **Art**

Awesome arts  
Music, color, contemporary art  
All old art/History  
People are so creative  
How creative the art was  
Modern Art was compelling  
African is producing new art of this thing  
Sophistication of African art  
Africa actually has cool shit

### **Specific Artworks**

The...snake something that appeals to you have ever \_\_a big industrial African  
There was a giant gas can snake  
The snake was made out of recycled material  
The snake was made out of gas cans  
The tire that was made by the tops of gas containers  
We liked the star vibrations / sounds  
The rainbow sculpture  
Piece in the Disney collection  
Love the tribal masks. The variety in the exhibition.  
That movie "journey to the moon"  
African artist, under [a specific artist?]  
The very old Egyptian art

Sculptures available

The mask and the statue

Seeing traditional art and contemporary art work so well together. I loved seeing Julie Mehretu and William Kentridge's work in the exhibit.

Ethiopia painting

Some of the artifacts

There was so much interesting contemporary art

Some gold objects looked similar to those in the Kazakhstan exhibit

The Chinese historical relic

The pictures about their daily life

The figures and sculptors were more impressive than the Egyptian sculpture

### **Combinations**

The combination of traditional and contemporary

Mixture of traditional and modern art

There are modern art pieces

Nice blend of traditional and modern

So many traditional and modern artifacts

There was such a mixture science art

### **Variety / Diversity**

The variety of art represented

There were many aspects of Yoruba art

Diversity and [??]

How vast \_\_\_\_\_, beautiful and talented people are.

How varied it was

It was so many different exhibits

The extent

There's so many different ways of envisioning

Surprised at the different forms of art

Variety/age of artifacts

Large diversity of items across Africa

There were so many ways of portraying space

Exhibits [??] of African cultural variety

### **Imbalance**

There were only Nigerian pieces, mostly

Most of the art is Nigerian, not Egyptian

There was so much contemporary art from South Africa, perhaps too much

### **Quick Response (QR) Codes**

QR reader; since last visit

The QR readers

### **Lack**

More people weren't here

More listening stations

Not enough explaining ancient tribes

A bit dark, why in the basement  
I even found it  
There was not a good amount of traditional art  
There was not more of a connection to science- lots of "represents" evoked  
There weren't that many exhibits and the links to astronomy were tenuous  
There wasn't more  
Not having more info on the connection  
Work and their meanings/artist's intent are not fully explained  
Not as old as expected

**No Photography**

That I was not allowed to take pictures on level 2  
I couldn't take photos  
I can't use camera at certain places  
No cameras are allowed  
That you couldn't take pictures everywhere or touch  
No pictures allowed

**Other**

There were so many constellations drawn by kids  
The museum took on such an only \_\_\_\_\_ African culture display  
It seemed most of the artist trained abroad and did not return to Africa  
Can't say

# Appendix G: Discovery Room Observation Form

## AFRICAN COSMOS Discovery Room

**Directions:** Observe visitors who enter the Discover Room and write what you observe him/her doing in the "Activity" column. Approximate time in the "Time" column. Observe one visitor at a time, one sheet per visitor, one visitor per group. Start timing when visitor enters & stop it when they leave. Write in your initials and record the date, time of day, visitor's approximate age, sex, who they are with, and the total time the visitor spent in the Discovery Room. Record how long the visitor stops at spots in the Discovery Room (see table to the left).

Observer's Initials \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Age: \_\_\_\_\_ Sex: (circle) M F

With Adult(s) \_\_ Child(ren) \_\_

Observations:

Time:

Activity

Time:	Activity

Total time \_\_\_\_\_

**When the visitor leave, ask them the following questions (either use an audio recorder or write notes below):**

**Interview:**

- What did you like about the activity?
- What did you learn?
- Do you have any suggestions?

How would you rate your experience in this Activity Room?

**Poor Fair Good Excellent Superior**

Why?

What were your expectations?

What did you want to see?

Additional comments?

## Appendix H: Trembling Field Observation Form

### Trembling Field OBSERVATION FORM

Observer's Initials \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Age: \_\_\_\_\_ Sex: (circle) M F

With Adult(s) \_\_ Child(ren) \_\_\_\_

#### Observation:

Do they interact with the water display?

Yes No

Do they sit down?

Yes No

Do they read the informative prompts?

All Most Some None

Location	Time
1 (right display case)	
2 (left wall encasement)	
3 (left display)	
4 (far left display)	
5 (water display)	

#### Interview:

Do you think Trembling Field is a part of the African Cosmos exhibit?

Did you know you could touch the water?

What do you like/dislike about this artwork?

What did you like most and least?

Why?

Total Time: \_\_\_\_\_

How would you rate your overall experience?

**Poor Fair Good Excellent Superior**

If not excellent, please explain why: