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THE SENSES

▼
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Unsolicited contributions to EXHIBITIONIST are welcomed from all concerned with museum exhibition. Guidelines for submission are posted on the NAME web site at www.N.A.M.E.org, or contact Jane Bedno, exhibitionist@uarts.edu or 215-717-6327, fax 215-717-6326.

Queries: Feel free to contact the editor with questions about the suitability of a proposed contribution, length, format, or other issues.

Where: Material for inclusion in "Exhibits Newline" should be sent to Phyllis Rabineau rabineau@chicagohistory.org. All other submissions should be sent to Jane Bedno.

How: We prefer to receive initial submissions electronically. If you don't have access to e-mail, use regular mail to send a hard copy accompanied by a CD or zip disc.

Artwork: Artwork will normally be requested after initial review of your submission.

Citations: Please follow the format used in the articles in this issue for citing sources and for listing "References Cited" at the end of the article.

Apologia: Due to space limitations, we can't accept all material submitted – but we are courteous when we have to turn something down. Accepted submissions may be edited for clarity and length.

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I sit down to write my final letter as President of NAME filled with mixed emotions. The past four years have been demanding, frustrating,

and exhausting. But they have been rewarding, enriching, and fulfilling as well. Getting to know NAME members, AAM staff, SPC Chairs, and colleagues from the museum field has been good fun. I will miss the meetings, the phone conversations, and the invigorating discussions.

I hope the changes introduced during my tenure have helped revitalize the organization and have prepared NAME for future challenges and opportunities. When I took office as President, I set several goals for myself and for the organization: (1) to diversify and increase NAME's earned and contributed income; (2) to build NAME's reserve fund to \$40K (one year's worth of operating expenses), (3) improve NAME's customer service to its members and reinstate several of the member services which had fallen by the wayside; (4) develop a realistic strategic plan for the organization; and last, but most certainly not least, (5) leave no unfinished projects for my successor. I am pleased to say that with the help of the Board and members of the organization, we have accomplished each goal.

I would like to take this opportunity to recognize the efforts of the Officers and Board Members who served with me, my appreciation to everyone who has given their time, energy and talent to NAME.

NAME has been fortunate to have Leslie Cohen as 1st Vice President/Program Chair. Leslie has worked hard over the last four years soliciting ideas for programs and sessions, working with session chairs to hone their proposals, and ranking and presenting proposals at the annual preliminary Program Committee meetings.

Through the efforts of Gene Dillenburg, NAME has been able to improve its member services. Gene's diligent record keeping and membership renewal tracking has made NAME's membership database

more complete. And Gene's talent for writing the Newsflasher has enhanced NAME's ability to communicate with members. NAME is fortunate Gene is able to serve as Membership Chair for another two years.

Maintaining NAME's financial records and keeping track of the cash flow is an inconspicuous job, but a very important one. Bryan Sieling has quietly and faithfully managed NAME's finances for the past two years. Bryan has done a fantastic job keeping track of deposits, check requests, publication and subscription orders, and expense reimbursements.

Without NAME Secretary Anne von Stuelpnagel, we wouldn't have a record of the discussions and decisions made at meetings. Anne also maintains NAME's website. Anne has agreed to continue for a second term in her capacity as Secretary.

NAME has been privileged to have Mary Ellen Conaway, Libby Lewis, Oliver Hirsch, Polly Nordstrand, Dave Denney, and Jane Bedno serve as Board Members at Large. Mary Ellen Conaway has a long history of serving SPCs in a variety of roles. Mary Ellen brought wisdom and dignity to NAME and has provided expert counsel to office of President in times of turbulence. Libby Lewis helped NAME make its entry into international exhibit world. Libby was instrumental in developing a relationship with ICOM's International Committee on Exhibit Exchange (ICEE) and organizing the joint meeting between ICEE and NAME in New York City last fall. NAME's financial health has benefited from Oliver Hirsch's generosity. Oliver helped underwrite the expenses associated with the Designing for Conservation Seminar and several NAME events at AAM Annual Meeting over the past four years. Polly Nordstrand's commitment to diversity has strengthened the Board and her infectious laugh brightened many a Board Meeting. Without Dave Denney, there would have been no resource notebooks for the Designing for Conservation Seminar. Dave and his staff at the Texas State History Museum compiled all the handouts and assembled them into notebooks. And, Jane Bedno, long time supporter of NAME, stepped to the plate when NAME needed an editor for EXHIBITIONIST.

Serving as liaisons between members and the Board, are NAME's Regional Representatives. Without the efforts of Jonathan Shay, Paul Orselli, Jennie Zehmer, Kim Louagie, Diane Gutenkauf, Salle Tulchin, Mary Beth Trautwein, and Beth Redmond Jones, NAME would not function on a regional level. My thanks to each of you!

Several of the Officers and Board Members of NAME will be continuing on for a second term. However, many individuals will be leaving their positions and NAME will welcome new faces to the Board. The torch of leadership will be passed to the new Board at the AAM Annual Meeting-New Orleans, and the last official last day for the 2002-2004 Board will be July 31st. The 2004-2006 Officers & Board Members will start their terms with the beginning of the new fiscal year, on August 1st, 2004.

In response to organizational challenges and opportunities, changes within the museum community, and ongoing operational concerns, the Board of NAME approved a motion at in May 2003 to initiate a strategic planning process, to establish the future direction for the organization. The Board contracted Gail Anderson, principal of Gail Anderson and Associates, to assist.

On January 23-24, 2004, the NAME Board met in Denver, Colorado at the Denver Museum of Nature and Science. Those in attendance included executive officers, regional representatives, and advisors. Gail Anderson facilitated the meeting. At the conclusion of the meeting, the NAME Board had drafted: a revised mission statement; an articulated set of values; a vision for 2010; priority areas and a set of strategic goals; and an implementation strategy.

Copies of the strategic plan will be available at the NAME Business Breakfast at the AAM Annual Meeting and on the NAME website.

As part of the strategic planning process, the Board has also reviewed and revised NAME's operational guidelines. We will be voting on the guidelines at the Breakfast Business Meeting. If passed, the operational guidelines will go into effect with the start of the new fiscal year.

> WORDS FROM THE PRESIDENT *continued*

Much has changed in my personal and professional life during my four years as NAME President. I've changed jobs (twice); relocated; dealt with illness; faced unemployment; and most recently lost Jake, my beloved canine companion of 12 years. Through it all, NAME has provided me with an identity and a wacky sense of consistency. But that is about to change. However, my experience with NAME will provide me with the fortitude to strike out on a new path—maybe now, I can focus on restoring and renovating my 175 year old house. Who knows, I may even complete the upstairs bathroom, a project I started two years ago!

I look forward to seeing all of you at the AAM Annual Meeting-New Orleans.

Kristine

Kristine L. Hastreiter
President, NAME

"My words mean what
I want them to mean"
Humpty Dumpty



Our authors have been asked to focus on the senses in the current issue of the EXHIBITIONIST,

because, as exhibition professionals, we insist on the importance of our exhibits meaning something, but meaning itself is one of those terms, like art, the definition of which seems to lie primarily within the individual. My idea of an exhibit that has meaning is one that changes, amplifies, or reaffirms my understanding of its subject matter. In many cases, the experience of such an exhibit sticks in my memory for many years, and I am convinced that my retention relates significantly to the use of materials connecting to all the senses. My first exhibit memory, over sixty years ago, was the zoo:-the

experience of its smells and sounds, and touching and riding a couple of animals, has stuck with me ever since (reinforced by many more zoo exhibits), although I have little recall of specific animals I saw. My first truly memorable adult exhibition experience was *Diaglieff* in London, in 1954. The exhibit included sounds, touchable elements (tulle, that could be touched, blowing in a breeze), and the overall scent of Mitsouko, Diaglieff's favorite perfume. I could still describe the exhibit in some detail. I can still recall and describe most of my experiences over the following years in exhibits utilizing interesting touch elements, and virtually all of them characterized by the use of smells. I can remember when sound reinforced an exhibit (even when the sound was simply a pleasant ambient factor). The bird sounds moving overhead in *First People*, in Vancouver, Canada was one of my first experiences of a really cleverly handled use of sound, but it has stuck with me and added to my strong memory of the overall emotional effect of the exhibit. *Yorvik Viking Center* in York, England created a strong enough ambiance of a Viking settlement in its combination of sights, sounds, and smells, that I have had dreams about it, as a living village.

Most of us would find a sensory life limited to visual input crippling, but, in creating exhibits, we have been strongly inclined to ignore everything but what can be seen. The technical difficulties posed by inclusion of materials addressed to the other senses is no excuse today, if it ever was - and, if it could be done fifty years ago, it should certainly be possible today.

We evolved from hunter-gatherers, and we still evidence those original traits in our experiential forays into the world. Think back on life experiences and they are not characterized by visual memories alone - the feel and smell and sounds of the new baby, the wonderful vacation, even a new car - all are vital to our memories of them.

Some of the articles that follow focus on the 'special' learner, but the special learner is certainly not alone in benefiting from a greater attention being paid to sensory input other than the purely visible. As

Beverly Serrell mentions in her article, smell memories, for most of us, run far deeper than sound and visual ones.

In our next issue, we will concentrate on what is going on in exhibits and related programming in the rest of the world. Few of us can afford the time or money to travel far from home. Really interesting work that is being done in the rest of the world is seldom visually accessible. Sometimes, our guide books don't mention the most exciting exhibits from the point of view of professionals in the field - how many of you who have been to Paris have seen my favorite museum there, *The Grand Hall of Evolution* at the Paris Museum of Natural History, for example? We are beginning to gather articles for this issue, and I would welcome reader contributions. We may also include a section which is exclusively photographs, if you have taken interesting ones, but don't feel inclined to write on the subject.

The following issue will address collaborations and cooperation. We are all becoming aware of the newest model of exhibition practice in American museums, where institutions decide on a general programming thrust before developing specific exhibits and educational programs. Education departments and exhibition teams work together to make this model work. Reaching out to communities at interest before creating exhibitions has also become a necessity, not a luxury. You can no longer do an exhibit related to a specific community, be it ethnic, or characterized by some other specific characteristic such as age or special experience without consulting the community addressed. How do you do it? Collaborations have been around for a long time, and are getting better at it. Or are we?

Jane

Jane Bedno
Editor, EXHIBITIONIST

Erratum: In the article *Active and Passive Humidity Control*, in the winter issue of EXHIBITIONIST, a number of explanatory figures were inadvertently lost during editing. A complete version of the article is available at: www.microclimate.ca. Click on "About Us" and look for the "Articles" section.



MAKING SENSE OF CAVE LIFE

Imagine stepping into a cave and being completely immersed in darkness. You wait for your eyes to adjust, but your world remains dark. Now imagine that you live in that cave and your world has always been this dark. How do you survive without the sense of sight? What other senses must you use?

The *Cave Life Gallery* at the Oakland Museum of California presents a series of interactive exhibits designed to demonstrate sensory adaptations of bats and other animals living in a dark cave environment. Interpretive challenges in developing the *Cave Life Gallery* included: helping visitors to comprehend an environment of total darkness where sight is not an option; demonstrating the need for non-optical senses in the darkness of a cave; and interpreting echolocation, a highly specialized sound adaptation that is found in bats. In this article, we examine the sensory components of the *Cave Life Gallery*, exhibit by exhibit; discuss interpretive development challenges and present visitor evaluation results.

Recently, the authors conducted three rounds of remedial evaluation of the *Cave Life Gallery* with cued visitor family groups, incorporating observations and qualitative open-ended interviews. Our goal was to determine both content understanding and proper use of the exhibits. Overall, we found that most exhibits were effective in conveying content if they were used correctly. However, proper use varied from exhibit to exhibit.

Article by:

DORRIS WELCH
and DANA NEITZEL

The Cave Life Gallery at the Oakland Museum of California uses a series of interactive exhibits to interpret sensory adaptations for living in a dark environment

Sensorimotor: Immersive Cave

Visitors may enter the gallery by squeezing through a narrow opening and then walking through a realistic cave passage. They twist and turn through thirty feet of total darkness, using their hands to feel the way. This full body motor experience sets the tone and provides context for gallery exhibits that explore how cave animals use senses other than sight to enable them to survive inside a dark cave.

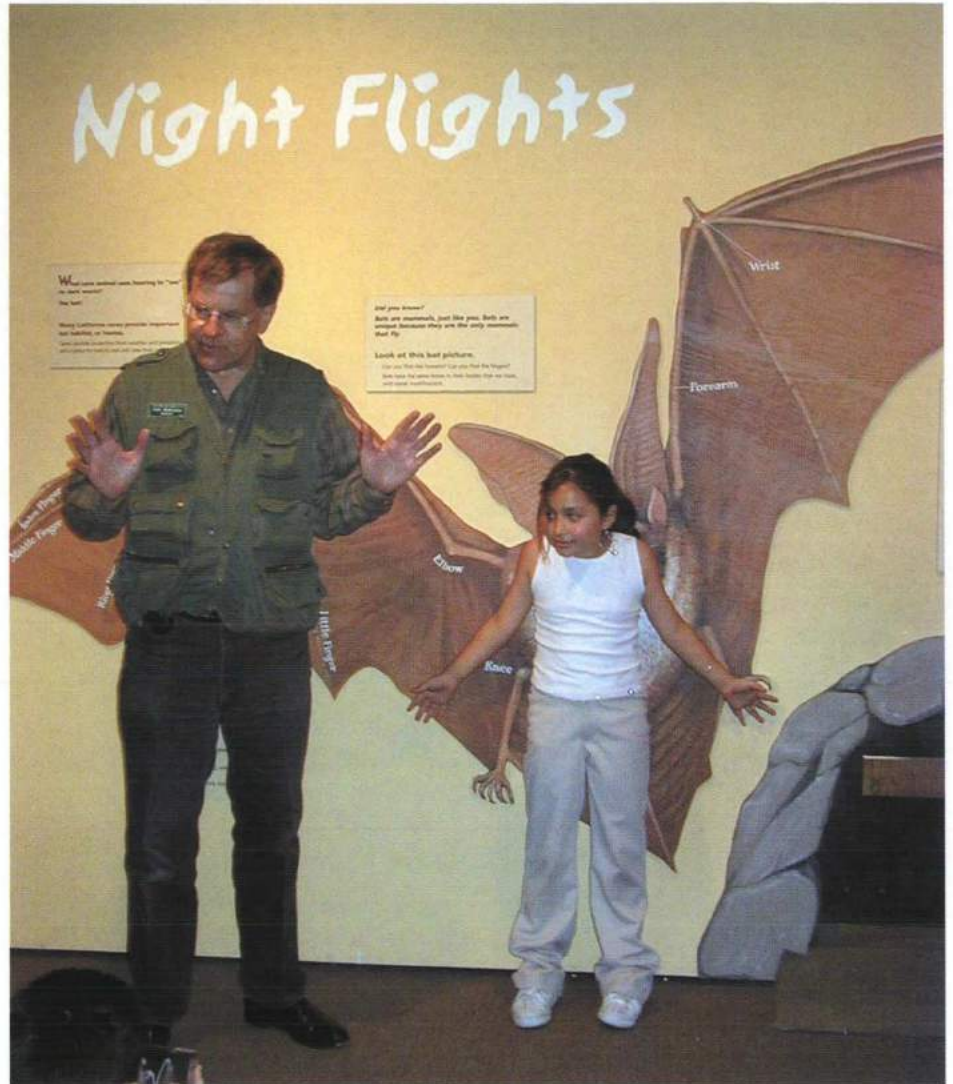
Did it work? Yes. The vast majority of visitors who go through the cave are intrigued by such a completely immersive experience. Most feel a sense of discomfort at having absolutely no visual cues in an unfamiliar environment. This was an expected outcome and is meant to prepare the visitor for the ensuing exhibition experience.

A surprise outcome is the challenge of crowd control. Excited children (and some adults too!) will exit and immediately attempt to run back to the front to enter again. For many visitors, going through the cave evokes the same exhilaration and excitement as going through a funhouse. Experience has taught us that managing and cuing these excited visitors requires a greater amount of staff involvement than originally anticipated.

Smell: Sniffing for Your Food

Without the sense of sight, cave animals must use chemical sensations (their sense of smell) to locate their food. The *Sniffing for Your Food* exhibit attempts to simulate this through a personally relevant experience. Our challenge was to place the activity of identifying food by smell in the context of how cave animals use chemoreception to find their food.

The interactive has six sniffer ports that challenge the visitor to determine which scent is edible. Above each port is a rotating wooden disk that conceals the name of that port's scent. Scents were chosen specifically for their edible-versus-nonedible contrast. However, we could not resist trying some "trick" smells. For example, shrimp paste is stinky, but



edible; and beeswax smells tasty, but really is not. Additional scents used include garlic, orange, gear oil and soap.

