

Spectacular Design in Museum Exhibitions

Charity M. Counts

Abstract Intrigued by the crowd-pleasing effects of “the spectacle,” some museums and exhibition designers have begun to enlist the principles used by theaters, theme parks, and public attractions in order to turn museum venues into awe-inspiring experiences—thereby elevating this inclination into a principle we call Spectacular Design. This article summarizes the results of a year-long study that compared and contrasted two categories of spectacle: museum and non-museum. The concept of spectacle is here examined, and a formula is identified, so we can see the commonalities present in Spectacular Design both in public attractions and in museum exhibitions. The hope is to redefine the model for the museum field.

On a hot and muggy Saturday, a family of five arrives at a dinosaur attraction. As they approach, they see the dinosaurs in the distance, bursting out of the building. They enter the experience, descending into a long corridor. Here they see hovering pteranodons and begin to hear the sounds of prehistoric insects. Meanwhile the natural light shining through windows fades and the corridor grows dimmer. In the distance they hear the roaring of a much bigger creature. “Probably a *T. rex*,” says the oldest. The youngest stops dead in her tracks. “Mommy, are there really dinosaurs in there?” The older kids urge her on. “C’mon, sis, it will be so cool. We are going back to the time of the dinosaurs! C’mon!”

Inside they find themselves surrounded by dinosaurs. There are predators attacking prey, and a herd of duckbills. Overhead, the domed sky is changing from dusk to dawn. The *T. rex* grunts. The *Triceratops* wails. The children point at the massive teeth on the *T. rex* while the parents try to snap a photo. Suddenly it storms. A paleontologist character passes through the space, carrying an umbrella. The children try to jump underneath his umbrella to escape the rain.

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If the description of the experience stopped here, you might assume that this family had just entered an animatronic dinosaur park. As the story continues, you will discover that they were in a natural history exhibition at the Children's Museum of Indianapolis. There is a word to describe experiences like the one this family encountered in *Dinosphere*, but it is most often associated with larger events and performances that are visually stunning and memorable. The word is "spectacle."

Dinosphere is hardly the first experience to captivate audiences with spectacle. Consider the reaction of viewers watching the Super Bowl, or the opening ceremonies of the Olympic Games, or the dramatic designs of many theme park rides—where awe, wonder, and astonishment rule. What makes these installations into spectacles? What methods, design elements, or aesthetic qualities cause such reactions in audiences? Why should museums pay attention?

Throughout my career in the museum field, and in my studies, I have often asked myself what benchmarks might exist in other industries. Over a year ago, I began a research project to learn more about the use of spectacle in attractions and theatrical performances. We usually know how spectacle makes us feel. In the case of what I will call Spectacular Design, however, it was evident that design principles created the conditions that allowed us to have these kinds of reactions. What were those design principles? More importantly, how might this information be redefined for the museum field?

According to my initial poll of colleagues, only a few museum exhibitions to date were considered to have successfully used spectacle in the design process. Among them were two of the cases selected for inclusion here: the touring *Titanic: The Artifact Exhibition* and *Dinosphere: Now You're in Their World*, a permanent exhibition at the Children's Museum of Indianapolis. These cases were cross-analyzed alongside three non-museum experiences: *Tomb*, Cirque du Soleil's *La Nouba*, and *U2 3D*.

Participant observations, surveys, and first person stories were reviewed, compared and contrasted for each of these exhibitions to determine the closeness of their connection to the concept of spectacle and to the principle of Spectacular Design. In the process, threads that connect these experiences to each other became apparent. This article illuminates a definition of Spectacular Design supported by my data, and suggests that Spectacular Design can and should be an option for creating these effects in museum exhibitions.

What are "Spectacle" and Spectacular Design?

A spectacle, according to the dictionary, is "something exhibited to view; usually, something presented to view as extraordinary, or as unusual and worthy of special notice; a remarkable or noteworthy sight."¹ For the purposes of this article, "spectacle" is used to describe an event or experience that one simply cannot help but look at, whether in wonderment, curiosity, shock or awe. Spectacle "erases the dividing line between self and world" (Debord 1995). It can "excite wonder and admiration" in participants.² When spectacle is enlisted in creating an event or exhibition, participants become more engrossed in the new or virtual reality; feel as though they are a part of the story being told; and imagine that they have been transported to a new time or place. The pomp, the special effects, or the dramatic

aspects of an event, exhibition, or performance stimulate and captivate participants. Spectacular Design causes visitors to suspend disbelief and accept the new reality created for them. What methods have the designers of amusement park rides, theaters, and attraction experiences used to encourage participants to become part of the story?

