

The anti-aesthetic

Susan Schwartzenberg and Shawn Lani are exhibit designers at the San Francisco Exploratorium. They are responsible for some of the exhibit spaces in the new home of the Exploratorium, scheduled to open in 2012.

Editor: So what's the status of your move?

Susan: We have been at this place for forty years and we've pretty much outgrown it. Our programs and functions just don't fit in one building anymore. And we realized we couldn't really renovate our current location into a campus the way we had first wanted, so we've been searching for another building for almost ten years. We finally found a space on the Embarcadero at piers 15 and 17. We'll have a complete outdoor space right on the waterfront, and visitors to the waterfront will wander in, as well as the people coming specifically to the Exploratorium.

Shawn: The new location offers opportunities that we just couldn't get here. We're on the water with the piers reaching out into the bay with the possibility of research vessels actually docking up to the museum from time to time. It feels like we're moving out of our bunker to a waterfront location with an amazing view – and at a time when the museum is starting to afford those views.

Editor: That's interesting that you connect the programming to the space. I got the impression that when the museum opened so many years ago, the bunker-like space influenced the nature of the exhibits inside.

Susan: Yes, it was an experiment when it started, a kind of a black box here in San Francisco in 1969. You could do pretty much whatever you wanted. Now we've grown up. We know more about what we want, and we're more confident. We want to deal more with environmental issues.

Shawn: It's like any project. At the start, you're sensitive, you're not sure where you're going. Now we've matured. We're looking out in the city and to the environment now as a way to extend our programming.

Editor: Let's first talk a little bit about the old space. How did the space affect exhibit design.

Shawn: When I first came to work here fifteen years ago, one of the exhibit artists, Ned Kahn, said there were a lot of restrictions working here. I thought, "What can you be talking about? This place is wide open. It's one massive windowless warehouse. I can't see restrictions anywhere." Now I realize there are restrictions in this environment that I hadn't seen. But when you first walk into the warehouse, it doesn't feel like there are any design criteria that must be followed. There is a sense that, as a designer, you can follow your nose and investigate phenomenon and ideas without fear of judgment or without fear of worrying about how you're going to package it all up at the end so you have a

nice clean message. A sense of ambiguity in exhibit design is accepted, because there is such a huge amount of respect for the learners and how they navigate an object. They can navigate it a way than the designer had not intended and that is all right. So the openness off the space makes the exhibits feels unconstrained but there are in fact constraints and there are design criteria.

Editor: Did the industrial setting contribute to the *apparent* absence of design criteria, which Susan once described as an “anti-aesthetic”?

Susan: I have been wondering why in the world I used that term! I think I wanted to get aesthetics into the discussion. There is an aesthetic here so I need to qualify the term “anti-aesthetic” a bit.

When I started working here through mid to late seventies I had just got out of art school in Chicago and my only knowledge of science museums was the science and industry museum in Chicago. After I had worked here for a while I went back for a visit. I realized that most of the exhibits in there were designed by or supported by corporations and they were built by advertising agencies or contract designers and they had an ultimate social destination. There was one called “Better living through chemistry” and it was produced by and paid for by DuPont. The museum had lots of really great exhibits and periodic tables and everything but the point of it was to provide entertaining science literature, ultimately aimed at recruiting workers into the field of chemistry, which was really exploding at that time. So things like that had a kind of social message. In Europe it seemed to me the museums were a little bit more nationalistic. They were promoting national products, especially the Deutsches Museum, which seemed to show all of the engines that were made by BMW and how they had participated in building engines for the war.

These museums made me realize how different the Exploratorium was. Everything was made by people on staff. None of them were trained in design, some of them may have been carpenters. There were high-school students working here who were hobbyists in their father’s garage. Their aesthetic was to use what was common to them and interesting to them, or simply what they found. It wasn’t highly fashioned or honed, and this became sort of the aesthetic philosophy here. So it’s an “anti-aesthetic” in a sense that most people wouldn’t see it as being intentionally made to look a certain way. Now we wonder if it fact that unintentional look has become our look.

Editor: It is indeed somewhat different than what you see in a lot of science centres around the world in terms of polish.

Shawn: It puts some people off. They may have heard of this museum, and come from a long way and when they arrive and look around they think, “Oh my good, look at this stuff, this is made out of two by fours and part of an old lathe that somebody found.” Other people think it’s wonderful. Make no mistake, the exhibits may appear casual, but nothing is unconsidered. If we see something that’s over-designed or built for the wrong reasons, it doesn’t make the floor. We have a very strong design aesthetic. We just don’t

have a design centre or design head but there is an aesthetic that is part of an organic culture here. That's the reason the museum continues to look the way that it does.

Editor: What shapes the aesthetic?

Susan: Before Frank Oppenheimer opened the museum he built science exhibits for high-school programs that he taught in Colorado. So he wanted the exhibits to support various chapters in the physics books and so on. A lot of our early exhibits were supporting what science teachers needed in their classrooms.