Did it work? For the most part. Evaluation results showed that exhibit content was well understood. But a design challenge was to get visitors to sniff "blindly" before checking the smell's identity. We found that our design made it too easy and inviting for kids to check the answers first. Small children were immediately drawn to spinning the wooden disks, thus revealing the scent names. To our surprise, adults unaccompanied by young children had no idea that the disks rotated or that the name of the scent was hidden beneath. This suggests that adults need an invitation to manipulate interactive exhibits.

Tactile: Food or Foe

The sense of touch is critical in a totally dark environment. In fact, many cave organisms have developed elongated antennae and legs which help them to better utilize this important sense. Our challenge in the *Food or Foe* exhibit was to put visitors in the mindset of a cave animal and have them feel for their food.

The exhibit has a box with a hole in front into which visitors place their hand. Inside, on a rough cave-like surface, are four raised models of cave invertebrates: a cricket, a beetle, a spider and a centipede. The top of the box has a small door that lifts, revealing a window and triggering a light so that visitors can see the animals inside and verify what they felt. The text panel above the box asks

visitors to pretend they are a cave-dwelling predator and to identify, using their sense of touch, which animals are predator and which are prey.

Did it work? Not quite. Initial observation revealed immediate instructional problems. Because the door is on top, it is the first thing visitors see and touch. Visitors were opening the door and revealing the “answer” before doing the activity. A label was added to the door telling visitors, “Wait! Don’t open yet!

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First reach inside the front and feel.” Another label was added above the opening asking visitors, “Can you feel the differences between predator and prey?” The next round of testing showed that these new labels were effective in getting visitors to do the activity in the correct order.

Conceptually, it is a stretch to ask visitors to imagine they are a “cave predator” searching for food with touch. Remedial evaluation revealed that visitors need a tangible example, such as an image of the specific type of cave predator, in order to enter this scenario. Images of the prey items they touch are also necessary. Inclusion of such graphics met with immediate success.

Hearing: Seeing with Sound

Echolocation in bats is a highly specialized sound adaptation. Bats send high frequency clicks into the night world and listen for the echoes as these clicks bounce off cave walls or flying insect prey. Our exhibit development challenge here was to provide background content—basically, sound physics—that would allow visitors to build an understanding of how echolocation works. To

accomplish this, we created a combination of interactives and exhibit panels that interpret vibration, high frequency and echoes, guiding the visitor into the topic of echolocation.

Vibration

We hear sound when air pressure waves, or vibrations, strike our inner ears. To show that sound is a physical phenomenon, we created an interactive that invites visitors to “make” a sound wave and physically feel the vibration

vibration.” Some visitors were confused by the puddle illustration, thinking that water had something to do with how bats use echolocation. This demonstrates the need for formative evaluation to ensure that graphics serve to clarify rather than confuse.

Frequency

Here, we introduce the concept of the high-frequency sound that bats use for echolocation. Challenges included interpreting the abstract concept of high-



they generate. We built a musical instrument consisting of a hollow wooden body with a single bass guitar string. The low-frequency tone makes it easy to see and feel the vibration. A label describes vibration and uses an illustration of a pebble dropping into a puddle—causing ripples or waves—to demonstrate how sound travels. Directions on the wall instruct the visitor to pluck the string and to feel the sound box.

Did it work? Yes. All visitors understood that sound is vibration and that it is something you can feel. However, deeper questioning revealed that visitors had difficulty in finding the activity’s instructions. This difficulty was corrected by placing a new label onto the box itself stating, “Pluck the string and place the palm of your hand on this box to **feel**

frequency sound and placing it in the context of the visitor’s experience. Recognizing individual variation in hearing ability was also a consideration.

A text panel is used to define high-frequency sound and its relationship to echolocation. Buttons activate tones whose frequency corresponds to different and familiar animal calls. For example, near the button that engages the 10 kilohertz (kHz) tone is an image of a robin and a label that says, “A robin sings at this frequency.” Because bats use a higher frequency than most humans can hear, a bat detector—an instrument that lowers the frequency—is included. Visitors can activate the bat detector button to have it “translate” a high-frequency tone to an audible tone.

Did it work?

Not completely. Button labels did not clearly convey what the tones represented. While everyone seemed to understand that a 10 kHz tone was at a higher frequency than a 1 kHz tone, many assumed that the tone was the actual sound that a bat hears, rather than the frequency of that sound. In retrospect, we might have been more successful had we designed the exhibit using actual animal sounds rather than tones.

Affective intergenerational learning was an unexpected yet desirable outcome of this exhibit. Children generally have no problem hearing all of the frequencies. But older people tend to lose their ability to hear higher frequencies. Individuals in family and docent-led school groups challenged themselves and each other, trying to identify the highest frequency they could hear, demonstrating the importance of personal relevance in

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exhibit design. Interest and learning is enhanced in an experience which provides the visitor with a personal connection to the idea or concept, especially if that connection spans multiple generations and can be easily shared with others.

Echoes

Sound travels and bounces off solid objects. Unfortunately, due to time and space constraints, the planned interactive—a fifty-foot echo tube that would allow visitors to experience a real echo—was never developed. Instead, this section relies on text labels and a simple graphic panel that illustrates an echo bouncing off a mountain.



Echolocation

Here, we piece together for the visitor all of the previous elements of the echolocation story while demonstrating the variety and subtlety of echolocation in various species of bats. A text panel describes the process of echolocation. This is illustrated with a graphic showing a bat emitting high-frequency sounds and echoes bouncing back from a moth. Another panel highlights the science and technologies used to record and translate bat calls. The interactive itself combines listening devices with audio recordings of bat echolocation calls. Buttons, that remain lit while the selected bat call is being played, are placed next to bat photos, sonograms and text panels.

Did it work? Yes. Visitors gain a general understanding of echolocation and recognize that different species of bats have different echolocation calls. Use of the interactive is intuitive. Visitors approach and, with no hesitation, place the earpiece to their ear and select a button to hear a bat call. Some confusion is caused by visitors not realizing the recording must play in its entirety. The selected button remains lit for the duration of the recording, yet visitors attempt to go onto the next call early by pushing other buttons. Additional labeling would remedy this.

Recommendations and Conclusion:

Overall, we found success in conveying content about sensory adaptations of cave animals using interactive exhibits. The major shortcoming was that visitors simply had trouble figuring out how to use the interactives as intended.

To avoid the pitfalls we encountered, the following guidelines are recommended:

- Make instructional labels simple and clear.
- Provide labels that invite adults to interact.
- Place instructional labels directly on the interactives when possible.
- Use graphics and examples to help visitors imagine a situation outside their realm of personal experience.
- Plan for extra floor staff to manage immersive exhibits that elevate excitement levels.
- Prototype interactives for clarity of instructions and actual use.
- Conduct formative evaluation to confirm that graphics clarify rather than confuse.

What worked in the Cave Life Gallery?

People got the big idea. Visitors effectively understood the concepts of nonvisual sensory adaptations, including the sophisticated and complex aspects of echolocation. Additionally, we learned that sensory concepts lend themselves quite well to interactive exhibits by employing strategies beyond the visual and inviting visitors to engage in alternate sensory modes.

For similar success in future exhibits we recommend the following guidelines:

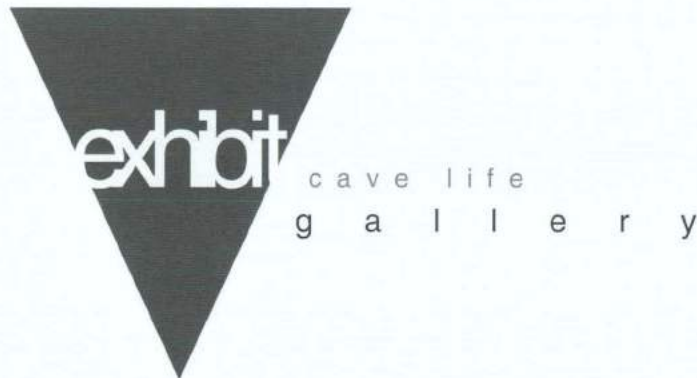
- Invite visitors to use their multiple senses.
- Make content relevant to the visitor by providing experiences that test individual abilities.
- Invite visitors to compare their own abilities to the sensory abilities of animals or other people.
- Engage the visitor's imagination by creating scenarios that place them in the mindset of an animal or another person.
- Provide an immersive environment that triggers sensory, full body and emotional responses all at once.

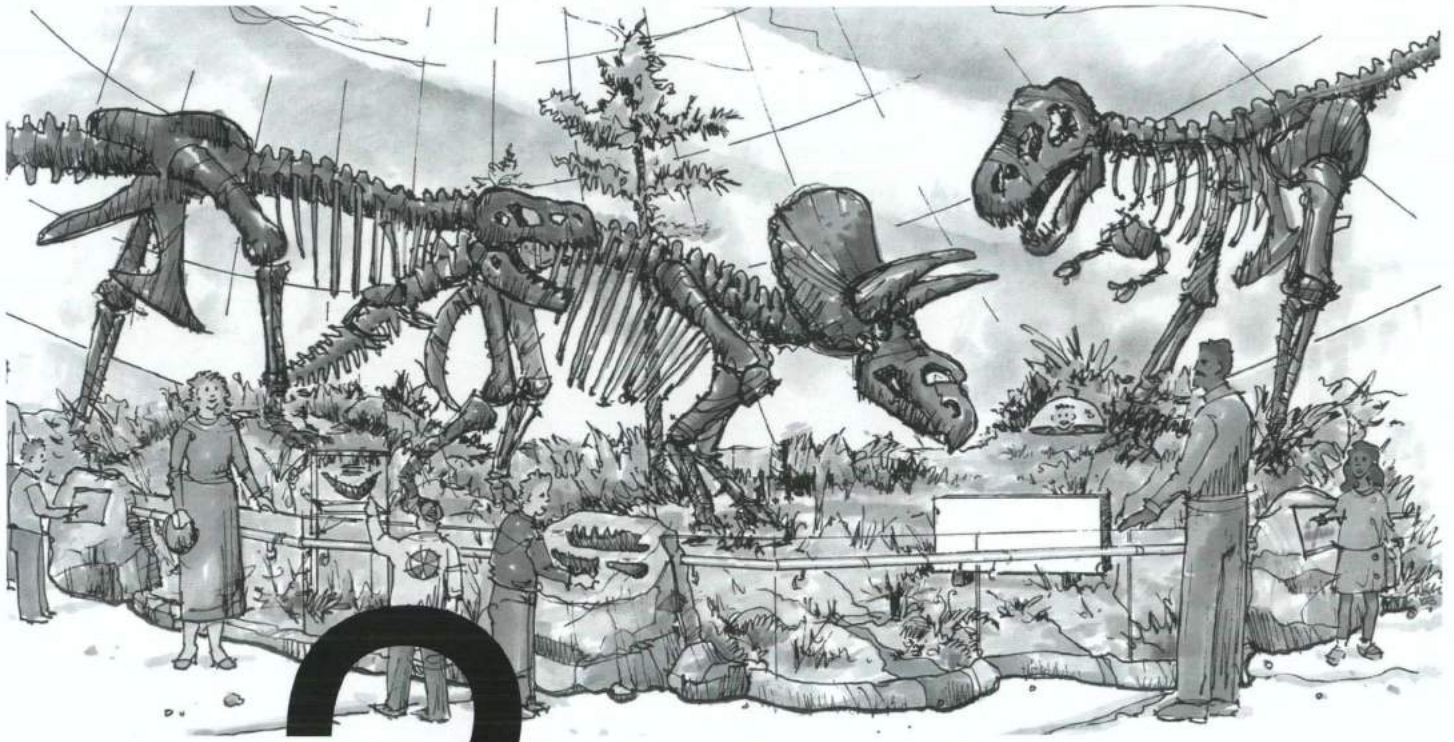
The lessons we learned have exhibit development implications beyond sensory interpretation. Well organized content and creative interpretive strategies are the foundation of any successful exhibit. Just as critical, however, is the incorporation of visitor feedback through formative evaluation. This is the only way to ensure that your interactive exhibit not only engages visitors in the intended manner, but that it ultimately "makes sense" to them, both conceptually and logistically.

Dorris Welch, Curator of the Cave Life Gallery, is Interpretive Specialist and *Dana Neitzel* is Interpretive Assistant in the Natural Sciences Department at the Oakland Museum of California. <http://www.museumca.org/caves/index.html>
510-238-3884

Look for Dorris at NAME's Marketplace of Ideas session at the AAM Annual meeting in New Orleans where she will be discussing the Cave Life Gallery's sensory exhibits

NOTE: Once part of the larger California Underground temporary exhibition that closed in late 2000, the Cave Life Gallery is currently an interactive learning space with ongoing school programming.





drawing by Craig Wetli

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DINOSPHERE: NOW YOU'RE IN THEIR WORLD A MULTI-SENSORY EXPERIENCE FOR FAMILIES AT THE CHILDREN'S MUSEUM OF INDIANAPOLIS

Article by:
CATHLEEN DONNELLY

The Children's Museum of Indianapolis is developing a new exhibit that will allow children and families to experience the sights, sounds and scents of a prehistoric world filled with dinosaurs. *Dinosphere: Now You're in Their World* will open June 11, 2004. Creating this immersive experience has presented challenges and opportunities for the museum's exhibit development, design and production staffs.

Background

In the spring of 2001, the museum received a very generous grant from The Lilly Endowment and The Scott A. Jones Foundation to develop a new dinosaur exhibit as part of the cultural tourism initiative in Indianapolis. An internal core team was organized within the museum and a panel of advisors – including paleontologists, educators and paleo artists – was immediately assembled.

Fossil specimens were purchased, including a sub-adult tyrannosaurus rex, triceratops, gorgosaurus, maiasaura, three hypacrosaurus, a leptoceratops and an oviraptor embryo. Several casts also were acquired to supplement the fossils and create three immersive scenes set amid realistic Cretaceous plants and trees.

The three immersive scenes include:

- *T. Rex Attack* – Two tyrannosaurs stalk a huge and dangerous Triceratops.
- *The Watering Hole* – A hypacrosaurus family – including an adult, sub-adult and baby, and two leptoceratops cautiously approach the water to take a drink.
- *Scavenger or Predator* – Bambiraptors wait their turn for a meal at a kill site, but a fearsome gorgosaurus gets the first bite.

In the peripheral areas of the gallery, an oviraptor embryo nicknamed "Baby Louie," is featured in the *Eggs, Nests and Babies* area, which includes a climb-

in dinosaur nest and an egg display. Families “dig” for casts of fossils in the *Dino Dig Site*, then clean and prepare fossils in the *Polly Horton Hix Paleo Prep Lab*. They can find answers to questions about dinosaurs in the *Scott A. Jones Question Lab* and paint, draw and sculpt dinosaurs in the *Gallery of Dinosaur Imagery* featuring the John Lanzendorf Collection.

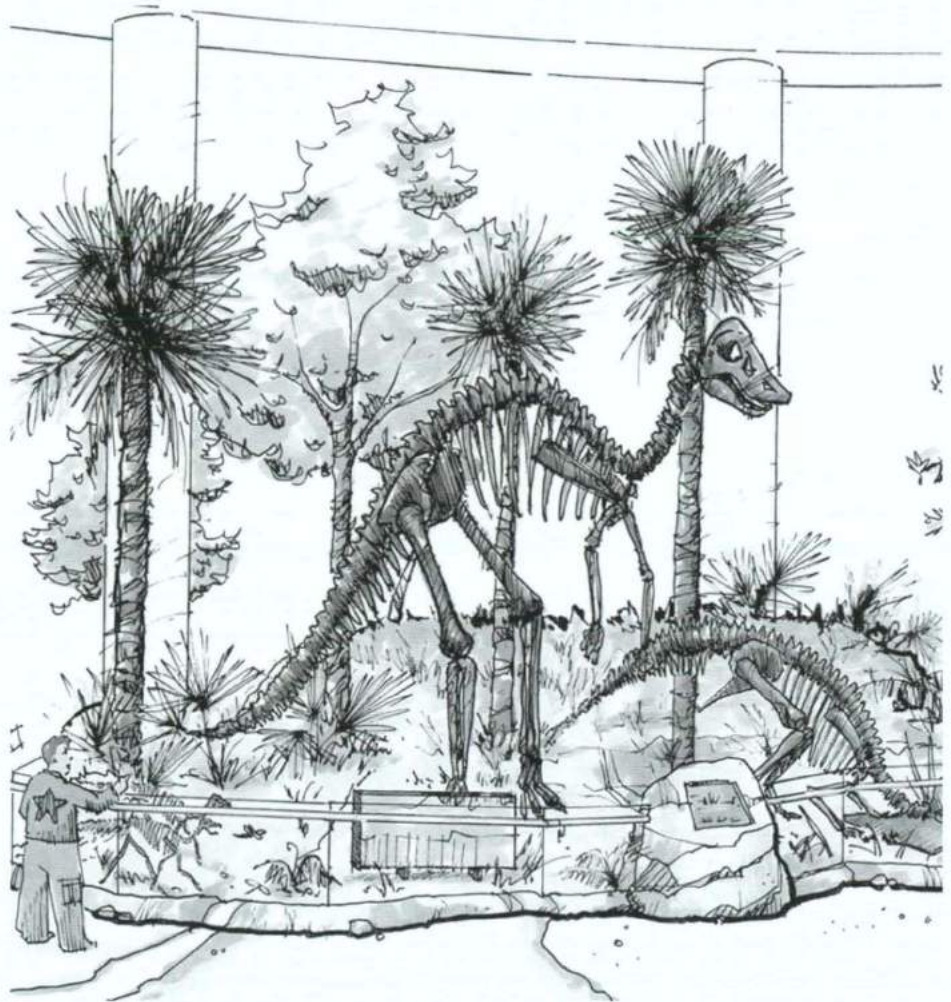
The sensory experience

From the beginning, staff planned for multiple sensory experiences in *Dinosphere*. Front-end evaluation indicated children and families were curious about what life was like at the end of the Age of Dinosaurs, and they wanted to experience the Cretaceous period by touching and looking at fossils and hearing dinosaur calls.