A Brief History of Spectacular Design

To understand spectacle and our undying desire for its effects, we need only look to the ancient Romans. Under their reign, everything from war to myth was re-enacted as theatrical display. Structures were erected to serve as stagecraft for gladiator fights, wild beasts were hunted on stage, and mythical stories were acted out for audiences. Luciana Jacobelli, writing in *Gladiators at Pompeii*, explains that “amphitheatres, such as the ones at Verona and Merida, have been found to have large basins dug into the arena” where events like “hippopotamus and crocodile hunts,” water battles, and aquatic shows would have been performed (2003, 32). Unless a Roman went to war or hunted exotic wild animals, these curiosities would not have been witnessed as live events, so their reappearance as arena spectacle served to give audiences something they felt they lacked.

The design of these venues played a critical role in the spectator experience. Just as a rock band seeks to engage the feelings of its concert attendees, the creators of the Roman spectacles used design to provide extraordinary experiences for those watching in the stands. Jacobelli explains that “through a system of winches and elevators, the ornate scenery of the games, the caged animals and sometimes the gladiators themselves surprised the public by springing directly onto the arena floor” (2003, 31–32).

Most likely, we have always sought out exciting situations. We have also always been seeking the means for creating excitement in contained circumstances that are not as potentially dangerous or threatening as the real thing. Design is the key to making an experience what you intend it to be. That’s why it’s important to inquire into successful Spectacular Design techniques, and to ask: What’s the formula?

Attractions like Walt Disney World draw visitors back repeatedly. Not surprisingly, many industries—including sports, recreation, and retail—have tried to emulate Disney’s installation methods in hopes of achieving a similar awe and wonder in their audiences. New marketing methods are taking into consideration the long-term effects of an extraordinary experience:

[T]he value of the experience lingers in the memory of any individual who was engaged by the event. Most parents don’t take their kids to Walt Disney World just for the event itself but rather to make that shared experience part of everyday family conversations for months, and even years, afterward (Pine II and Gilmore 1999, 12–13).

A noteworthy experience must somehow incorporate a theme that is “engaging” and alters “a guest’s sense of reality.” A lasting memory is created “by affecting the experience of space, time, and matter,” a major component of Spectacular Design (Pine II and Gilmore 1999, 50). Reading the blogs or talking to recent Disney World park guests as part of this study proved to be a great resource for collecting participants’ descriptions of an event,

exhibition, or attraction. In cases where I wasn't permitted to distribute my survey questions—as was the case in *La Nouba* and *U2 3D*, for instance—I could collect data from the visitor accounts in blogs. I scanned descriptions for key words, which helped me determine the effects of Spectacular Design—such as feelings of being transported; of awe and wonder—and allowed me to identify the four elements of Spectacular Design (below). In support of Pine and Gilmore's statements, the descriptions on Disney-related blogs reveal that visitors were happy to meet famous characters, felt they were treated like royalty, or thought they were "really" on a movie set or trekking through a village in the Himalayas. Walt Disney World is successful because park guests believe the spectacle.

Three Cases of Spectacular Design in Attraction Experiences

The three attraction experiences described in this article have been chosen because they exemplify Spectacular Design. Creating Spectacular Design can be an efficient method for engaging participants in a story. Through online surveys and onsite observations (see above), this study compared various attraction experiences with museum examples in order to determine what it is that causes this type of reaction to happen. Visitor descriptions of the attractions revealed particular aesthetic and sensory design qualities that create the framework for reactions of awe and wonder in audiences.

Cirque du Soleil's *La Nouba*—*La Nouba* is a live theatrical circus performance created by Cirque du Soleil and on view at Disney World Resort in Orlando, Florida. The show begins with a female clown who slips into a fantasy world after trying to transform a frog into a prince. Throughout the story, the performers of *La Nouba* interact in a dream-like setting. As the Web description relates, the "magic and fantasy of the colorful Cirques (circus people) clash with the monochromatic world of the Urbains (urbanites)."³ The opposing groups alternate their performances, slowly building tension until they converge on the stage in a single acrobatic battle scene. At the end, the show returns to the woman from the opening act, who has found her prince.

La Nouba combines traditional theatrical techniques such as a storyline and plot with dramatic lighting and sophisticated audio surround. The plot's highs and lows are made visible by the design of the set and costumes as well as the composition of the music and its relationship to the acts. Soft instrumental music plays while tension builds. Booming operatic songs are sung when major stunts are performed and completed, queuing the audience's applause. Because this performance has no narration, the interplay of light, action, and sound are critical for helping audience members follow the plot and cause them to wait in anticipation for the next act in the story.