Moreover, one of the primary goals in creating *Dinosphere* was to design an exhibit that would encourage family learning. Family learning focuses on cooperative exploration and interaction among children and adults, resulting in enhanced learning – especially for children. Sensory elements in the exhibit promote family discussion and sharing by appealing to a range of learning preferences, particularly auditory, kinesthetic and visual. The museum wants children and parents to talk about what they hear, touch, see and smell in *Dinosphere*.

Scent

Since *Dinosphere* was designed as an immersive environment, scent will play an integral role in the exhibit experience. Discussions with *Dinosphere* advisory board member, Dr. Eva Koppelhus, a paleontologist at the Royal Tyrrell Museum in Alberta, Canada, produced a list of Cretaceous plants from the fossil record. Wanting children to be able to recognize and smell familiar flora, the focus is on plants that are still around today. Taking the advice of paleontologists and paleobotanists, team members also traveled to Corkscrew Swamp in Naples, Florida, to research plants. This swampy environment closely matches *Dinosphere*'s Cretaceous setting. ScentAir Technologies in Orlando, Florida, was chosen to provide off-the-shelf and custom scents for the exhibit.



drawing by Craig Wetli

Rainforest, evergreen and earth were in-stock scents readily available. Eight scent machines, including the firm's ScentWave and ScentPOP models, were chosen for the exhibit. ScentWave is on a timer and dispenses scents for large areas up to 2,000 square feet. ScentPOP is motion sensitive and directional for specific areas up to 15 feet. Both machines utilize replaceable cartridges that emit dry or “mistless” scents (particularly important around fragile fossils).

The rainforest fragrance was selected for overall use in the immersive environment, while earth and evergreen scents were chosen for specific areas – the *Dino Dig Site* (earth) and the *Scavenger or Predator* scene, which includes several conifer trees (evergreen).

In addition to off-the-shelf scents, specific custom scents were also needed. Magnolia trees were common in the Cretaceous, so ScentAir Technologies mixed a custom scent to be dispensed near magnolia trees by the *Watering Hole*.

Another custom fragrance took more time and effort to develop. To reinforce the message that T. rex was a meat-eater that used its sensitive nose to hunt prey animals, an interactive station featuring a sniffing activity was developed. Families and children will be asked to take a whiff of three scents and identify which one is “dinner” for T. rex. Two of the three scents are plants – evergreen and magnolia — while the third is identified as “duckbill dinosaurs.”

But what would dinner for T. rex smell like? The *Dinosphere* advisory board was asked to weigh in on this issue. They theorized that it was likely T. rex smelled duckbill dinosaurs “down wind,” even at a great distance. The scent of a duckbill dinosaur herd would have enticed any T. rex, but what would that scent smell like to us? The company’s

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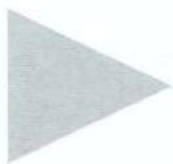
When tested, however, children thought the pods were microphones. They sang and shouted into them and twisted the gooseneck stems together. After one team member suggested more blatant labels, “smell this” labels were pasted directly on the pods, and visitors started to sniff instead of sing.

Sound

Sounds of the Cretaceous provide another opportunity for family learning in *Dinosphere*. We started with what we know about the sounds of “living fossils” – those animals with ancestors alive at the time of the dinosaurs, such as crocodiles, dragonflies and crickets. Team members who traveled to Corkscrew Swamp to research plants also recorded ambient animal sounds.

“Dinosaur thumping, screaming and growling is not necessarily appropriate for kids visiting *Dinosphere*,” said Shriner. “I’ve had to exaggerate the sounds without scaring the kids. That’s a real dance.” He listened to TV dinosaur documentaries and the Corkscrew Swamp tapes for inspiration then used a variety of sources to create custom sounds. “There’s a lot of layering. Nothing is off the shelf.”

Another challenge was presented when museum staff asked for specific sounds at the watering hole scene. Scientists think that some dinosaurs lived in family groups and that they might have communicated through sound. Our hypacrosaurus family featured at the watering hole scene probably lived in



the senses exhibit planning

perfumers started with a musky animal base, and then mixed in other fragrances on a trial and error basis. Over a dozen versions were sent to the museum, with one scent eventually selected by the team. Admittedly, this scent is guesswork, since there is no living tissue – with all its attendant odors – available to recreate. Label copy in the exhibit will explain that the duckbill dinosaur fragrance is a guess, based on what we know about the scents of modern animals.

The T. rex scent activity faced another challenge during prototyping: how do we get families to sniff the scent pods? In the galleries, children see telephones and intuitively know they can pick one up to hear something. When they see buttons, they push to see or hear something happen. But what shape conveys the message, “smell this”? The result is the creation of a custom-made pod that resembles a flower with a well in the center to hold a replaceable scent “wick.” The pod is mounted on a gooseneck stem so children and adults can maneuver it to the proper height.

The museum then contracted Charles Shriner of Indianapolis-based MCSD Studios to develop a soundtrack for a sound and light experience. *Dinosphere* is located in a former large-format IWERKS theater, and the surround sound system and projection screen were left intact. This equipment provides a unique opportunity to enhance the immersive feel by projecting images onto the dome in tandem with a soundtrack.

The surround sound and light experience is approximately 15 minutes in length and set on a continuous day-to-night cycle. Visitors hear the sounds of dawn, midday, late afternoon and evening in a Cretaceous world. Short-zoned narration provides information about the storyline for each of the three immersive scenes, while targeted lighting focuses on specific fossils.

To augment the surround sound system, localized speakers, hidden behind rocks and plants, will carry the narration and dinosaur sounds specific to each scene. The primary surround sound system will provide ambient sounds on a continual basis.

herds, and the adults had large crests on the top of their heads. Current theory is that the hollow crest served as a resonating chamber. Shriner’s challenge was creating a sound that a hypacrosaurus might have made.

The paleontologists we sought out for advice said they don’t know the sounds that hypacrosaurus might have made using their soft tissues, but a guess could be made based on contemporary animals. One advisor described duckbill dinosaur sound as probably “infrasonic.” These are noises – similar to those made by elephants – that can be felt but not heard by humans.

Although the surround sound system can carry infrasonic sounds, something had to be created that visitors could hear. Shriner started with a rhinoceros sound, and then layered it with other animal noises to recreate the resonance of a crested hypacrosaurus. A higher pitched version might be the sound of a young hypacrosaurus that had not yet grown a crest. Children and parents are encouraged to make their own unique “family calls” at an interactive display. Families can manipulate

the sounds by sliding their fingers up and down an electronic "ribbon." This ribbon interfaces with a custom built sound program through a digitizer and MIDI control box.

A label next to the interactive will inform visitors that fossils do not tell us what sounds a dinosaur made, so sounds made by modern animals were used to come up with the version they are hearing.

Touch

Touchable, or hands-on, materials are not new to museums, particularly children's museums. In *Dinosphere*, a number of fossil casts are available for children to touch. Most of these are positioned in front of the three immersive scenes. Casts of individual bones are mounted on low cabinets, along with label copy inviting families to examine and talk about what they see and feel. These touchable elements are designed to help families answer a specific question in each of the scenes, such as "Does T. rex always win?"

In the *Dino Dig Site* and *Paleo Prep Lab*, children and families can dig for fossil casts buried in a dustless matrix and conduct preliminary preparation work on expendable fossils. These opportunities provide tactile experiences crucial to kinesthetic learners.

Sight

Spectacular real dinosaur fossils, over 65 million years old, will be the highlight of the exhibit. The dino team knew that children would want to see these fossils up close, so the immersive scenes were designed with tunnels. Children and adults can crawl under a part of the scene, then pop up and look through clear acrylic bubbles to view the fossils a few feet away. Inside two of these tunnels, visitors can see cutaways of what lived underground or underwater. These mini-dioramas feature replicas of small mammals, frogs, turtles and garfish. One of the three tunnels was later modified for wheelchair accessibility. It's no longer a tunnel; rather a cutaway of the scene, so all visitors can get a closer look at the maiasaur and raptors just beyond the glass.

Two other exhibit elements offer a different way to look "inside" the fossils. An "eggscope" in the *Eggs, Nests and Babies* area features an imaginary look inside a dinosaur egg. Children can push a button that "scans" an egg replica and see an animated video clip of a recreated dino inside the egg. The label on the scope invites children to "imagine what's inside a dinosaur egg."

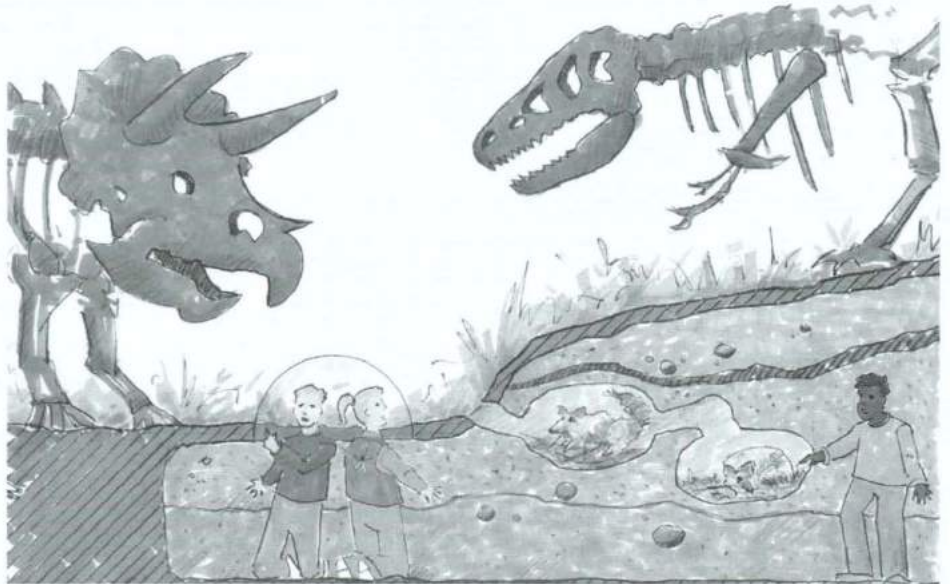
Another exhibit element, an electronic "scanner," is the hook to get children to closely examine the gorgosaurus skeleton. Children slide an LCD monitor over a graphic of a fleshed-out gorgosaurus. As the scanner moves, they see a skeletal image, along with photo images that change to interpret the creature's many injuries. This technology was borrowed from the industrial and medical fields to provide the illusion of "X-raying" a dinosaur.

Conclusion

All of these exhibit elements have been prototyped and tested, refined, reworked and retested, though we won't know how successful we've been until the exhibit opens in June. Remedial evaluation begins immediately, followed by summative evaluation starting in January 2005.

What will success look (or smell, feel or sound) like? If we see and hear families talking and sharing, explaining and imagining, digging and dreaming, we'll know that the sensory "hooks" we've provided are working.

Cathleen Donnelly develops exhibits at The Children's Museum of Indianapolis. Contact her at cathyd@childrensmuseum.org



drawing by Craig Wetli

Illustration by Ed Bedno

3



SOMETHING **SMELLS**

Article by:
BEVERLY SERRELL

“What’s that smell?” asks a sign inside the entrance to the zoo’s small mammals building. Indeed, that is the question in most visitors’ minds as they encounter the potent musky flavor in the air. It’s a smell that reminds you of several things – good and bad – and the sign’s text goes on to note that musk is a component of perfume.

Although smell is one of the five main senses, the use of olfactory stimuli in museum exhibits, intentionally or otherwise, is not exploited to its fullest potential. Sound in audiovisual materials and touchable elements in hands-on activities have expanded people’s experiences beyond looking and reading, but the benefits of a smell element just haven’t caught on. In the case of live-animal exhibits, any odor is usually minimized, lest visitors think the habitats aren’t kept clean.

The ability to detect odors, awareness of smells and the importance of scent vary from person to person. In the case of the small mammals building, some people noticed the musky smell more than others; it was offensive to some, but not especially so to others.

How we smell and how well

High inside the human nose is a small patch of nerve cells that connect directly to the brain. These olfactory cells are stimulated by airborne molecules, or odors. In addition, we smell with our eyes, mouth and throat through other chemical receptors that are stimulated by different substances, such as onions, alcohol and peppermint. The sense of smell is closely related to the sense of taste. In fact, many flavors are recognized mainly through people’s sense of smell rather than through their taste buds. We can identify around 10,000 different smells, most of them having to do with food.

Some people have smell disorders -- such as reduced ability to smell or a total loss of the sense -- caused by respiratory infections, head injuries, or exposure to strong chemicals. Radiation treatment can cause people problems and smoking can adversely affect the ability to smell. Because olfactory cells are regularly replaced throughout a person's life, some smell disorders are only temporary.

Scientists have found that the sense of smell begins to decline after age 60. Women at all ages are generally more accurate than men in identifying odors.

Smelling in museum exhibits

People who can't smell well won't react to smells the same way people with a keen sense of smell will. Differences in people's ability to smell should be kept in mind when developing exhibits that require or depend on people smelling something. The following three examples of exhibits that use smells work well for people of most ages and abilities.

The *Marvelous Molecules* exhibition at the New York Hall of Science includes several exhibit elements related to smell. One points out that dogs have 10 times more olfactory nerve cells in their noses than humans, and most animals have some smell receptors located somewhere, whether they're in the nose, on antennae, or on the cellular surface. Another exhibit combines smelling and touch to examine odor molecules. "Your nose knows, but can your hand tell the difference between different odor molecules?" the sign asks. Activities include smelling scents from squeeze bottles labeled banana, apple, cinnamon and grape, and feeling models of the corresponding very similar molecules.

At the *Huntington Conservatory for Botanical Science*, an exhibit invites visitors to match insect pollinators with their favorite smells. A label reading "Flowers with strong odors -- pleasant and unpleasant -- attract insects to flowers, where nectar and pollen provide food" lures people with more clues: "Bees like brightly colored, sweet-smelling flowers. Moths prefer sweet-smelling white flowers. Flies are attracted to stinky smells, like rotting meat." One of the squeeze bottles -- you guessed it -- smells awful. In formative evaluation of the exhibit, schoolchildren testing it



at The New York Hall of Science

readily and willingly sniffed all three odors. Under normal conditions, some visitors will be reluctant to be unpleasantly surprised by a smell, but they will participate socially while someone else does the sniffing.

Smells can evoke strong memories. A set of squeeze bottles delivers smells to trigger people's memories in an exhibit element in the senses section of *Memory*, a traveling exhibition from the Exploratorium. At *Smells and Emotion* visitors are encouraged to sniff smells related to childhood, such as crayons, baby powder and Coppertone suntan lotion. Visitors remarked that they had a stronger emotional experience when they actually smelled the odor than when they just thought about it.

Why use smells

Smells sell. The aroma of roasting chicken wafting through a grocery store is calculated to make shoppers hungry so that they'll purchase more. Citrus-laced cleaning fluids convince homemakers that their kitchens and bathrooms are sanitized. General Motors has engineered a new-car scent, called "Nuance," which is processed into the leather seats of Cadillacs to prolong the 'new' status. Aromatherapy promises peace and tranquility.