The performers of *La Nouba* enter the audience throughout the show, collapsing the so-called "fourth wall," which typically separates an audience from a performance. The audience is part of the story: close enough to sense the tension and stress among the characters. This interaction with the performers causes audience members to believe they are also in this spectacular dream, forgetting that they are in a theater in the heart of Downtown Disney.



The band U2 led by Bono in a concert filmed in 3-D for IMAX theaters. *Photo is from U2 3D, courtesy of 3ality Digital, copyright ©U2 Ltd., all rights reserved.*

U2 3D, an IMAX film—The second case, *U2 3D*, is a big-screen 3-D concert IMAX film produced by National Geographic and 3ality Digital. According to the movie website, 3ality Digital used various digital technologies to create the experience: “from artificial intelligence that aligns ‘eye position’ of a stereoscopic camera in real time, to first-ever high-res 3D systems with zoom lenses, robotic control, and integrated digital processing.” As the sights and sounds ramp up, the scene in the viewer’s peripheral vision is dark, and eyes are naturally focused on the center of the screen. Surround-sound speakers fill the room with the anticipatory cheers from the audience. Then the concert begins and you are there.

Filmed from multiple viewpoints, *U2 3D* allows audience members to view the show from the perspective of a concert attendee with a bird’s-eye view. Most IMAX films allow audience members to feel as though they have taken on a new perspective (flying in a plane over cliffs, swimming in the ocean with whales), but few have ever completely convinced me, if only for a moment in time, that I was actually somewhere else. In this case—at a concert in Brazil—I was there. I was watching my favorite band play—live. The opening scene of the film shows a girl running across the screen, into the stadium where the concert was performed. When I watched it, my heart raced with her. There was darkness for a moment and then the flicker of camera flashes. Lights sprinkled the screen. Before I had time to think about how beautiful the vision was—like stars in the sky—the music began. Bono’s voice grew louder. The guitar, the drums, and the bass penetrated the darkness. For people who could not see the band U2 perform during their *Vertigo* tour in 2005–2006, this is as good as it gets.

The vantage point is so realistic and dimensional that theatergoers often find that

they have to “resist the urge to tap the shoulder of the person in the seat in front,” as an audience member said following a viewing of the film.⁴ He was so excited that he described the experience from beginning to end:

I have seen 3D films before, but this one was so “real.” I think that was because I was experiencing the concert from many different viewpoints—from the crowd; as though I was onstage with the band; and at times as though I was floating overhead.... It did seem at times like audience members were in front of me rather than onscreen, and I started to lean to peer around them.

In *U2 3D*, the transition to a different time and place is made possible by use of dramatic effects and manipulation of scale: by filling the audience’s line of sight; incorporating 3-D technology; and strategically darkening the environment. Viewers forget they are in an ordinary theater. Audience members are successfully transported to the concert, new fans are born, and old fans are reminded of how “cool” the band still is.

TOMB—The final attraction used as a case study for this article is *TOMB*, an interactive “full-immersion” environment devised by the design-and-production company 5-WITS, which built a simulated walk-through Egyptian tomb in the front of its shop in the Fenway section of Boston.⁵ *TOMB* sends participants on a journey through dark tunnels to search for a lost professor. Visitors enter the exhibition in groups, and right away find themselves in an archaeologists’ field tent. A guide provides clues about the journey on which they are about to embark. After entering the tomb, visitors quickly learn that the professor is not going to be found and instead discover they are on a mission to appease an angry pharaoh’s spirit. Participants are taken through a series of rooms filled with special effects, booby traps, puzzles, and problem-solving challenges. Each new space adds another layer to the dramatic script that is unfolding. The visitors become actors in this experience, all working together to get out of the tomb.

Visitors know the tomb is a simulation, yet they are taken in by the suspense and drama of the story. Not unlike the experiential learning that takes place in science centers and children’s museums, *TOMB* allows visitors to take on problems they can solve by working together. When asked to describe the experience from beginning to end, visitors who completed the online survey called it “suspenseful” with “dramatic effects.”

Matthew Duplessie, founder of 5-WITS and creator of the *TOMB* experience, told me that the term “spectacle” is deliberately used in his company’s creative design process. He had a special interest in this project, which he hoped would bring the concept of Spectacular Design to the attention of museums. He explained that museums with younger audiences, or museums that are experience-driven, tend to be more accepting of Spectacular Design than those that are collections-driven and those that have older audiences. During my interview with him, he shared results of evaluations conducted on the *TOMB* experience. The realistic setting, the plot, and the special effects were major players in the effectiveness of the experience. In devising experiences like *TOMB*, he relies on Spectacular Design to “make real or physically present what you have only seen in 2-D.” He refers to this attempted shift in the participant’s reality as the “dislocation effect.” Duplessie so strongly supports the endless possibilities of Spectacular Design—in which engaging the



Flashlights illuminate a simulated Egyptian burial chamber in *TOMB*, an installation that is also a game. Photo courtesy of 5-WITS, Inc.

participants' five senses are key—that he puts it at the core of many concepts his organization has worked on, including the Operation Spy installation at the International Spy Museum in Washington, D.C.

The Spectacular Design Model for Attractions

Believability is a critical hurdle for an experience meant to have spectacular results. The observations and visitor accounts of these experiences reveal characteristics of Spectacular Design—from lighting to storytelling—that fulfill the criteria of creating an experience of awe and wonder and the feeling of traveling to an alternate place or time.

The design techniques of the three spectacular attraction experiences discussed above can be grouped into four categories: dramatic effects, plot, grand scale, and authenticity. Figure A shows how these four elements overlap to create various types of attraction experiences.

Dramatic effects—As this Spectacular Design Model illustrates, dramatic effects are the primary method employed by attractions. The most basic dramatic effect consists of light and darkness. “Lucidity, penetration, awareness, discovery, inwardness, wonder.... These are the qualities we should try to achieve in our lighting” (Jones 1941, 121).

Lighting can focus an audience's eyes on a single object or “contain an element of surprise, a sense of discovery” (Jones 1941, 117). Darkness allows lighting to do that.

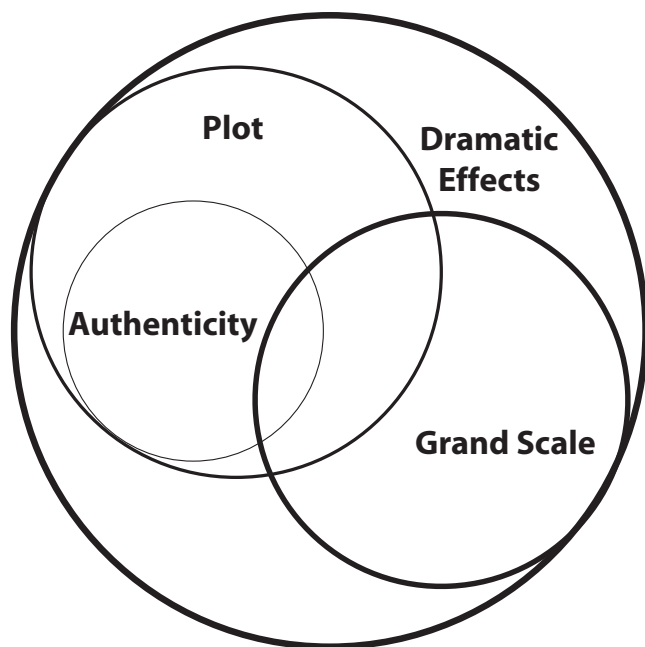


Figure A

Music, realistic noises, and projected imagery add to the wonder and believability of an experience. In addition to lighting, potential dramatic effects can be created with surround-sound, video and music. All play key roles in making the audience experience possible in *La Nouba*, *U2 3D* and *TOMB*. In some cases, these techniques are used to emphasize plot; in others, they manipulate the environments.

Plot—Plot is an important characteristic of theatrical performances in which a “pattern of events or main story in a narrative or drama” creates tension for the audience.⁶ *La Nouba* demonstrates the use of plot to link multiple events within the performance, adding drama to what is essentially a circus. Other attraction experiences like *TOMB* also use plot. Participants see the development of a story, the build-up of excitement and tension, and finally, the climax. These are critical elements in Spectacular Design. The climax of an attraction experience is often audible in the reaction of its participants: screams on a theme park roller coaster ride or, in the case of *TOMB*, cheers at the end of the final challenge.

Grand scale—Grand scale is much more than the volume or area of the space containing the experience. It also refers to the way the visitor feels within that space. Scale could be used to distort the perspective of the audience or allow them to feel as though they have wandered into a new world. For example, *U2 3D* allows viewers to take on a new perspective, as the viewer becomes one member of an audience of thousands in a South American outdoor arena. It achieves that effect by stretching the giant IMAX projection screen into the audiences’ peripheral vision, extending it beyond their normal sight lines. On a smaller screen, this experience is not nearly as effective. Playing with scale helps create a simulated authenticity, which allows participants to focus on and believe what they see.

Authenticity—Admittedly, the term “authenticity” may be disconcerting. It’s not common for a theme park ride to have what museum professionals may consider “authentic” components. Instead, the word “authenticity” in this case implies that participants will encounter tangible or real objects, real performances, realistic environments, and physical experiences. Theatrical performances have real actors performing real actions, which is an authentic experience. *La Nouba* incorporates this form of authenticity. *U2 3D*, on the other hand, is a theater experience that re-creates a live performance. The feeling of being there is present through the magic of technology.