Museums should consider the benefits of incorporating pleasant smells into their environments to help create moods and pique desires -- from the cafe (fresh-roasted coffee, not greasy hamburgers),

to the restrooms (citrus, not Lysol), to the dioramas (pine for mountains, sage for deserts), to the gift shop (more citrus). Museums are typically rich with visual stuff; the addition of carefully orchestrated olfactory experiences can make a museum visit more complex and satisfying.

Next time you are planning an exhibition, ask: What smells would work well as part of the experience?

How to do it

For direct delivery of odors, plastic bottles can be filled with the actual materials (e.g., cinnamon, lotion, oils, leaves) or essences that are available commercially. Bottles should be capped with a flat top with a hole drilled in it, not a tapering single-holed spout that people might stick up their nostrils. Secure bottles at the neck and base, leaving the body of the bottle accessible to be squeezed. Scientific supply companies carry 500-milliliter polyethylene bottles with 28-millimeter caps, good for at least six months of routine wear if the materials inside are not corrosive.

For indirect delivery of smells, a warm light and small fan behind the scenes can be used to heat essential oils and disperse odors.

Thanks to **Kua Patten**, production manager of the Exploratorium's Exhibit Services, for the technical details. You can contact him at 415-353-0409

Beverly Serrell is the director of Serrell & Associates in Chicago. bserrell@aol.com

4



GRAB YOUR VISITORS **BY THE EAR**

Article by:
TAMARA TRENTLAGE

This scenario should be familiar to many of us. You've spent countless months devoted to your latest exhibit project, stressing out over minute details like whether or not the shade of green you chose for the banana leaves is in fact "banana leaf green." Finally the exhibit is open and the visitors come in. They walk right by your banana leaves without a second glance, learning nothing about the rainforest ecosystem. You just want to grab them by the ear and make them pay attention. You can't physically drag your visitors around by their ears, but ear-grabbing sound can draw them in long enough to notice your banana leaves.

Who can afford to spend a lot of money on something that your visitors can't see or touch? In museum exhibits the visual pieces – large eye-catching dioramas and breathtaking exhibit spaces – all require the big bucks. High quality visuals are often achieved at the expense of the other senses. The most valuable way to add greater intensity to a museum exhibit is through a carefully controlled acoustic environment. Well-planned sound casts a wide net over your audience, engaging visitors with different learning styles and abilities. From a pedagogical point of view, audio appeals to those who rely on their musical-rhythmic intelligence to learn. And we have to keep in mind that there is a growing population of visually impaired visitors who rely on sound to augment their experience. Sound can convey meaning at which words can only grasp – creating a more aurally enticing museum visit.

Let's be honest about our audience – museum visitors are increasingly more media-savvy. We are competing for the attention of people who shop at the mall, watch movies and listen to music. When a teenager buys a car, a third of the cost goes into the sound system. The good news is our visitors love audio – the more bang for your buck way to enrich a museum experience.

The next time you visit your favorite retailer, notice the music. The music in the store says a lot about the intended audience and the frame of mind the retailers want to inspire. Environmental sound does a wonderful job of setting the mood and drawing visitors in to the setting. Audio is important and worth making front and center. Starbucks, with CDs of its mood music available for purchase at the counter, realizes that the audio in their facility is an integral part of the experience. Visual exhibits require a soundtrack to engage a contemporary visitor population hip to the power of media. Those who score movies can finely craft their audio – setting the mood with music and ambient sound effects, highlighting critical actions and creating orchestral texture and volume to emphasize the moment. Exhibit designers should strive for a similar palette of aural experience. Unlike their filmmaker counterparts, exhibit designers face the additional challenge of having little control over audience movement through space and time.

At *Jorvik Viking Center* in the city of York, England, designers successfully control these dimensions by moving visitors through the exhibit in small carts. Speakers near the visitors' ears give an informative soundtrack in the museum's choice of six languages while ambient sound, beginning with "mood music" takes the visitor back in history. Then audio recreation of the active, 11th century Viking village that existed beneath the city is followed by the sounds of a modern team of archaeologists.

Museums have been visual for most of their existence, starting with the early silent days of the cabinet of curiosities until the 1800s, when the current exhibit model was forged. As individuals were allowed to explore museums unsupervised, written interpretation and labels became central to the museum experience. No sound was needed (and no method was available to reproduce sound) because the words were printed for all to see. The *Futurama* exhibit at the 1939 World's Fair whisked seated visitors over a model of the future New York City while audio commentary described the scene below. However, not until the 1960s did tape recorders

come into common use as playback technology. Increased noise came from several sources: a combination of HVAC; hard, parallel surfaces within the exhibit space causing reverberation; and uncontrolled behavior of groups of visitors. The interactive exhibit developed, and multimedia and video sounds competed with visitor voices. Now MP3, flash card technologies, and non-redundant delivery allow high quality audio media to permeate museums, informing visitors about context and content.

Dr. Bernie Krause, of Wild Sanctuary, Inc., a leading expert in the field of museum audio, claims that "there is no such thing as total immersion," the design buzz-word of the past 25 years. Instead of the myth of immersion, he suggests striving for high levels of visitor engagement. Krause says that he can get a more intense reaction from kids listening to a \$16 CD of a jaguar growling in the rainforest than all the individually hand painted leaves in a diorama you can buy.

Sound brings an added dimension to an exhibit, but if it doesn't engage the visitor, it's just noise. In 1989 Krause conducted an informal study of push button interactives at the California Academy of Sciences, where he discovered that visitors love to push buttons and hear playback, but they do not generally retain any information from this type of source. The interactive studied involved five buttons corresponding with five different common bird calls. Of the 125 people in the study, 120 (96%!) did not remember any of the bird calls within 90 seconds of using the interactive. Of those interviewed, 86% claimed that they were merely pushing buttons because they were bored with the exhibit and it gave them, at least, some reward for their effort. If people aren't involved with what they are hearing, then it is just another layer of noise in the exhibit environment.

From the outset noise control needs to be accomplished by proper acoustic design of the space. Visitor dialogue and interaction can be distracting to others in the gallery. (An alternate problem also exists where room layouts and settings are so formal that visitors feel forced to whisper – if they talk at all.) Visitor foot noises on hard

surfaces, HVAC and other building noises all need to be addressed. Proper noise control is a relatively low cost effort which can create dramatic improvements in a gallery space. One easy way to measure noise is accomplished by timing the sound created by a handclap including any echo aiming for no more than half a second of reverberation. Acoustic panels, carpeting, swags and sound-absorbent glass can help reduce the amount of noise that is bounced around in an exhibit space. Sound becomes focused when it bounces off of parallel walls so a more extreme plan is to have a gallery space with no parallel walls. Even a wall angle of as little as six degrees can reduce noise. Once you've eliminated the noise, the stage is set to use audio to your advantage.

The next step is to develop a soundscape (theatrical sound setting) for the exhibit. There are many different applications for creating an auditory landscape in a museum. Creating a sound sculpture in natural history environments such as dioramas increases the import of the specimens presented. It's easier for visitors to believe they are visiting a rainforest when they hear rain softly falling and a jaguar rumbling in the distance. By carefully mixing hundreds of natural ambient sounds a rich environment was created for the *Mashantucket Pequot Museum* by Wild Sanctuary, Inc. "The whole environment is encased in acoustic material located behind the wall murals," says exhibit designer Michael Hanke. "It makes you feel like you're standing outdoors."

Audio components are not only successful with natural history; they can be engaging in art and history settings as well. A compelling example is in the *National Museum of African Art* which features a soundtrack of native music in an exhibit of Moroccan art and culture. Sound utilized does not have to be artificial as in the case of my museum, the *North Carolina Museum of Natural Sciences*, where a large waterfall and stream runs through the exhibit space. Fountains and water sources can be refreshing to the ear.

Intelligent Show System™ (ISS™) uses a computer system to coordinate a randomly changing sound sculpture

experience. If you have ever become tired of listening to the same soundtrack over and over, ISS™ may become your favorite technology. By monitoring the visitor noise level in a gallery, the volume of audio in the exhibit is automatically adjusted to compensate. It can also coordinate sound to complement visual images on a screen and actions in exhibit dioramas. The random programming

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the senses hearing

allows visitors to be engaged in a different museum adventure on each visit. This technology works well in natural history museums where non-redundant audio scenarios produce a more realistic representation of outdoor scenes. ISS™ also excels in cultural museum settings where stories can be told from different viewpoints as a feature of the randomization. For example, sometimes a male voice may be used, sometimes a female voice, but the content will always be the same. Simultaneous text captioning in multiple languages is also possible with coordination between the sound system and a nearby projection screen.

Last year my museum hosted a media rich exhibit, The Genomic Revolution which was full of high-tech interactives and video monitors, as well as eerie background music. Add hundreds of school children happily chatting and playing and, well, you get the picture — an exciting cacophony filled the hall. Visitors had trouble talking to their companions and educators found themselves hoarse trying to shout over the exhibit sounds by the end of each day. But what if we could take that exhibit—take all the rich audio and intriguing

videos—and direct the sound more accurately so it didn't bleed to other areas?

Sound can be directed to a single focal point by a speaker array neatly hidden behind a fabric-covered panel. Nearby speaker arrays can be directed to minimize sound bleed between displays. Another tourniquet is the sound dome, which focuses the audio directly under a clear plastic parabolic dish hovering over a specific exhibit component.

A technology that has received a lot of hype lately is "laser" sound technology. The American Technology Corporation claims that sound can be projected in a tight beam, like a flashlight, across a long distance. This Hyper-Sound

System (HSS) technology uses sound waves beyond the normal range of hearing to direct audio to distinct points. This means that you can send a message to someone standing in a crowd 200 yards away that only they can hear. The HSS technology has been used rather effectively in a number of multi-media experiences where the visitor is drawn sequentially to different parts of the theater. In Europe and Asia, nighttime historical sound and light shows utilize this device extensively, interpreting the history of an illuminated area with accompanying audio.

Although HSS technology is very promising, it still suffers from some drawbacks. The quality of the sound delivered by the HSS system leaves something to be desired and can not currently reach very high or very low frequencies in addition to having a very low volume output. The cost is expensive compared to other acoustic technologies on the market and there are also potential liabilities associated with this Hyper-Sound System. Researchers remain uncertain as to the potential physiological effects of the carrier frequencies that transmit audio

at very high levels and have been known to cause nausea, headaches, and even serious disorientation particularly in those who are prone to motion sickness. Another possible disadvantage of HSS is sound bouncing off surfaces unintentionally. To envision this effect, imagine a laser shot into a house of mirrors. With careful planning this effect could be avoided. As museum exhibit specialists we are in the tricky business of trying to appeal to a diverse audience. Even though we'd like to tailor exhibits to an individual's needs and tastes, this task remains a complex challenge. And sound is only one component of the overall exhibit experience. Exhibit design is a theatrical experience and must have all the elements (lighting, 3D, acoustics, sound, graphics) in place and balanced in order to work. With noise reduction, ISS™, speaker arrays and sound domes, you can create soundscapes that finally grab your visitors by the ear.

An Exhibit Designer at the NC Museum of Natural Sciences, Tamara Trentlage recently completed a fellowship in exhibit design at the Smithsonian's Office of Exhibits Central. Contact her at Tamara.Trentlage@ncmail.net.

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Exhibit Sound Resources Online

- Noise control (<http://www.acousticalsolutions.com>)
- ISS™ technology (<http://www.wildsanctuary.com>)
- Speaker array (<http://www.dakotaaudio.com>)
- Sound dome (<http://www.soundtube.com>)
- HSS technology (<http://www.atcsd.com>)

MAY 6

10:00 a.m. – 2:00 p.m.

**National Association for Museum Exhibition (NAME) Exhibit Development Roundtable
New Orleans Marriott Hotel**

Join Paul Martin and Janet Kamien for this once-a year get-together to talk about the hottest topics in exhibition design and development. The issues identified here will shape the session, "What's Going On: Hot Issues in Exhibit Development," scheduled for Friday, May 9, from 9:00 a.m. - 10:15 a.m. This roundtable is open to exhibit developers, designers, and other collaborators, and all AAM delegates. Join the fun and help shape the course of the conference.

11:00 a.m. – 3:00 p.m.

**National Association for Museum Exhibition (NAME) Board Meeting
New Orleans Marriott Hotel**

This meeting is open to NAME members only.

2:30 – 3:45 p.m.

It's Not Just for Kids: The Value of Play in Exhibitions for all Audiences

Chair: Carol Garfinkel, Independent Exhibit Developer/Writer, Exhibitwriter.com, Takoma Park, MD

Developers of exhibitions for children know that, if learning is to take place in their exhibitions, they must invite visitors to play, explore freely, and make personal connections with the exhibition subject. This session demonstrates ways exhibitions for adult and family audiences can benefit from similar thinking. Join the presenters to engage in some playful, creative, and innovative thinking about exhibition development.

4:00 – 5:15 p.m.

A Little Light on the Subject: Daylight in Galleries

Chair: Hank Houser, Architect, Lord Aeck Sargent, Inc., Atlanta, GA

Daylight illuminates galleries with a dynamic quality of light that cannot be duplicated artificially, but conservation of objects is a universal concern in galleries with natural light. Review architectural, operational and other control strategies to reduce the harmful effects of daylight in galleries, while maximizing the visual and physiological benefits of natural light.

5:30 – 7:30 p.m.

**National Association for Museum Exhibition (NAME) Cocktail Party
Les Carillons Bed and Breakfast**

Join fellow NAME members and exhibition colleagues for a glass of wine and hors d'oeuvres in the courtyard of Les Carillons, before stepping out for a night about town.

MAY 7

10:30 AM-11:45 AM

Exhibition Excellence: The 16th Annual Excellence in Exhibition Competition

Chair: Gretchen Overhiser, Princeton, NJ

A showcase for excellence and innovation in current thinking and production of museum exhibition, the annual awards presentation for the best entries in museum exhibitions. Representatives from winning institutions will comment on their award-winning exhibitions, followed by comments from judges on their professional evaluations and jury discussions leading to final decisions on the selection of winners.

12:00 – 1:30 p.m.

**National Association for Museum Exhibition (NAME) Issues Luncheon
Morial Convention Center**

Join Darcie Fohrman and Don Hughes for out-of-the-lunch-box thinking, hands-on protein, innovative fiber, motivating carbohydrates, and other miscellaneous creative bulk.

3:45 – 5:30 p.m.

NAME Marketplace of Ideas

See, Hear, Touch, Smell, Taste: Using the Five Senses in Exhibitions

Chair: Tamara Biggs, Director of Exhibitions, Chicago Historical Society, Chicago, IL

All five sensory paths bring information to the brain, so why depend only on sight? We understand the stuffed bear better when we hear his growl, touch and smell his fur, and taste what he had for his last dinner. Come and discover the inventive ways exhibition professionals create sensual learning experiences.

Excellence in Exhibition Competition Marketplace

Chair: Gretchen Overhiser

Showcase of the entrees submitted for the 16th Annual Excellence in Exhibition Competition.

MAY 8

9:00 – 10:15 a.m.

Set the Mood, Show the Way, Tell Me a Story: The Invisible Work of Exhibit Graphic Design

Chair: Judy Rand, Director, Rand and Associates, Seattle, WA

Graphic design is your museum's key communication medium. It has the power to welcome visitors, clarify meaning, and enhance the visitors' experience. Discover how graphic designers work to convey a museum's image, mission and messages; how they attract and hold a visitor's attention; balance aesthetics and accessibility; and use formative evaluation to shape a new approach to communication.

NAME AT AAM

Innovation, Inspiration and Insight: Unusual Museums NOLA Style

Chair: Phyllis Rabineau, Deputy Director for Interpretation & Education, Chicago Historical Society, Chicago, IL

For more than a decade, EXHIBITIONIST has published a newslines featuring unusual museums and exhibits. Join panelists as they share their enthusiasm for offbeat "finds" and out-of-the-mainstream organizations. Roundtable discussion with panelists and representatives from the Backstreet Cultural Museum, Louisiana Marine Fisheries Museum, New Orleans Pharmacy Museum, and UCM Museum will deepen your understanding of these institutions by touching on topics important to all of us -- mission, collections, interpretation, presentation, education, and community involvement.

2:00 – 4:45 p.m.

The Bilingual Museum: Serving Latino Audiences

Chairs: Cecilia Garibay, Audience Research and Evaluation Consultant, Selinda Research Associate, Chicago, IL, and **Nancy Owens Renner**, Exhibit Developer, San Diego Natural History Museum, San Diego, CA

Grounded in the experiences of four institutions that have wrestled with the question of how to effectively serve Latino communities, and in audience research studies and bilingual exhibit evaluations, this session explores the relationship between effective Latino audience development and the role bilingual exhibitions/interpretation plays in such efforts.

3:30 – 4:45 p.m.