Some attractions combine authentic experiences with inauthentic environments to create spectacle. In *TOMB*, the space may only mimic an Egyptian tomb, but the exhibition compels visitors to engage in hands-on activities. The interactive qualities of this attraction cause individuals to become active participants in the story. The tangible experience is what visitors comment about when they leave. Another example is the *It’s Tough to be a Bug* 4-D theater program at Walt Disney World, which uses animated characters from the eponymous feature film to demonstrate the skills various bugs possess. During the show, visitors experience “bug spray” and “bee stings” in an environment that mimics the inside of a tree trunk. Most attractions only use dramatic effects to imitate reality without providing real physical experiences for their participants. It is unusual to find both. When they are combined, however, it helps participants believe in the spectacular world created for them.

How Spectacular Design Translates to Museums

Museum exhibition designers have issues that are similar to those of designers of attractions. It doesn’t matter whether the end product occurs within galleries, concert arenas, entrance hallways, haunted houses, half-time shows, restaurants, ride car seats, cinemas, or live performance theaters. Spectacular Design is a method for producing an exhibition that is intended to transport visitors to new locations, engage them in a story being told, and have lasting impact. When this is the intent, designers employ plot, dramatic effects, grand scale, and authenticity to make it happen. If one can find the individual elements of Spectacular Design across many genres of museum exhibitions, then it is not impossible to consider incorporation of all four components into a single exhibition. In fact, some museum exhibitions already do.

Examples of Spectacular Design in museums—Observations and visitor accounts of two museum experiences, *Titanic: The Artifact Exhibition* and *Dinosphere: Now You’re in Their World*, provide evidence that the use of spectacle in museum exhibitions is neither appalling nor a sacrifice of educational content. These exhibitions tug at their visitors’ emotions and use lighting and sounds to engage visitors’ senses. Spectacular Design elements, such as dramatic effects, turn what could be an ordinary museum visitor experience into an extraordinary one.

Titanic: The Artifact Exhibition—In this world-touring exhibition, created by RMS Titanic, Inc. and managed by Premier Exhibitions, the *Titanic* experience begins at the entrance.

Greeters give out boarding passes, which assign a passenger identity to each visitor waiting in line. Small groups are then sent into a darkened exhibition hall. The darkness, according to visitor comments, creates a “feeling of doom” and “sets the mood.” The exhibition space is parceled out into various small galleries that chronicle specific moments in the tragic story of the Titanic. One visitor stated (in a qualitative survey response) that “many people died on this ship and the music and dark rooms remind you of this.”

The *Titanic* exhibition is comprised of several individual galleries, created with temporary walls, curtains, and text panels. Since it is a touring exhibition, the floor plan changes to accommodate various venues. Spotlights draw attention to the artifact cases, which are filled with articles of clothing and personal mementos from the passengers of the ship. Visitors winding through the exhibition can be heard gasping as they pass by the objects on display. According to visitor descriptions and observations collected during the study, the emphasis on the artifacts allowed them to imagine what it might have been like on the ship or to focus on the stories of the lives of its passengers. One respondent noted this effect in his/her description:

[T]he background music and dim lights really set the tone. The storyline and biographical stories along the way made it a more “personal” experience and made the passengers more real to me.

In this particular installation of *Titanic*, exhibited at Moody Gardens, Galveston, Texas, there was one variation from a typical floor plan. In most installations, the entire exhibition would take place within a single darkened gallery, which would contain a giant simulated iceberg, created by freezing moisture in the air onto an iceberg-shaped metal plate. In Galveston, the iceberg was housed in a separate building, where it could still be touched, but could not add to the atmosphere in the gallery. One could imagine the effect it might have had.

At the end of *Titanic*, visitors were invited to search for their passenger identity on a wall etched with the names of those who survived and those who died. This component was not in the darkened exhibition space, but instead was placed near the building exit. For this reason, it was noisy, brightly lit, and less contemplative than it could have been. Those who stopped to study the wall reacted emotionally, as though they had been waiting to find out what happened to their Titanic characters. When asked if they “lived” or “died,” many answered “I survived!” with pride or said “I guess I died” and “I wonder what happened to my children.”

Dinosphere: Now You’re in Their World—As mentioned in the introduction, *Dinosphere* is not the stereotypical dinosaur exhibition. It tells the tales of various species of dinosaurs. What might life have been like in the Cretaceous Period? What did dinosaurs do all day? What would it be like to wander into a forest filled with these creatures? Using theatrical lighting and sound effects, *Dinosphere* transports visitors to a different time on earth.

The *Dinosphere* experience begins outside of the museum. Parents often describe the reaction of their kids as they draw closer to the façade of the museum, where long-necked dinosaurs appear to be bursting through the *Dinosphere* dome and out onto the street. Within moments of seeing the dinosaurs, kids erupt with excitement, roars, and cheers.

Inside the museum, one finds a less directed path for the visitor. The entrance is on the first floor in the lobby of the museum. From here, children and families walk down a themed ramp to the exhibition gallery. The gallery is a hollowed Cinedome theater shell with the audiovisual equipment re-purposed to create a sound and light show that changes the scene from night into morning and even into a thunderstorm. The area of the gallery under the dome is themed with faux trees and plants. According to a visitor, it looks "like a primordial forest." The exhibition activities and cabinetry are integrated into the prehistoric themed environment, without breaking the illusion that it is a different time and place.

Visitor descriptions of *Dinosphere* revealed that they were very aware of the attempt to re-create the Cretaceous Period. Visitors described the extraordinary experience of being transported to an alternate time:

The existence of these pre-historic creatures is like a science fiction to most, but to be in an environment similar to where they once roamed was both intriguing and exciting.

My favorite part down there was pretending like I was a person who accidentally got sent back in time and was exploring the dinosaur world.

Activities under the domed gallery allow children to be actors in this prehistoric world. Small children play in dinosaur nests, while others crawl through tunnels underneath the vignettes to pop up into the dinosaur scenes. One visitor described watching kids "going into the cave-like structures [and] bobbing their heads up through the 'bubble' to see the *T. rex* up close" and "hiding in there when the rainstorm came." While other areas of this three-story exhibition are interesting, the spectacular experience found under the dome is what they say they "won't forget" when prompted to describe the experience.

Other museum examples—While they were not examined in depth for this study, the permanent exhibitions at the International Spy Museum and the United States Holocaust Memorial Museum in Washington, D.C. also demonstrate aspects of Spectacular Design. The International Spy Museum invites visitors to participate in spying activities as well as to explore the history of spying in re-created environments. A defined path at the entrance takes visitors to the top floor via elevators and then lets them descend through the many levels of the exhibition. The initial "spy school" galleries create the illusion that you are being trained as a spy. While this space offers opportunities to become part of the spying story, observations reveal that the remainder of the museum employs stronger Spectacular Design techniques, turning visitors into time travelers by leading them through the history of spying. These areas are more visually engaging and offer the cloak-and-dagger atmosphere that you might hope for in a museum about espionage.

The United States Holocaust Memorial Museum also leads visitors through a multi-layered exhibition. This museum invites individuals to take on a new identity, follow a chronological journey of a tragedy, and learn more about the lives and suffering of the victims. As visitors descend through the galleries, they encounter the initial persecution, banishment to ghettos, and final fate of the victims of the Holocaust. The exhibition includes a stop in a concentration camp bunker, which causes one to imagine what it must

have been like to try to sleep under such duress. Personal possessions and grim imagery are reinforced by dramatic lighting and re-created environments. Stark white hallways offer opportunities to return to reality between each emotionally charged gallery.

Both the United States Holocaust Memorial Museum and the International Spy Museum use the defined visitor pathway to emphasize the stories that are told. Dramatic lighting and sound effects transform multi-story buildings into singular cohesive exhibitions. Whether through emotionally charged authentic content or tangible experiences, both museums offer transporting experiences.

The Spectacular Design Model for Museums

Dinosphere and *Titanic* enlist some of the design elements created in spectacular attractions, but they use a slightly different model specifically for the museum field. In this model, authenticity plays a stronger role, since it is an innate characteristic of museum exhibition designs. Dramatic effects, plot, and grand scale are more variable.

Authenticity—If a function of Spectacular Design is to somehow cause a visitor to experience a different place or time that he or she would not otherwise be a part of, then the ability to create a believable world is imperative. Authenticity aids in the dislocation effect, transporting participants from the ordinary world to an alternative reality. It allows designers to create an environment that successfully supports the plot line or themes that draw visitors into the story.

Museums already use real objects to introduce visitors to different cultures, people, and places, and to offer tangible, hands-on experiences. Museum exhibitions such as *Titanic* and the one at the United States Holocaust Memorial Museum would not succeed without real artifacts and real stories. Both exhibitions force visitors to feel the tension and sadness associated with tragic historic events, using objects as the tool for bringing the victims of those tragedies to life.

Museums tend to offer “real” experiences through collections, hands-on experiments with physical phenomena, and opportunities for genuine personal expression and creativity. Themed attractions, especially those with creative ambitions that outstretch their capital, tend to offer fabrications, simulations. . . . Fake sets, fake characters, fake events: they have their place, but let’s not forget that often the most memorable are the authentic activities that you cannot do or see anywhere else (Wisne 2007).