Exhibits and Social Change

Chair: Jenny-Sayre Ramberg, Exhibit Developer/Writer, Monterey Bay Aquarium, Monterey, CA

Explore ways to address social, public health, and environmental issues by creating exhibitions that further your institutional mission while benefiting society at large. Review a variety of social service and advocacy groups using museum-style exhibitions to attract a wider audience, and to create a physical destination for their organization.

MAY 9

7:30 – 8:30 a.m.

NAME Breakfast Business Meeting

New Orleans Marriott Hotel

Join the NAME Board of Directors for our annual breakfast business meeting. We will review past activities, discuss initiatives for the upcoming year, and introduce the new officers and board class of 2004-2006.

9:00 – 10:15 a.m.

What's Going On VI: A Conversation on Hot Issues in Exhibit Development

Chair: Paul Martin, Director of Exhibit Development, Science Museum of Minnesota, St. Paul, MN

Always a popular event at the AAM Annual Conference! Hot issues in exhibit development, innovation, future trends, and many other timely topics identified during the preconference Exhibit Development Roundtable, frame the discussion of this town meeting-style session.

12:15 – 12:45 p.m.

Augmenting Incoming Traveling Shows

Chair: Daniel Oliver, Exhibit Designer, Chicago Historical Society, Chicago, IL

Make your incoming traveling shows a little more interesting. Gain a practical knowledge of how to embellish traveling exhibits in a variety of ways to make them more substantial, engaging, and relevant to their institution's mission. See how one museum has gotten a bigger bang for its buck by adding its own objects, graphics, sound and light, 3-D design elements, and spin-off exhibitions.

2:15 – 3:30 p.m.

Outside the United States of Mind: What are Museums Abroad Doing with Their Exhibitions?

Chair: John Chiodo, Director of Design, Academy Studios Inc., Novato, CA

Break out of the domestic U.S. museum mindset as you discover new ways to create successful interpretive experiences. Identify alternative interpretive solutions, planning techniques, and media usage that museums outside this country are applying to their exhibition planning and design. Catch a glimpse of possible future directions for museum interpretations as you open the domestic museum mindset to new possibilities for conceptual and exhibit design, creative partnerships, innovative visitor experiences, and educational programming.

2:15 – 5:00 p.m.

Critiquing Museum Exhibitions XV: Representing Cultures

Chair: James Sims, Principal, Threshold Studio, Alexandria, VA

This double session and continuing forum on excellence in exhibition unites panelists from the new Ogden Museum of Southern Art with professional colleagues in a critique of the newly opened exhibition *Story of the South: Art and Culture 1890-2003*.

3:45 – 5:00 p.m.

Secrets for Surviving the Exhibit Process: Pointers from Seasoned Veterans

Chair: Scott Donaldson, Manager of Exhibit Design, Cincinnati, OH

Four seasoned professionals share their experiences in developing exhibits, and reflect on aspects of museum exhibit development. Review who does what job, how to develop and promote ideas worth pursuing, common pitfalls to avoid, when to trust your intuition, and more.

To Think Out of the Box, First Start with the Box

Chair: Dorothy Chen-Courtin, Marketing/Management Consultant for Nonprofits, Harvard, MA

Ponder the concept ideation and its possible structured approaches as you review various ways to engage audiences. Experts from a science museum and an art museum, as well as from museum learning and communications perspectives, will address the "thinking out of the box" processes, barriers, and outcomes from multiple situational "boxes."

Getting Your Message Out: Using Exhibits and the Internet Together

Chair: Steve Boyd-Smith, Independent Producer of Interpretive Experiences, *I Tell Stories, Saint Paul, MN

Exhibits and the Internet are different mediums and should be treated as such. Nevertheless, they can reinforce each other if planned together. In this lively discussion, you'll review strengths and weaknesses of each medium, hear how they can reinforce each other, and see practical examples of exhibit/Web programs that enhance the educational mission of their organizations.

Managing Creativity: Working with Your Consultant (or Your Client) to Create Great New Exhibits

Chair: Kyra Bowling, Project Executive, Academy Studios Inc., Novato, CA

Share thoughts on a new project management model, developed jointly by and for museum professionals and their consultant(s), designed to manage and maximize exhibition projects.

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illustration by Ed Bedno

THE SIXTH SENSE

Article by:
ALICE DOMMERT AND
ANDREW PHILLIPS

Have you ever had the feeling that in a split second something changed? A light bulb went off inside your brain and suddenly you understood, you “got it.” There is no rationale reason why you now know. How can it be that you know it’s time to stop and get gas, though your gas gauge is broken? How can it be that you can suddenly understand the meaning of a childhood experiment 20 years later? Knowing and the sense of intuition are at work here. They are known as the “sixth sense.”

This issue of the *EXHIBITIONIST* is about the senses which include sight, hearing, taste, smell and touch—the official five. Each of these can be attributed to the body’s anatomy, our eyes, our ears, our tongue, our noses and our fingers. My intent here is to open a dialogue about the role of the sixth sense, what is it and how it relates to exhibitions. In particular I’d like to pose three questions.

- What is intuition and knowing and how does it work within each of us?
- How do visitors experience knowing/intuition in exhibitions?
- How is intuition used by exhibit developers, designers and others who make exhibitions?

With this article, I’m just scratching the surface. As I’ve researched and mulled over these ideas, more questions than answers have emerged. I will take the risk of embarking on this subject matter here, among friends, with the hope of engaging you in dialogue. Researching the sixth sense leads one to some unusual places. In an online search I found myself in the worlds of science, military strategies, business planning, religion, new age philosophy and social psychology.

In the business world there is talk about a new technique called scenario thinking, developed from military strategies where multiple response alternatives are considered, without a hierarchy. I didn’t fully understand what made this so new, or different from business planning of the past, but it seems to describe planning

strategies that utilize a method of forecasting which combines experience and intuition. I found it interesting to ponder a possible parallel in the exhibit development process (alternative meanings /outcomes) and business and military planning.

The subject of using intuition and the sixth sense is something being thought about quite a bit. As a culture we seem to be trying to get more in touch with ourselves and new brain research is filtering into the mainstream media daily. As more scientific research findings are released and our research technologies becomes more sophisticated, more discussion about the sixth sense will occur.

What is Intuition?

Intuition or *knowing* is considered the sixth sense, and it has no known body part association. It is most closely associated with the mind or brain. Myths refer to the 'third eye' of intuition. But this unscientifically verifiable condition continues to defeat even our most precise instruments of measure. Intuition is not knowledge based on something quantifiably evident. Knowledge, epistemologically speaking, is the understanding and awareness gained through experience and study. Yet intuition seems to be gained from multiple and repeated experiences that somehow come together to form knowledge.

Knowledge is firmly rooted in the traditions of perception and optical appropriation: if it can not be seen, it can not be known. Scientists require that a phenomenon be measurable and repeatable to be verifiable. Intuition falls well outside of these criteria. It falls outside the world of the "official" senses - but it is one of the most effective means by which we can appropriate and understand the world.

I believe there are two aspects of the sixth sense. The first is the sixth sense as knowing, understanding, suddenly "getting it" when a moment before you were in the dark. It's as if the connection were finally complete and a whole series of unrelated knowledge mixes together, and more importantly, can be decoded to make sense. The second is the sixth sense as intuition, getting a feeling about something that informs the future, fore-

casting. Intuition is knowing without the use of rational process; immediate cognition.

A fire fighter recognizes when to evacuate a building just before it collapses - that's intuition in its forecasting mode. Much of forecasting is about seeing a future scenario and tailoring our actions to prepare for that situation.

Intuition revolves around this idea of a mysterious knowing. Daily we experience many situations that add to our log of knowing. Messages, or bits of knowledge, are logged every second in our brains, tiny grains of sand collecting or pearls being strung together. Our cognitive abilities are not able to keep track and organize them, yet they continue to collect and register within our minds. Each bit of knowledge is different and separate. They do not blend together, yet somehow they combine and mix to become something more, and a decipherable code emerges. Suddenly the language can be translated, and understood. It now registers on the brain's larger radar screen of detectable knowledge.

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The process of mixing unrelated, and usually cognitively unacknowledged, bits of information into something usable seems to require some form of catalyst. In its pure chemistry definition a catalyst is defined as "a substance, usually present in small amounts relative to the reactants, that modifies, especially increases the rate of chemical reaction without being consumed in the process." I'd like to frame two different concepts of the catalyst, intuition as catalyst and exhibition as catalyst.

Intuition as catalyst

Our senses allow us to experience in many different ways. During experiences we are constantly logging information. We do not consciously take note of tiny bits of knowledge, but they assemble within us. As I watch my children on their journey as Montessori preschoolers, I witness this process.

"The (Montessori) teacher's task is no small or easy one! He has to prepare a

huge amount of knowledge to satisfy the child's mental hunger, and he is not, like the ordinary teacher, limited by a syllabus." - Maria Montessori

Montessori knew that continuous logging and the child's eventual assimilation of the information was a critical part of a child's learning about and becoming part of the world. Montessori schools provide guided discovery where children repeat tasks of their own choosing as they work to master each task's physical and cognitive challenges. The method builds naturally on the child's inquisitive mind as they seek to understand their world.

As each task is mastered (which may require a child doing this task many, many times), a more complex task is introduced. These tasks almost always involve objects made of natural materials which closely resemble a simple museum interactive. Abstract concepts are introduced by giving the child material form, shape and texture. Montessori's emphasis on the child's tactile engagement with their work builds not only cognitive understanding but, more importantly, creates an environment where their own intuitive understanding can develop. They are allowed to assemble information at their own pace and "get it" on their own.

Research shows that children exponentially make more connections with seemingly unrelated objects and concepts than adults. I've witnessed it as my children announce that a bite out of a rectangular cracker makes it Utah or as we're playing the alphabet game a bicycle tire is the letter O. They've pointed out clouds that are dragons, sequins that are fallen stars and asked why we only say A-men at the end of a prayer and not A-women. They are constantly making these connections. Their minds seem as limber as their limbs. Their brains have not yet been programmed to apply rationale and reasoning.

As adults we mature and learn to keep our cognitive brains in control of our thinking most of the time. Rational thinking tells us that crackers are not Utah and we just don't say Awomen. (I secretly wish I could flip a switch and allow my youthful free association to work again.) Little time is allowed for the

recess of free association. Personally, I like making connections of unrelated information. When I try and explain it to others though, to share the wonder, they give me a “funny look”. If we’re suppressing those connections then are we stifling our better understanding and more keen sense of intuition?

I suggest that we all have this ability to assemble unrelated information. A few of the new books about the sixth sense promise to teach those who cannot

feels after narrowly avoiding a car accident. It’s the a ha when you get it.

The video and accompanying study guide of the *Philadelphia Stories* project, a collaborative project of Michael Spock, Hope Leichter and Deborah Perry, recorded museum professionals’ memories of their own learning experiences in museums. Many discussed the powerful impact of this experience. I watched the tape again recently as part of my study. Elaine Heumann Gurian’s experience of

every other aspect of an exhibit transmits a message. In successful exhibitions, the messages all work together. Added to the environment is the unique assemblage of previous experiences that each visitor brings that make the exhibit experience such a variable.

Exhibition environment serves as catalyst for assembling many different messages. Hopefully the environment serves, as the catalyst definition



the senses t h e s i x t h s e n s e

readily tap into their sixth sense how to better develop this ability. By assembling these bits of information, we collect but do not organize them into relationships. Without, however, the catalyst of intuition these bits remain dormant and mostly unusable. Learning is continued through the acquisition of facts (collecting of bits) and an intuited understanding of their potential relevance.

The chart diagramming the acquisition of knowledge is not a constant incline. Rather it is a spiraling series of plateaus and spikes. The Venetian philosopher, Giambattista Vico, described something similar as a model for understanding epistemology – the study of how we know. Flashes of insight, of understanding, are always built upon what we know.

Let’s think about a lemon. People can feel the textures of a lemon both the pulpy inside and the bumpy skin. They can also smell the bitter skin and the citrus insides. They can see its yellow color. But the taste of a lemon holds its secret. After a taste it all falls into place. There is something that happens to makes all of those separate bits of knowledge about the lemon come together. When they all are assimilated, processed, connected, a person really knows the lemon. Their understanding and knowledge of this object has moved exponentially beyond the usual incremental addition of separate information.

This “moment of knowing” can happen in an exhibition. It can create a physical sensation like a burst of adrenaline one

the seeing the *Botticelli Venus* and the *Botticelli Seasons* physically overwhelmed her. She talks about having studied them, seen images - but it was not until the moment of being in their presence that she fully came to know these pieces. This knowledge spike happened for her but it had been building though all of her other previous experiences of learning about these pieces. It seems that her intuition suddenly pulled together all of the information and she instantly had a new understanding.

Another example in *Philadelphia Stories* also captures this concept of incremental learning. Fred Stein talks about “realizing 20 years later that playing with an exhibit at the *Lawrence Hall of Science* had provided him with a visceral model of how a cyclotron works.” His ‘bits’ had been collecting for 20 years before it hit that knowledge spike.

Museum experiences may be like that. They lie dormant for a time until the catalyst is applied and they all mix together. The measurable “value” of the experience is not in the exit interview and the recitation of the big idea but in the tiny increment added to that individual’s strand of knowledge.

Exhibition as catalyst

This concept explores not so much the knowing coming together in an exhibition but the exhibition environment as the catalyst that mixes many experiences together. In an exhibition, as Jane Bedno says, everything counts. Words, images, sounds, materials, smells and

describes, “to increase the rate of chemical reaction...” The goal is to assemble multiple experiences (multi-media and multi-sensory) that are focused to support the exhibit’s “big idea” so that the assimilation, intuiting, might happen at an increased rate for our visitors.

To further explore how exhibitions are a catalyst, let’s continue to explore the lemon. In an exhibition a person could read a description about the shape and color of a lemon. The taste would be described as ‘sour’ but sour applies to many things and—possibly—sour varies in definition from individual to individual. The lemon can be categorized as citrus; but many fruits are citrus. One could study a picture or painting; but a Matisse lemon is not the same as a Picasso lemon. An audio could describe its preference for warm climates. A film could present an individual plucking, cutting and tasting a lemon—complete with a screwed up pucker face: the look of sour. But the true texture and taste of a lemon remains elusive. Without that last tactile taste experience, the knowledge of the lemon is incomplete. This tasting the lemon, combined with all of the other experiences, completes the chain and then we know the lemon. From then on, our mouths brace themselves every time we lift a lemon wedge.

But let’s move on from this new plane of knowledge. There is even more to lemons. They offer contradictory, sometimes ironic, metaphorical meanings. When we buy a bad car we call it a lemon, it’s a bad thing, sour and no

good. But the next thing to follow is our quaint saying "When life gives you lemons, make lemonade." This seemingly benign motto has at its heart American gumption. It taps into that sense of pulling oneself up by your own bootstraps; of being the master of your fate. If things look bad; find the good—or make it so yourself.

So what is so great about making lemonade? One of the typical rights of passage in the American childhood is the lemonade stand. For many, it was our first enterprise: we sold a product, satisfied a customer, and collected a few coins—all during the course of a hot summer day when there was little else to do. We probably sampled the product but maybe did not actually bite a lemon. In such a case, there was no direct shocking taste experience, but something nearly as potent—a childhood memory. Sticky, sweet, sour, hot, shade, bees, water fights, swimming pools. The list of potential associations is endless. All permit us to attach and build new understandings from experienced memory. Lemons can be instructive in subjects ranging from tongue parts to used cars to free market economies. An exhibition can explore all of these nuances, offer the opportunity to see, smell, taste, feel, hear and then assemble all to deeply understand a simple fruit.

So if our goal is to create exhibit environments that allow visitors to both experience a "moment of knowing" and also have experiences that add smaller knowledge increments to their knowledge strand, what's getting in our way? Certainly there are exhibitions in many places doing just this. As we think about how to do this as exhibit makers our focus on the sixth sense shifts to how as exhibit makers we use our sixth sense to develop and design exhibits.

How do we use our sixth sense as exhibit makers? In his 1980 Pritzker Prize acceptance address, the Mexican Architect Luis Barragan memorably wrote:

"In alarming proportions the following words have disappeared from architectural publications: Beauty, Inspiration, Magic, Sorcery, Enchantment, and also Serenity, Mystery, Silence, Privacy, Astonishment. All of these have found a

living home in my soul, and if I am far from having done full justice to them in my work, I have used them as my lighthouse." (3)

Many issues press and pull on exhibitions as they are made, molding and shaping them like malleable clay. Institutions large and small are under pressure to keep visitors coming. Dialogue surrounding exhibition development and design frequently includes issues of audience, message, media and experience. One cannot ignore the current pressures to produce blockbuster exhibits to attract more visitors. The marketing and business pressures of keeping the doors open push and press on our exhibit processes. Dialogue about the intangibles frequently gets pushed to the side. At some point, content and its effective communication requires inspiration, imagination and intuition.

In our exhibit making the scenario often plays out that we have a feeling about an experience. We may even be lucky enough to have the budget to have tested it with our visitors to find that it has real potential. At this point, and even before this point sometimes, the pressures begin to mount to change the experience, to compromise it. For some reason our intuition based rationale can't sustain the idea against the pressure.

After working on a small fire museum over the past few years I've talked to many fire fighters and become familiar with their culture. As developers and designers we rarely can protect an idea with the "It just feels right and my intuition tells me that's the thing to do" rationale. As a fire fighter, intuition is everything. Most fire fighters are strong and male, not your likely candidates for those who intuit publicly. They seem to be able to recognize, talk about and depend on their intuition as a critical part of their job as a fire fighter. When a fire chief call for his fire fighters to evacuate a building there are no questions. Fire fighters, however, deal with life and death situations. Fortunately our work, though we'd like to think it is a critical part of our culture, is not about life and death. It hardly seems likely that as members of a collaborative process a "but I just know it will work because my intuition tells me it will," would not be beneficial reasoning in our exhibition

making. I imagine it would merely make the development and design process even more difficult.

As exhibit-makers we use our knowing sense or intuition every day as we make decisions about how visitors will experience an exhibition. As I work with students and other colleagues the question of developing and valuing that sense of intuition is something I think about often. How do we develop a good sense of intuition about exhibit development and design and how do we teach others to have one? If we do have one, how do we legitimately listen to it more closely?

Our large collaborative teams include many different individuals with different learning styles, aesthetic preferences and opinions. If each of us, as exhibit makers, more fully tapped into our own intuition I wonder how our exhibitions might change. What do you think?

Alice Dommert is principal at dommertphillips, an interpretive planning, exhibition design and architecture firm in Philadelphia. She teaches at the University of the Arts in the Museum Exhibition Planning and Design program. From this work she hones her sixth sense; however most of her important learning comes from observations and interactions with her two pre-k children. Alice can be contacted at alice@dommertphillips.com.

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- Online Executive Update magazine feature story on "Sharpening Your Sixth Sense" www.gwsae.org/executiveupdate/2002/December/sixth.htm
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Buddhism and the sixth sense

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EXPERIENCE ARCHITECTURE

Article by:
SCOTT BEVERIDGE

It is interesting how different professions structure their experiences. Theme parks use the pre-show, show, post-show model. Video games organize a game by progressively more difficult levels. Films talk about a rising action, climax and falling action. Multimedia is focused on information architecture, task analysis and interaction design. As for exhibits, there have been several models proposed that are useful in shaping the guest experience.

Given all these perspectives, it would be helpful to have a model to explain how the guest moves through any designed experience, whether it is a museum exhibit, a restaurant, a movie or a video game. The model would inform the design of the experience, explain what a guest needs at each point in the experience and point to concepts that help the designer make the experience more compelling and effective, however you choose to define "effective." The model would also be flexible, applicable to a wide range of experiences rather than one particular kind and able to support additional distinctions for each kind of experience. It would work on both a large and small scale, as applicable to an entire exhibition as it is to a single interactive unit. Finally, each step would be so significant that, should the designer fail to guide the guest through it, the guest would abandon the experience.

The following model of experience architecture strives to achieve all these goals. In this model there are three stages to an experience with each stage having three steps. This model draws on concepts from theme parks, video games, exhibits, film, multimedia, music and literature. My background in exhibit development, interactive media, strategic planning, and game design influences it as well. Each step of the model is intended to provide distinctions that inform the design process and make the experience more compelling and "successful."

The First Stage: Attract

The first stage is the "Attract" stage. As the name implies, the job of the designer in this stage is to attract the guest, set their expectations and generate anticipation for what is ahead. This is delivered through the use of visual, aural, tactile and olfactory cues that get the guest's attention and interest.

Step 1: Awareness

The first step of the "Attract" stage is Awareness. In this step, the experience draws attention to itself, usually through the use of location, size, movement, sound, light, color or some other attention-getting device. While seemingly obvious, you can surely recall an exhibit unit that is rarely used, not because it isn't interesting, but because it goes unnoticed. Walk down the street and look for the storefront that uses drab, low-contrast colors on its facade, practically masquerading as a wall. If an experience is going to deliver for a guest, the guest must first know that the experience is there.

Step 2: Desire

Once an experience has acquired the guest's attention, it has to make them want to enter. Surprisingly, this does not mean telling them everything the experience has to offer. Instead, it must offer a "hook". The hook is the thing about the exhibit that makes it compelling and causes the guest to want to enter. It is what the experience must deliver in spades before the guest is done. The hook is not the big idea, as Beverly Serrell would put it, nor is it a learning objective or the topic addressed. It is the impetus that makes the whole experience compelling. It is fundamentally emotional. It could be danger (roller coaster), competition (football), drama (movies), attention (karaoke), or any number of other basic human motivators. But it is the aspect of the experience that triggers strong emotions in the guest and that the guest finds highly desirable.

Step 3: Commitment

No, we're not talking marriage here. Once someone decides that they desire an experience, they need to commit to it. Typically there is a threshold they cross or an action they take. For museums and theme parks it is buying a ticket. For a kiosk, it may be touching the screen to begin. For a ride, it may be simply getting in line. But it is always a physical action.

The threshold is a critical concept, because it is a decision point for the consumer. A significant amount of design effort should be put into making the threshold as enticing to cross as possible. Theme parks often give a “sneak peek” at what’s inside, for example creating sight lines to a roller coaster over the tops of the ticket booths, reassuring guests that their admission will be money well spent. When guests are at the threshold, the experience needs to build anticipation of what is ahead to entice them to cross the threshold. Once they have crossed, the experience must immediately reward them with some visual or other reward to remove any sense of buyer’s remorse.

Second Stage: Engage

At this point, the experience has only gotten them in the door. But if the experience has done its job, the guest is now filled with anticipation of the hook we offered in the first stage.

Step 4: Orientation

Now that we have caught their attention in step 1, cast the hook in step 2, and gotten them to commit in step 3, we have to provide context and instruction so that the guest understands and can participate in the experience. If the orientation fails, the guest will struggle through the remainder of the experience, and likely abandon it if they are able.

One interesting thing about the first phase is that the guest may commit to the experience without having anything more than the vaguest idea of what exactly is going to happen. They know they will see an exhibit about the Titanic, or that they will ride a roller coaster or eat Mexican food. The job of the orientation step is to fill in the details and bring the guest up to speed so they can begin to engage the experience.

Guests must be oriented in three ways. They must be emotionally invested in the experience, they must understand the context in which the experience occurs, and they must have some basic instructions for logistics such as how to work the controls or move around. At this point, the experience should deliver just enough instruction to allow the guest to move forward, providing additional instruction when needed throughout the rest of the experience.

The focus at this point should be on emotional and contextual orientation. While instructional signs and advance organizers are one way to orient guests, there are other ways to accomplish this that are more transparent and compelling. In some venues such as restaurants, context and instruction are implicit—we know that we should get seated, order, eat, pay and leave. Interface elements such as buttons, levers and knobs also provide implicit orientation. In some cases, environmental design can communicate all the orientation a guest needs. Guests to the Jaws ride at Universal Studios, Florida enter through a weathered boat-house with a sign reading “Captain Jake’s Amity Boat Tours,” an entertaining but effective way to provide contextual and affective orientation to the guests.

Step 5: Sampling

Once the guest knows what’s going on and how to participate in the experience, they do not simply embrace it wholesale and charge merrily forward (well, children often do). Typically, a guest goes through a sampling stage, where the guest tries it out a little first to see if it agrees with them. It is critical that the guest have early successes at this stage, and that the guest get at least a glimpse of how the experience will deliver on the hook. This stage often fails because the interface doesn’t work the way the guest expected, or because the guest does not see how the experience will deliver the hook. At the same time, the more a guest gives up to get this far into the experience in terms of money spent, time waiting in line or other costs, the more they are willing to keep trying to make an experience work even if they don’t receive immediate gratification.

Step 6: Engagement

Finally, the guest understands how the experience works, is comfortable with the experience, and can fully engage it. We have reached the point in the experience where the rest of the world disappears and the guest’s entire attention is focused on the experience. Mihaly Csikszentmihalyi called this state “flow.” While we have all seen this happen and have experienced it ourselves, little has been written on the mechanics of how to design an

experience that causes this. The key to engaging visitors is what we will call the engagement cycle. The cycle looks like this:

Action > Event > Perception > Meaning > Desire

First, the guest acts. The action could be as simple as looking at an object, pushing a button or touching a screen. Either due to that action or because it is built into the experience, an event occurs. An event in this case is an occurrence in the person’s environment such as a balloon rising into the air or a fountain shooting water. Through their senses, the guest perceives that event. After combining the context of the experience, their orientation from step 4, their cultural background and their personal beliefs and values, the guest gives meaning to what they perceive. That meaning, usually formed in a split second, is a statement that creates a personal context for their perceptions. The context could be, “I wonder why that balloon rises,” “that’s just like the hot air balloon I rode in,” or “I wish I were eating lunch instead of doing this.” That meaning then influences the person’s desire.

Desire here means the thing the guest wants at any given moment. It may be information, an action, an object, status, attention or power. If you take the point of view that moment to moment we always desire something, you could say that the goal of an experience is to focus our desire so that we reach the intended goals of the developers. In this model, the concept of a hook is a powerful tool for focusing a person’s desire.

This engagement cycle is most obvious in video games, where the responsiveness of the controls and short feedback loop make this cycle occur very quickly. It also explains why guests abandon interactive museum exhibits that don’t provide feedback in a timely manner—the exhibits are breaking the loop. This model is even relevant in situations where there is no interactivity. In this case, the guest focuses on the material presented, perceives it, gives it meaning, then either forms questions and looks to it for answers, stays to enjoy viewing it or walks away. Most importantly, this model points at distinc-

tions that tell us how guests form their own questions and actively seek answers to them. This type of curiosity and exploration/experimentation is one way that museums succeed at their mission to educate, provoke and inspire.

Third Stage: Extend

At some point the experience must come to an end. Ideally, the guest now has an emotional attachment to the experience, and while they have to withdraw, they also have a desire to continue it. This stage addresses the separation and continuation needs of the guest.

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experience architecture

Step 7: Completion

At some point in the experience, the guest will complete the experience. This can happen because he or she reaches the end of the designed experience, get bored and walked away, or because their group departs and they are obligated to go with it.

At this stage, the guest needs to know that he or she has finished the experience. In the same way that we end a phone call by saying good-bye, the experience needs to acknowledge the work the guest has done and encourage them to move on. It is a chance to recap what the guest has accomplished, validate their decisions or effort, or simply to indicate that they have reached the end.

Step 8: Departure

Just because a guest completes an experience doesn't mean that he or she just walks away. Guests have been known to ride a roller coaster dozens

of time to enjoy the thrill again and again. In fact, one measure of a successful experience may be that people repeat it over and over. But at some point, the guest will depart from the experience. This point of departure is the last chance to reach the guest through the experience he or she has just had. It is where the guest either chooses to extend the experience beyond completion or to leave the experience behind. In theme parks and some museums, guests depart from a ride or exhibit through a retail area, where they can purchase a symbol of their experience. Many rides take pictures of the guests, which can be purchased at the point of departure. On web sites it may be printout or a bookmark for a page they would like to return to.

Beyond the point of departure, the guest is moving on. They begin to plan

what they will do next, often observed as looking at a map, looking at their surroundings, or negotiating the next exhibit with their group. This is an excellent time to offer them options for their next experience.

Step 9: Continuation

As mentioned in step 8, the guest may choose to continue the experience in some way after departing it. This can be a purchase of merchandise or a photo. Guests may take photos themselves, and "photo opps" are always a welcome addition to an experience. They may send an e-mail postcard to themselves or a friend. A new skill or new knowledge may also be a form of continuation. Sometimes the continuation is in the form of conversations they have afterwards with others in their group or who weren't present. It is significant to note that the more emotionally engaged someone is by an experience, the more likely he or she is to want to extend the experience after departure.

This continuation is an opportunity to reinforce objectives learned in the experience, or offer guests future opportunities to visit the institution or experience. It may also be something that causes guests to share what they have experienced or learned with others.

Summary

This model was developed to be useful in a wide range of experiences, and to provide a framework that informs the design of effective and compelling experiences. It is a tool for following the cognitive and affective state of the guest as they move through an experience, and ensuring that the experience is meeting their needs and expectations.

Scott Beveridge is network and multimedia exhibit manager at the Museum of Science and Industry in Chicago where he has contributed in exhibit development, Web site development and master planning. He was previously manager of product development for an interactive media firm in Chicago and produced CD-ROM activities and games at ScottForesman. He may be reached at scott@beveridge.com www.experiencedeveloper.com

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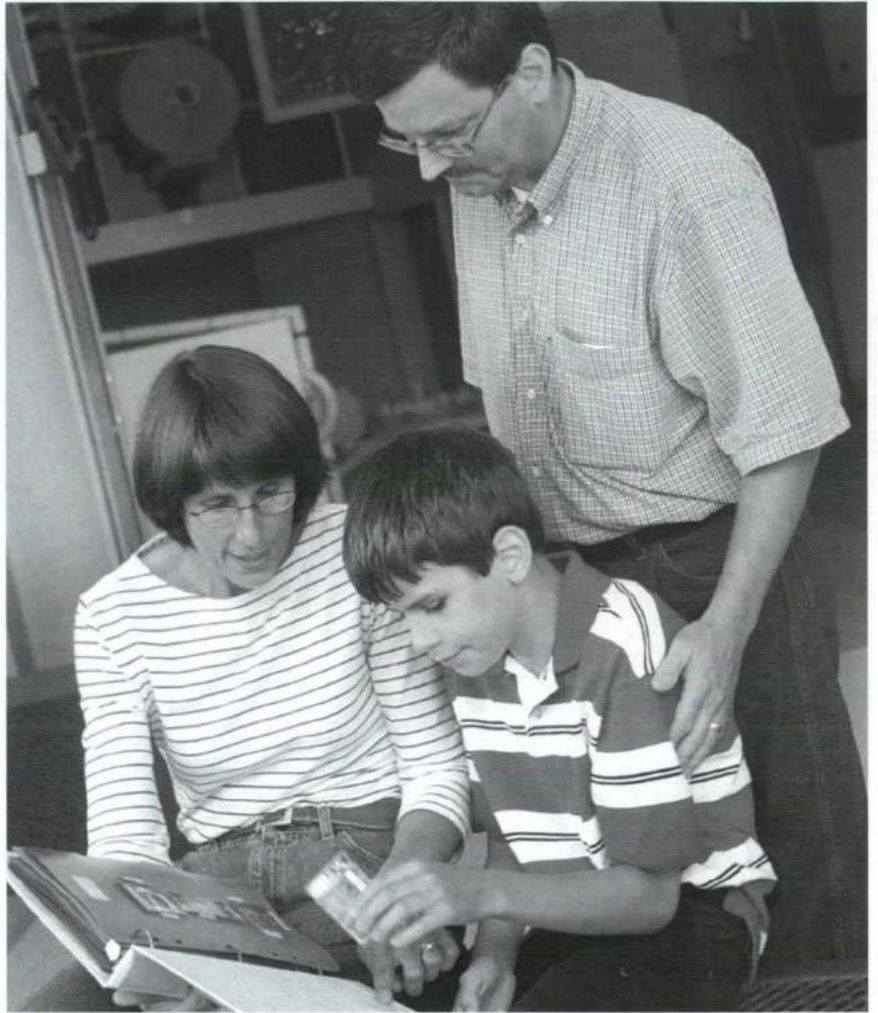
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7



WELCOMING KIDS WHO LEARN DIFFERENTLY

Article by:
LISA JO RUDY

A group of high school students parades proudly through the streets of a Vermont town, carrying a hand-built racing boat from a maritime museum to the river.

Youngsters handle marble, move to music and pose like statues, all in the process of learning to appreciate fine art.

Families pore over photo books of exhibits before working together to create cars, build streambeds, and construct castles.

These scenes may sound familiar—after all, they're not unlike the exhibit-based programs at most museums. What makes them extraordinary is the populations they reach. Every one of these programs is designed to reach and teach visitors with "special needs."

Museums are a natural haven for kids with learning differences. Unbound by the testing and restrictions of the public schools, museums have the freedom to engage learners where they are – and not where others would like them to be. Sometimes, children with learning differences gravitate naturally to museums' informal learning opportunities. In other cases, museums take the initiative to reach out with specially designed programs that make the most of children's interests and abilities.