Authentic artifacts in the *Dinosphere* exhibition inspire visitors to engage in imaginative play and inquiry. Genuine physical experiences occur around dinosaur fossils within emotionally charged surroundings. A femur bone on its own may be exciting to a paleontologist, but *Dinosphere* demonstrates how contextualizing that same femur in a dramatic environment within a fully articulated skeleton captures the attention of participants.

Grand scale—Scale is a common element of design in museum exhibitions. In the *U-505* exhibit at the Museum of Science and Industry in Chicago, visitors take a tour of

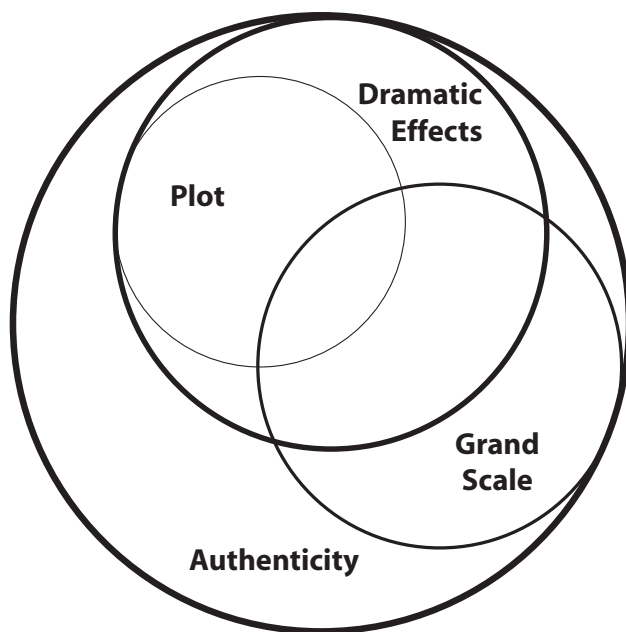


Figure B

the infamous U-505 submarine, which terrorized warships in the Atlantic Ocean during World War II. Visitors follow a long exhibition hall in which sound and light shows, photographs, videos, and dioramas detail the attack on the U-505 and the excitement surrounding the submarine's capture by an American ship, the USS Chatelain. Gasps can be heard when the darkened gallery empties into a massive, brightly lit concrete gallery where the giant U-505 is on display. The sheer size of the submarine is breathtaking. One can only wonder, in awe, about how powerful this attacker was at sea and how difficult it must have been to build the exhibition around it. Visitors are even invited to step inside the submarine, where they feel the tightness of the quarters and imagine the tension the sailors must have felt when they were under attack.

The same awe of scale occurs in *Dinosphere*, where the designers were able to capitalize on the size of the hollowed Cinedome theater to recreate an entire world. Visitors wander in an environment strewn with giant tree structures and dinosaur skeletons. The Cinedome screen, where the sound and light show plays, fills one's field of vision. Furthermore, scale is relative. For small children, an exhibition with a small footprint may seem large and encompassing. *Dinosphere* needed to be big enough to surround not only visitors but large dinosaur fossils in order to be a believable environment.

Similarly, the City Museum in St. Louis creates great, unexpected, exceptional spaces, such as realistic crawl-through caverns and a huge forest that entices children to climb, climb, climb. A large white whale splashes water on passersby. Children and adults can climb through a wire jungle gym to airplanes suspended hundreds of feet in the air. Architecture fans can spot a myriad of enormous limestone, metal, and glass objects throughout the museum, which is filled with larger-than-life props, objects, and experiences.

Dramatic effects—By using special effects (lighting, audio, video, and darkness) authentic experiences can be enhanced. Dramatic effects are not just for finale shows at theme parks or haunted houses. They have also been used in museums to create eloquent visual environments and transform static landscapes or vignettes. Imagine the difference that cool air makes in water exhibits or warm air makes in a desert environment. Other treatments such as atmospheric sounds and scents can continue to draw visitors into the experience.

Light and darkness are simple but effective methods for adding drama to exhibition design. *Dinosphere's* design uses light to create a mood. If this exhibition were flooded with overhead lighting, the thunderstorm would not inspire visitors to hide in the caves or interact with the umbrella-carrying interpreter. Likewise, without the special effects, surround-sound, and dramatic film direction, an attraction like *U2 3D* would feel like an ordinary movie instead of a concert arena. Without dark halls and spotlights on artifacts, *Titanic* would not be able to evoke the tense, gloomy emotions its visitors described.