Making it work is surprisingly easy. And the rewards are significant—not only to the children themselves, but to their families, and to the museums. Multi-sensory approaches to teaching work well not only for those with “differences,” but also for a wide range of children and adults. Those families who take advantage of specialized programs often become frequent visitors and members. And, with over 13% of all school children now officially part of the “special needs” population (according to the US Department of Education), museums will need to tap into this audience to keep their visitor base growing.

Kids Who “Learn Differently”

In 1983, Howard Gardener’s *Frames of Mind: The Theory of Multiple Intelligence* presented to the wider world what many educators already knew: people learn differently. Gardener was among the first contemporary theorists to propose the idea that visual, kinesthetic and aural experience can be as effective as traditional verbal and abstract instruction. In 2002, Dr. Mel Levine took Gardener’s idea a step further with *A Mind at a Time*, in which he suggested that teaching to kids’ unique strengths (and not their weaknesses) made eminent good sense.

Today’s public schools may have the best of intentions when it comes to serving children “A Mind At A Time.” But constrained as they often are by large class size, curriculum requirements, stringent testing requirements and limited time, teachers are at a disadvantage. There’s little time to experiment with visual, aural, tactile or kinesthetic teaching styles – especially when the standardized tests offer no opportunity to demonstrate non-verbal learning.

While this state of affairs is distressing across the board, it’s frankly tragic for children whose learning styles don’t fit the norm. These children, often termed “special needs,” now make up more than 13% of the school age population. That figure has increased by 32% between 1991 and 2001. In some areas—California, for example—the rise in “special needs” (in California’s case autism) is termed an epidemic.

While many of these children are profoundly disabled, the majority are

not. In fact, most children with diagnoses such as Asperger’s Syndrome, ADHD, and LD (learning disabilities) are bright, capable—and often passionate about the subjects that interest them. What’s tough for these kids is not learning itself: it’s the reality that they learn differently. They may find it difficult to sit still and focus on worksheets. They may find it hard to grasp abstract ideas, or to make sense of written words. They may fall behind, year after year, as they struggle to meet increasingly rigorous national and statewide tests.

But give those same kids the tools and instruction that work for them, and it’s a whole different story. Get them painting, sculpting, moving to music, touching a live animal, doing a hands-on experiment, building a boat or re-enacting an historic role—and they suddenly shine.

Visual Systems: Reaching the Autistic Community Across Illinois

Autism is one of the fastest-growing educational issues in America. Autism is a “spectrum disorder,” which means that the diagnosis can describe individuals who range from non-verbal and mentally retarded to brilliantly eccentric. Those at the lower end of the spectrum are termed “classically autistic;” those at the high end may be diagnosed with “Asperger’s Syndrome” or “High Functioning Autism.”

Autistic kids are often bright and passionate learners – but most have difficulties with abstract thinking, sensory overloads, transitions, and social communications. That’s why so many autistic children have a tough time in school. And it’s also why many parents of even mildly autistic children find it difficult to bring their children to museums, where everything is new, every gallery is different, and every social interaction is a potential ordeal.

But autistic children have a special advantage. They tend to be highly visual learners. Some, in fact, have photographic memories. Visual schedules are used in school settings to help autistic kids anticipate transitions, and visual teaching tools are staples for their teachers. And so, when the Illinois Autism Training and Technical Assistance Project approached Sandy Trusewycz of the Dupage Children’s

Museum with the idea of a visual system for introducing autistic children to the museum’s exhibits, Sandy was intrigued.

The idea was simple and straightforward: a set of visual guidebooks to prepare children and families to experience the museum, its exhibits, and its hands-on experiences. Wendy Partridge of the Autism Training and Technical Assistance Project explains: “Our project funded the creation of the books. I went to the museum, along with a typical child who was home schooled, and took pictures of the child going through the exhibits. Then we sat down with the museum staff and broke down the tasks. We created visual systems for various play schemes at exhibits like stream tables and construction zones. Once they get a gist of how to work at the stream table, they’ll come up with their own creative play.”

In addition to the photo books, which are available on loan for several exhibits, Sandy instituted a series of parent-training programs. “We developed a monthly event called Third Thursday. From 5-7 pm, we invite families with autistic kids to visit the museum, and keep the museum open to all families. We put together some additional supports to make the families more comfortable and at ease; our staff took an in-service on autism to learn about hallmark behaviors, so that the staff felt more prepared. Also, every month we invite professionals from the communities to co-host the evenings. We set up a resource table for parents to say hello and get information about books, workshops, seminars, and articles. My co-host brings agencies’ information, too. It’s been hugely popular; not that we get scores of families, but about 5-10 families come in for a couple of third Thursdays. All it took was an invitation. Sometimes they join, sometimes they don’t – but this becomes a comfortable place for them.”

Sandy notes that there have been very few negative incidents at the museum. Families come from as far as 50 miles away to visit, and a few have actually responded with tears of joy at a positive reception for their entire family – including their autistic child.

The Dupage Children's Museum is only one of several Illinois museums that have accepted the challenge of the Visual Systems program. The Brookfield Zoo and Discovery Center have also signed on, creating photo books for several of their exhibits. The Discovery Center, part of the TEAMS exhibit collaborative, has also made Visual Systems photo books an integral part of their traveling sports exhibit, "Team Up!"

Accessible Art at the Metropolitan Museum

As early as 1987, New York's Metropolitan Museum of Art was concerned about making fine art accessible to learners with developmental delays. Based on the museum's

Jaffe describes the *Discoveries* audience as varied. "We get lots of LD (learning disabled) kids, and kids with ADHD/ADD, autism, and Downs Syndrome. Our adults are generally coping with traumatic brain injury and other disabilities."

But disabled individuals make up a surprisingly small part of the *Discoveries* audience. Attendees arrive with families, groups, friends and spouses. Many programs include as many as 25 people—with only 4 or 5 having learning differences. This means that other family members, including parents and siblings, have the opportunity to benefit from the multi-sensory approach.

people in different ways; you just need to adjust expectations. I'd like to encourage people to reach out to everyone!"

Building Boats at the Lake Champlain Maritime Museum

When Nick Patch decided to involve special needs high schoolers in the process of boat building, he thought big. Instead of building models, his groups build full sized classic longboats from scratch. These are 32 foot, six-oar pilot gigs, containing more than 60 wooden ribs and 3,000 fastenings. Patch's students, who come with disabilities as diverse as spina bifida, downs syndrome, ADHD and autism, work five days a week for six months. They keep journals, take field trips, and



the senses kids who learn differently

existing family programs, *Discoveries* combines small groups and multi-sensory teaching techniques to reach and teach children and adults with a wide range of "differences." Presented in galleries and classrooms, *Discoveries* programs address many of the same themes as are addressed in typical educational programs at the Met – but they address them a bit differently.

Deborah Jaffe, the museum's Access Coordinator, describes the many ways in which the *Discoveries* team works to engage all their visitors. "We do a lot of sketching, which allows non-verbal folks to respond to what they're seeing. We try to break down the "I can't draw" barrier. There's a lot of question/answer as opposed to lecture. We do some acting out of sculpture. We use material bags [bags containing marble and other sculptural materials] – pass around a piece of marble, bring in the other senses. When we did a program on art and emotion we incorporated music; we used a classroom space to play different types of music to evoke different emotions. We had families drawing at the same time, telling them 'use your crayon to draw the feeling you hear!' We grab everyone in every way possible."

Jaffe notes that many family members get a lot from their *Discoveries* experience: "When we first started using material bags, parents said "it really helps ME!" Just as significantly, families appreciate the opportunity to attend a program together—rather than sending a disabled family member off to a specialized event or program.

Not only do the multi-sensory *Discoveries* teaching techniques help attending families make the most of the museum experience, but they also support the work of the museum's education staff as a whole. Says Jaffe, "My colleagues and I talk at general education meetings about using touch and other multi-sensory techniques as teaching tools. The *Discoveries* approach has filtered into different programs throughout the education program."

The *Discoveries* team has begun to work with other New York museums to develop similar multi-sensory programs. "It's not that difficult to do," says Jaffe. "For good educators – it's not magic. You have to call on a few tools you

might not initially think of, but you don't need a special education background or extensive training. You can reach

learn about related topics in math, science, English and history. And they work on their boat.

Then, with fanfare befitting the event, they bring their boats to river, launch them—and race them. Perhaps not surprisingly, these hard-working boatwrights win their races more often than they lose.

In the process, they build more than boats. They build skills, self-esteem, and a real understanding of what it means to work as a team. The impressive outcomes are testimony to the students' real abilities—as opposed to the disabilities so often pointed out in the traditional school setting. Nick Patch, a boat builder by trade and a teacher by nature, is passionate about his program and the students it reaches. "I think that the hands-on, real life approach to education is essential for all students. It is particularly so with the population of learning disabled and emotional/ behavioral students we build boats with as most of them are not at all suited to sitting at a desk for endless hours. I would argue that mainstream students need a lot more hands on education as well and that we are short-changing our kids by teaching primarily to standards and tests and not giving them a balanced education that

helps them function as well rounded people. Learning to work cooperatively with others on a project that is otherwise unattainable, learning to use ones hands, using math and science in a practical application, these are all things that don't happen often enough in traditional educational environments. "Our boat-building program has steered towards the special needs population both because it works and because the mainstream system is not flexible enough to participate. One of my goals in the future is to develop this program into one that can work for both special needs and mainstream kids. Our rowing program has successfully done that, with mainstream and special needs kids participating alongside each other."

The Lake Champlain Longboats program builds off the Lake Champlain Maritime Museum's existing exhibits and programs. And, since part of the

museum's mission is to introduce visitors to the lake itself, the program is right on target. It's also been an impressive source of positive public relations, generating a variety of articles and attracting educators and museum professionals from within and outside the region.

For the Future

Programs for those who "learn differently" can only benefit the museums that provide them. Positive publicity, greater funding potential, and increased earned revenue are only the beginning. Perhaps most important is the ability such programs have to meet museums' missions – to reach out, engage, and teach learners across the population. In short, these programs allow museums to "do well by doing good." As the population of those with "learning differences" expands, so too does the need for programs and projects that can engage and teach

such kids. Museums may be poised to get in on the ground floor of an exciting new trend. Multisensory programs are the key to reaching a fast-growing minority of potential visitors. And these programs work—not only in hands-on children's museums, but also across the museum spectrum.

Lisa Jo Rudy is a museum writer and consultant based in Philadelphia. She can be reached through her website at www.lisarudy.com. Please contact her with information about your museum's programs for children and adults who "learn differently."



Photo courtesy of the Metropolitan Museum of Art





NEWS/REVIEWS

by:
PHYLLIS RABINEAU

For more than a decade, I've been drawing on the expertise and goodwill of designers, developers, curators and directors to create this column for the *EXHIBITIONIST*, reporting on memorable exhibits that can turn even jaded professionals into awed and delighted visitors again. This year, thanks to the efforts and enthusiasm of NAME Program Chair Leslie Cohen and colleagues Tamra Carboni and John Lawrence, we're taking this concept live to New Orleans. Please join us on Saturday, May 10 for our roundtable program featuring a selection of unusual museums in and around New Orleans. John and Tamra will introduce us to the directors of the **Backstreet Cultural Museum** (<http://www.backstreetculturalmuseum.com>), **Louisiana Marine Fisheries Museum** (<http://fisheriesmuseum.com>), **Pharmacy Museum** (<http://www.pharmacymuseum.org>) and **UCM Museum** (<http://ucmmuseum.com>). Together we'll explore how these offbeat "finds" can inspire our profession with passion, inspiration, fun and new insights. I hope you'll take the time to visit some of our featured museums while you're in the Crescent City. Now, on to the business at hand:

Over the past six months, I've have the good fortune to make a number of field trips to study exhibits that are setting new standards for interpretation and presentation in the field of history. I'll start this column with stories about the most memorable ones I've seen, especially two bold and forward-thinking museums that opened this fall: the **National Constitution Center** in Philadelphia (<http://www.constitutioncenter.org>) and **Mill City** in Minneapolis (<http://www.millcitymuseum.org>). For exhibit developers and designers working with historical content, these should be required viewing. And for anyone else interested in developing exciting, effective educational experiences, I would highly recommend them to you as well.

The last issue of *EXHIBITIONIST* gave pretty extensive coverage to the National Constitution Center, but in this space I'd like to report on the components that

impressed me most. Like many, I was skeptical that the Constitution could ever be the subject of an exciting museum. A museum about a document? What are they thinking? After all, it's not only about high-minded but abstract ideas, but it's a topic that I remember as one of the all-time most boring topics in school. I knew the museum was in the hands of an excellent staff and consultants, but I still couldn't quite visualize how they'd succeed. I'm glad to report that they have, and brilliantly. My visit got off to a great start in the powerful introductory theater, a dazzling synthesis of video-in-the-round and live performance. This presentation got me really jazzed, because it focused not simply on dry historical facts about the Constitution, but instead vividly introduced, in a way my high school teachers never had, its role as the bedrock of my country and its history. The production pulled at my heartstrings and made me proud of my heritage -- the only thing that could have been more patriotic was if I had received a flag to wave at the program's end. After this rousing start, I couldn't get out of my seat quickly enough to explore the exhibits and find out more. The main gallery is structured with a central core of computer interactives and media pieces. Many of these are filled with humor (Ben Stein answers obscure questions about history), passion (you're immersed in the scene as immigrants from many countries take the oath of American citizenship on an enormous video), participation (you're "sworn in" as President of the United States via blue screen technology), and information (don a replica judge's robe and sit on the "Supreme Court bench" to learn about important case precedents; or use a computer to explore what checks and balances really mean). Surrounding these major media pieces is a display of important artifacts, as well as smaller-scale videos, interactive programs and immersive environments. Taken together, the components all contribute to a very rich and attractive learning experience. By the time I left the gallery, I was psyched for my opportunity to participate in the museum's powerful exit experience, where I "signed the Constitution" after walking amidst a gallery where life-size statues caught the Constitution's Framers in lively poses, as though they were still engaged in the give-and-take of debate. (And true enough, George Washington towered over everyone else).

A project of the Minnesota Historical Society, **Mill City** is an unusual new venture on Minneapolis' riverfront. Constructed within the ruined shell of the former Gold Medal flour mill, once the world's largest, Mill City interprets this historic site through object theater technology, hands-on learning labs, and artifact-based exhibitry. My first clue that this would be a special experience came on entry, when my nose was greeted by the delicious odor of fresh bread baking in the exhibition's Baking Lab, one of two large interactive learning environments where school groups were busily working to explore the technology of milling. Next, I joined the ride in the "Flour Tower" object theater: seated on risers inside a freight elevator, we rode up and down within a towering shaft, stopping at various floors to observe theatrical settings, watch brief video programs, and listen to recordings of millworkers' oral history stories. By the time our ride ended, I had a good grasp of the history of flour milling in Minnesota, as well as the specific history of this factory. Leaving the ride on the mill's top floor, I enjoyed a dramatic lookout over the Mississippi River; thanks to the object theater, I could appreciate the sluice system and the mill's crucial positioning at St. Anthony's Falls. From this vantage point, too, I could really see and appreciate the loveliness of the museum building, a delicate yet powerful structure of glass, set gently within the burned shell of the mill. Next, I spent an hour exploring exhibits located on the museum's ground floor, learning about the intricate relationship between the mill, farmers and the flour export business, and watching another school group learn about hydraulics while playing with stream tables in the Water Lab, the museum's second large-scale interactive classroom. Mill City is completely different in feel, methodology and content from the National Constitution Center, yet offers an equally exciting and effective experience.

Yet another field trip this fall took me and my colleague Russell Lewis to New York for the NAME/ICOM program, with a morning's digression to Queens, where we visited see the newly-restored historic **Louis Armstrong House** (www.satchmo.net). Here, we had a wonderful time, immersed in the home where one of the most influential

musicians of the 20th century found rest and refuge -- a colorful environment created by Satchmo's wife, Lucille. It's hard to explain the power of this place, except to say it is completely suffused with the presence of these two people, and with their love of life. Lucille was a compulsive interior decorator and the house reflects an era—the 1950s and 1960s—through her taste. The art of wallpapering is here brought to its apex (every room and even every closet done up in a different pattern; even the mini-blinds in their bedroom are covered with wallpaper to match the room). Souvenirs of Armstrong's world travels share pride of place with everyday knick-knacks, family mementos and furniture reflecting the cultural currents of his time. Armstrong was an avid fan of tape-recording, and midway through the tour our guide pressed an invisible button in the wall so we could hear a recording of everyday chatter between Louis and Lucille, making the house even happier and more welcoming. Later, we enjoyed a small and more formal exhibit in the former basement rec room, featuring some of Louis' trumpets, souvenirs and interesting papers from his archives, which is housed nearby at Queens College. The museum staff suggested we top off our fieldtrip with a great lunch at one of the neighborhood grocery stores, where gracious Dominican ladies served us red beans and rice -- coincidentally, Louis Armstrong's favorite dish. We thought that was the perfect ending to our visit.

Now let's check in with some of our regular contributors, and with some new correspondents as well.

From California, Alice Parman sent a report about the Leo G. Singer Miniature Room Collection at the **Palm Springs Desert Museum** (<http://www.psmuseum.org>). In a cryptic note accompanying the museum's lavishly illustrated pamphlet, Alice wrote, "I've always loved miniature rooms. These are exceptional because they depict a backstage form of human activity." Taking a closer look, we discover a surprising, unifying thread running through all these miniatures; to quote the pamphlet, it's "laundry, a subject with special significance for Mr. Singer. He was one of the founders and president of Miracle White Company, manufacturers of Miracle White laundry

detergents. . . . The idea for these miniature rooms originated after Mr. Singer took a trip around the world in 1967. The experience of meeting people from diverse cultures prompted him to reflect upon his own business contributions and their significance to the world at large. He decided to have a series of miniature rooms created to show the place laundry played in peoples' lives in different times and different countries." How about that for obscure uniqueness? But based on the wonderful photographs in the pamphlet, these are not only the most unusual miniature rooms you may ever see, but they're incredibly well-made, beautiful, and tender. The settings show laundry activities in New Orleans, Hong Kong, London, New York, and the American West. I was delighted to find one of them representing "Mrs. O'Leary's

the frozen body itself (how do you display a human body?), viewed through a glass window in a stark darkened room, complete with admonitions to behave respectfully."

Next, the staff at the **Brooklyn Historical Society** (<http://www.brooklynhistory.org/index.html>) wants to be sure you hear about their new exhibition, *Brooklyn Works: 400 Years of Making a Living in Brooklyn*. The culmination of five years of research and oral history collection, this exhibit is also the first installation in the newly-reopened museum, which has been closed since 1999. Using a combination of original artifacts and documents, recreated settings, and interactive media the exhibit invites visitors of all ages to trace the history of Brooklyn and its people through four distinct

eye out for good museum news. I owe the following item to her. If you are a kid-at-heart, you might want to make a pilgrimage to Burlington, WI to enjoy the **Spinning Top Exploratory Museum** (<http://www.uncommondays.com/states/wi/places/spinning.htm>) where over 2,000 tops are displayed – only about a third of curator Judith Schulz' personal collection of the swirling toys. Visitors to the museum (by appointment only) are treated to a two-hour demonstration/show by Ms. Schulz, including gyroscopes, dreidels, bubble-blowing tops, a steel top that can spin continuously for seven days, as well as classic fighting tops. Sharing the space is the **Hall of Logic Puzzles Museum**, where visitors can find hours of pleasure (or torture, depending on your temperament) amid more than sixty hands-on noodle-bogglers. Both tops and puzzles operate under the aegis of an organization called the Teacher Place and Parent Resource Center, so you know you're in good educational hands.



news/reviews

Kitchen, Chicago, prior to 1871!" The pamphlet adds, "The roof of the shed that housed her infamous cow can be seen through the rear window." It came as no surprise, then, to discover that the miniaturist, Eugene J. Kupjack, also created the famous Thorne Rooms at the Art Institute of Chicago.

Deborah Perry contributed the following item: "I went to the **South Tyrol Museum** of archaeology in Bolzano, Italy this summer and was blown away by the *Iceman (Otzi)* exhibit (http://www.archaeologiemuseum.it/01_ice_uk.html). This is the fellow that was buried in ice for years before some poor sap stumbled across his melting body in the Alps ten or twelve years ago. The combination of real artifacts (his leggings, cap, unfinished bows, and much more), alongside recreations of what he might have looked like (including how he would have gotten dressed), audio interpretation in English (cost: one euro), extensive video clips documenting the excavation of the body, and a notebook of recent newspaper clippings addressing the (at the time) on-going question of how he died, was a fascinating mix of information. Of course all that paled in comparison to the display of

periods. A recreated eighteenth-century farmhouse evokes the agricultural era, when farmers of Dutch and English descent oversaw the labor of enslaved Africans who comprised one-third of the local population. Next, visitors encounter a replicated waterfront warehouse where they find out about the busy port of New York in the nineteenth century, and the cotton, coffee, oil and glass trades centered there. The early twentieth century is represented by a sugar refinery, a garment factory, and a tenement building where visitors hear stories of the immigrant workforce and participate in a game to discover the buying power (or lack thereof) of typical workers' earnings. Visitors can also stop by a simulated barbershop to learn about the opportunities denied, and challenges faced, by Brooklyn's African-American community. The final section of the exhibit, set in a late-twentieth century locker room, explores the impact of deindustrialization on Brooklyn, as a result of factory closings and relocations.

Those of you who visit us in Chicago know Luciana Crovato as our travel and meetings coordinator extraordinaire, and I am grateful to her for also keeping an

On a recent trip to San Francisco, Barbara Cooper discovered the **Asian Art Museum** (<http://www.asianart.org>), and the exhibition *The Dogs in the Pit* by the Korean artist, Cho Duck-hyun. Similar in intent to the better-known work of Fred Wilson, Cho's work deconstructs the museum and its collection. Presented as a simulated archaeological dig in a multi-tiered pit behind the museum, he presented convincing, but fake, ceramic sculptures that were supposedly dug up on site. The accompanying gallery guide suggested, tongue-in-cheek, an imagined history for the museum, with ties to factual and fictional cultures of Korea, Japan and San Francisco.

While Barbara was unraveling mysteries of Asian art, my colleague Marne Bariso and her kids explored a different set of secrets at the **American UFO Museum**, located in that Midwest vacationer's paradise, the Wisconsin Dells (<http://www.ufomuseum.com>). This outfit poses the important question: "Are we alone? Examine the evidence and you decide! Uncover the details of the Roswell Incident! Bring your camera for photos with your favorites in our Hollywood Alien Gallery! You'll be amazed at what you will find in the museum and gift shop!" This spring the museum ups the ante with *Alien Planet*, a walkthrough "adventure attraction"

featuring 3-D technology. Visitors will wear special glasses that accentuate depth perception, and will encounter "high-startle scenes" featuring animatronics, lasers, dramatic lights and sounds. Watch out for alien eggs hatching, toxic wastes wasting, and an extraterrestrial morgue. Be sure that eight-year-old you're escorting isn't faint-of-heart.

Our AAM panel couldn't include all of Louisiana's unusual museums; we would have liked to include the **Civil War Naval Museum** in Arcadia, LA, billed as the world's largest original collection of civil war ship models. Curator/owner Bill Atteridge is an expert on Civil War history, and will welcome and guide you through his exhibits. He personally built not only the sixty-four ship models on display, but also their display cases and even the building that houses it all.

It's hard to imagine this column without a contribution from Gene Dillenburg. Once again, our man in the upper Midwest comes through, this time with news from Roslyn, SD, home to 225 people – and the **International Vinegar Museum**. Founder Lawrence Diggs, a former California radio journalist, bus driver, Zen Buddhist, paramedic, Peace Corps volunteer – and enthusiast of food science – studies vinegar and for quite some time has been collecting samples from around the world. Fleeing San Francisco for a quieter home, Diggs moved to Roslyn in 1989. About ten years later, facing a precipitous population decline, the town father decided to stimulate the local economy through tourism. They quickly realized that opportunity lay right in their midst and asked Diggs to open his collection to the public. Today, the International Vinegar Museum is housed in Roslyn's former town hall and tells the story of "all you never knew to ask about vinegar." Over three hundred different kinds of vinegar are on display, including substances made from coconuts, milk, carrots, lime and honey. Historical exhibits go back to the days of Cleopatra and Mark Anthony, not to mention Biblical references to vinegar. Economic exhibits document the many uses of vinegar as a preservative, household cleaner, medicine, and fungicide. "We're trying to give an overview of how huge and exciting the world of vinegar is," says the proprietor. Best of



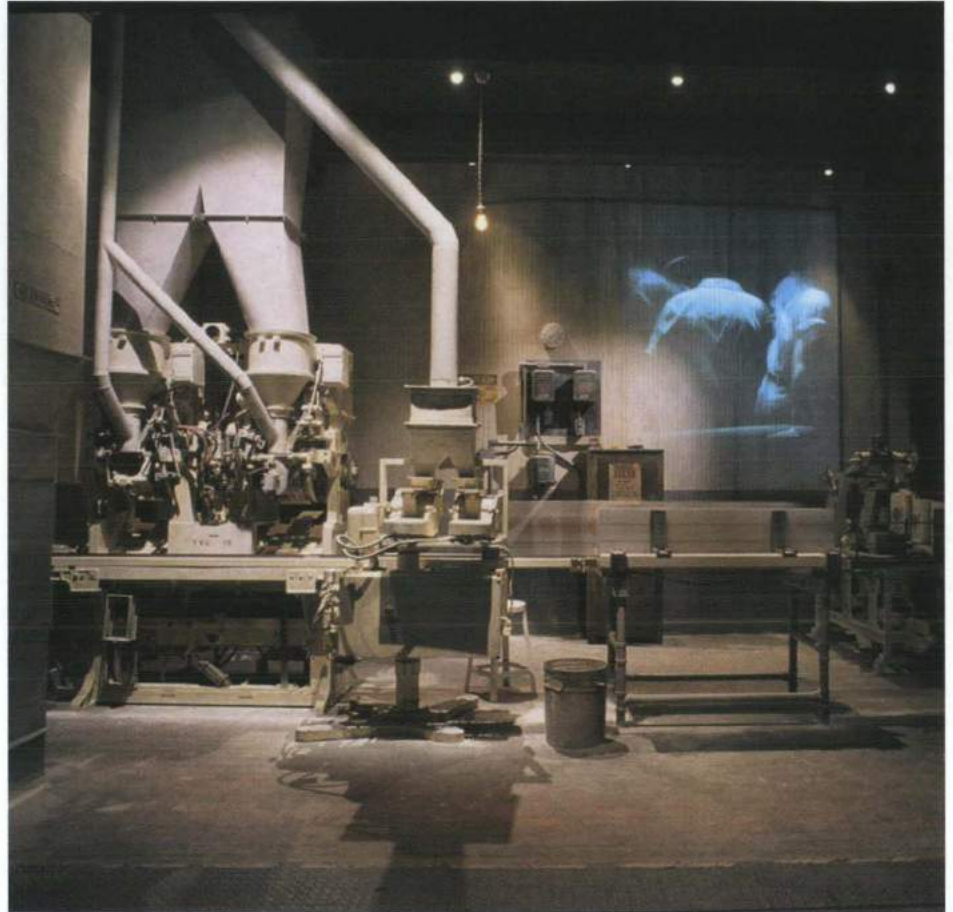
Baking Lab at Mill City

all, the museum has paid off as Roslyn's hoped-for tourist attraction; five hundred visitors came in its first year, and attendance was expected to reach three thousand in 2003. Visitors come from all over the country and from abroad – many on bus tours, but others to attend the Vinegar Festival with its vinegar parade, vinegar queen, pickling contest and pet dog race. If you're en route to Mt. Rushmore, or to Wall Drug, you might want to check it out, or go to <http://www.vinegarman.com/Museum1.shtml>.

Gene also sent links to several of his recent offbeat but online museum discoveries. **The Bad Fad Museum** (<http://www.badfads.com/home.html>) features some of the most egregious examples of bad judgment in fashion, events, collectibles and activities over the past one hundred years. Each "gallery" is organized alphabetically with expected entries such as Hot Pants, Nehru Jackets, Cabbage Patch Dolls, Sea Monkeys, Est Therapy, and Goldfish Swallowing, as well as more controversial choices such as Afro Hairstyles, Disco, and UFO Sightings. **The Coathanger Museum** (<http://homepage.mac.com/marchesbaugh/moch/intro.html#ret>) eschews alphabetology in favor of chronology, beginning with ancient Egypt. Evidence of coathangers throughout "the sweep of time" (as my boss likes to call it) is provided not only

in deadpan text but also in hilariously modified illustrations including hieroglyphics, Greek vases, Chinese scroll, and an archaeological dig. This one is really worth a couple minutes of your time.

Has anyone out there visited the new **O. Winston Link Museum** in Roanoke, VA (<http://www.linkmuseum.org>)? If so, I'd love to get a report. Even if his name doesn't ring a bell, chances are you've seen this gifted (and perhaps obsessed) photographer's magical black-and-white prints of trains. He's especially famous for images created at night showing steam trains huffing through rural towns and farmland during the final days of the steam engine's era. Link spent days setting up each shot, relying on split-second timing to trigger an immense array of lighting equipment to illuminate his subject as the train sped by, with no second chance for another shot. Created within the newly renovated Norfolk and Western railway station in Roanoke, the museum includes the world's largest collection of Link's ravishing and romantic images, as well as his original equipment (hand-made fixtures accommodating up to 18 flashbulbs), interactive terminals for accessing a complete overview of Link's images, and even a diorama showing his photographic set-up.



Flour Tower at Mill City

Finally, I'll wind up this issue with plugs for a couple of temporary exhibitions I saw recently, that you still might be able to catch. Through August 29, visitors to Paris should find their way to the **Musée de la Mode** for *Shocking! The Art and Fashion of Elsa Schiaparelli*, a show that originated at the Philadelphia Museum of Art (<http://www.philamuseum.org/exhibitions/exhibits/schiaparelli.shtml>). There aren't many things more fun and dazzling than a grand exhibition of couture, and this one perfectly fits the bill. Schiaparelli may have appeared to set the pattern for contemporary fashion's approach of over-the-top, spectacular kookiness (a direction so thoroughly fulfilled throughout *Sex and the City*), but her work was actually grounded in the larger aesthetic currents of her time, closely tied to her friendships with the great surrealist artists of her day – Dali, Cocteau and Giacometti. Their influence was reflected in Schiaparelli's hats shaped like shoes, gowns decorated with images of lobsters and meat, and coats and bustles with

unique shapes. Even my non-fashionista husband enjoyed an hour in this exhibit, and afterwards we browsed the Philadelphia Museum of Art's great collection of Marcel Duchamp painting and sculpture, clearly the link that brought Schiaparelli to this museum.

Finally, I'd like to report on a project that was presented last summer at the **Chicago Cultural Center**, one of the most amazing installations I've ever seen, by British artists Heather Ackroyd and Dan Harvey. Using light, dirt, grass and water as their component media, these artists created an enormous image by darkening the gallery for two weeks prior to the exhibition opening, and projecting a negative onto a growing wall of seedling grass. Wherever the light struck, the grass grew green through its normal process of photosynthesis; but in dark areas, the grass deprived of sunlight turned yellow. The same tonal range achieved in black-and-white photography was actually recreated in shades of green and yellow, on a huge

scale. The image for the Chicago installation was drawn from a Renaissance painting by Piero di Cosimo, but in previous and later projects the artists have used a broad range of image sources. I've been tracking their work over the web (<http://www.artsadmin.co.uk/artists/ah>); at the time of this writing, Rice University is showing several pieces. If you have an opportunity to see this inventive and thoughtful work, please share an update with me.

Phyllis Rabineau, author and assembler of *Exhibitionist's News/Reviews*, is Deputy Director of the Chicago Historic Society and a Board Member of NAME. She would welcome contributions to *News/Reviews* at rabineau@chicagohistory.com.

Editor's note:

The next issue of *EXHIBITIONIST* will focus on exhibition practice internationally. If you have traveled, seen exciting new things, and share the experience, please send notes and comments to Phyllis. If you would like to write an article, or contribute pictures for our color section, please send them to me, Jane Bedno, at exhibitionist@uarts.edu

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Jane Bedno
jbedno@uarts.edu

Oliver Hirsch
info@HirschandAssociatesInc.com

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darcie4man@earthlink.net

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stulchin@dmns.org

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mbtrautwein@getty.edu

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beth@redmond-jones.com

▶ EXHIBITIONIST STAFF

STAFF

Editor

Jane Bedno
University of the Arts
320 S. Broad Street
Philadelphia, PA 19102
v. 215-717-6327
exhibitionist@uarts.edu

Exhibits Newsline Editor

Phyllis Rabineau
Chicago Historical Society
1601 N. Clark Street
Chicago, IL 60614
v. 312-642-4600
f. 312-266-2077
e. rabineau@chicagohistory.org

Advisors to the editor

Anne El-Omami
Director, Museum Education

Polly McKenna-Cress
Chair, Museum Studies; Director, Museum
Exhibition Planning and Design
The University of the Arts

Richard Cress
graphic design consultant
Alusiv, Inc.
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1220 L Street, NW, Suite 100-270
Washington, DC 20005