Plot—A less common design element found in museum exhibitions is plot. As illustrated in the attractions experiences, a strong plot will engage participants' emotions and pull them into a story. It can enhance a theme, drive home a point, create drama, or incite emotion in visitors. In the *Poetics*, Aristotle observes that a well-constructed plot consists of a "beginning, middle and an end" (Aristotle 1996, 13). The parts of the exhibition must be a "connected series of events" (Aristotle 1996, xxiii). Plot is not created simply by presenting exhibition text in a certain order—labels that follow a linear path, where a visitor is expected to read one label prior to reading the next, for instance. You cannot expect visitors to read the exhibit like a book in order to feel the tension or emotionally connect with the content. Design allows us to visualize the plot. For example, the order of the galleries and themes in the United States Holocaust Memorial Museum causes you to "witness" the different phases of the persecution. The museum Web site says: "The exhibition is divided into three parts: 'Nazi Assault,' 'Final Solution,' and 'Last Chapter.'" This causes a rise of tension and emotion as you pass through the museum. By the time you reach the end, you have been on an emotional roller coaster, ready to rest your mind in their meditation room. While the text supports the plot, it is not necessary to read all of it to sense the beginning, middle and end of the story.

At the 2006 American Association of Museums conference, exhibit developer Judy Rand shared a story about an exhibition that changed her life. Quoting a line from a designer she knew, Rand stated that "like an opera...an exhibition should have highs and lows."⁷ Much like a play or an opera, a plot is a strong conceptual story with highs and lows. Plot requires a source of "astonishment" or "surprise" to captivate audiences (Aristotle 1996, 17). This is created through the presence of a conflict, tension, or dramatic shift in the storyline. For an exhibition, it may be a particular object that is revealed.

In *Dinosphere*, the corridor entry builds tension and the dome slowly transforms the environment from dusk to dawn. By the time the thunderstorm begins, children and families are engaged in the plot. *Titanic* uses a defined visitor path in the same way that *La Nouba* progresses from small performances to a large finale. Plot can be seen to an extent in other museum events like the traveling Tutankhamun exhibitions by Arts and Exhibi-

tions International and the *U-505* exhibition at the Museum of Science and Industry in Chicago. In these two examples, tension builds when a linear floor plan leads to a high point in the exhibition, such as a “wow” artifact.

Why Care About Spectacular Design?

Spectacular attraction designs, as found in *TOMB*, *La Nouba*, and *U2 3D*, transform a theater or environment into an imaginary world, or cause viewers to feel like they have been transported thousands of miles away. Techniques such as grand scale, plot, and dramatic effects, which have long been used in theatrical performances and events, can be combined with authenticity to make the experiences believable.

Spectacular Design in museum exhibitions such as *Titanic* and *Dinosphere* reveal that it is not difficult to translate spectacle into a museum setting. While museum professionals may be inclined to reject the methods used in the attraction experiences, museums have an opportunity to capitalize on the authentic stories and objects they possess to create truly extraordinary exhibitions.

John Dewey suggests that “an experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment” (1938). In order for these transactions to occur, designers and developers must be thoughtful about exhibition designs. As with all types of exhibition design, it is important to be intentional about the use of Spectacular Design. Spectacular Design can help those exhibitions that are intended to immerse audiences into a story, give them the opportunity to witness a different world, or engage them in hands-on activities. The Spectacular Design model is just the beginning of understanding what it is that allows designers to make these experiences possible. While it should not be seen as a recipe for designing every museum exhibition, Spectacular Design should be added to the museum vernacular.

Notes

1. Spectacle is defined at Dictionary.com, *Webster's Revised Unabridged Dictionary*, MICRA, Inc. Accessed Sept. 2008 at <http://dictionary.reference.com/browse/spectacle>.
2. See Dictionary.com, *Webster's Revised Unabridged Dictionary*, MICRA, Inc. Accessed Sept. 2008 at <http://dictionary.reference.com/browse/spectacular>.
3. Accessed Oct. 2008 at <http://www.cirquedusoleil.com/CirqueDuSoleil/en/showstickets/lanouba/intro/intro.htm>.
4. “And I Quote — “*U2 3D Live – The Official Blog for U2 3D, The Movie*. Accessed June 19, 2008 at <http://blog.u23dmovie.com/blog/2008/02/and-i-quote.html>.
5. See <http://5-wits.com/home/>.
6. See Dictionary.com, *The American Heritage Dictionary of the English Language, Fourth Edition*, Houghton Mifflin Company. Accessed Dec. 2008 at <http://dictionary.reference.com/browse/plot>.

7. The American Association of Museums distributed a set of audio recordings of sessions from the 2006 annual conference. See (AAM 2006)

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