When we started building live exhibits, we also wanted individuals to be able to use our exhibits, so we designed a series of books called the Cookbooks, which allowed you to build the exhibits on your own. However, most people, especially in other countries, couldn't build them because they didn't have a machine shop, so we rethought the Cookbooks and made these Snackbooks, which included things that you could make at home. So if you didn't have a battery you could use a potato or something. So, in a way, our exhibit aesthetic comes out of this idea that our science experiments are ones you could do in the classroom. The museum does struggle between trying to be a little bit more designed and being exportable to classrooms.

Shawn: The exhibits here are just the tip of the iceberg. The material things you see and experience are the product of a holistic culture – the entire staff is involved in constant conversation and the exhibits are results of those conversations. What you find in this place is almost a throb. If you sell some of these exhibits to other museums, they just have ten percent of what we have on the floor, and so they might not have that same kind of energy. We've actually gone a long way in creating more than just a buyer-seller relationship, We've developed partnerships that include exchanges and training, so there's culture that goes along with the exhibits.

Editor: That explains the juxtaposition of being an influential museum yet still looking different than the places that you've influenced.

Susan: We have a whole wing of the museum that just redesigns stuff with a much different packaging for other museums – the ones we sell look really different than the ones we have on the floor.

Shawn: Yes, there's a big difference. These are highly engineered and the reason for that I think is simple: you pay \$15,000 to \$25,000 for an exhibit, you don't want two-by-fours rolling through the door. This kind of whimsical quality that works here doesn't work in brand new buildings.

Editor: It also speaks volumes about the relationship between the exhibits and the space. As you move into the new space, how is that affecting the way you are thinking about exhibit design?

Susan: We are getting considerably more space at the new site. Shawn is going to be a

curator for the outdoor areas of the new museum. For those areas, two thirds of them will be brand new exhibits that have to be designed to a whole different criteria, for example, to hold up in fog, or dramatic temperature changes throughout the day. There's a whole new way of thinking about what exhibits are in an outdoor environment. They are much more connected to local phenomena and to understanding the environment. Those have a whole new aesthetic.

Shawn: They look totally different from what you might find on the museum floor. They're kind of beautiful devices, like scientific instruments that might have been set up to gather data and then the researchers walked away. We are driven by as much the emotional impact at times as the educational impact – the way that something feels in a setting or the way that something strikes you. That's important to us as a culture. Also, the exhibits look different because when you move to an outdoor setting there are engineering issues to consider with respect to the environment.

Editor: Give me an example of a design decision in the new space that you had to make that you might have done differently than in the old building?

Shawn: We are working right now on some outdoor exhibits that are at Fort Mason, and part of a national park. We found an old pier pylon on the eastern side of the pier building and it was loose, so loose that it was bobbing around in the waves. One of our project developers had the idea of putting a little LED light on it there and having that shine and track the motion of that pier pylon. It was a beautiful idea but it didn't really match the location. You couldn't really tell what was driving the light so I stuck a rod in the side of the pier pylon and dropped it into a dish of sand and it traced the patterns of waves. Once we had the prototype down, the design had to follow. I ended up building it out of a very clean, brushed stainless steel. The rod that came out of the pier pylon was made out of a long tapered bronze so it looked like a light needle coming out with a very delicate touch in the sand. It was all done very simply but built like a machine, that evokes the history of the area – the import and export traffic, the ships that came through, in the aesthetics of the 1930s 1940s. It's how we want the pieces to turn out in the new space.

Susan: The pier pylon was old and rotting, maybe 80 years old, and then this little piece of machinery was attached to it that was highly refined and even polished. They work together like an odd couple so you really notice how these things are interacting. It makes you want to look over the side of the pier and see what the water's doing, why the waves and the tides are driving this sort of beautiful tracing in the sand.

Shawn: The whole point of those pieces was to build pointers to the environment so you would look out and see what was happening. You could actually walk away from these beautiful objects and tracings in the sand with a way of looking at waves or wind that you could take with you, what we call an *animated aftermath*.

Editor: It's also interesting to hear you say the word beautiful after what we were just talking about – how in the old museum it could appear that that nobody cares about how the exhibit looks but actually you do.

Shawn: Oh, deeply, absolutely. In fact, I think we're driven as much by the beauty of the phenomena as the content of the piece.

Susan: For us, it's not about the polish of the beautiful maple wood and the smooth stainless steel knobs. Sometimes that structure around an exhibit dominates a little too much. That's what's really nice about the outdoor pieces – they've really simplified the structure so that they focus you on the phenomena. It's a perfection of the ideas we have been using inside. But because the designers had a different set of criteria for outdoor spaces, they made themselves rethink how to design an object that you love. This is the aesthetic we've been talking about – it's what artists do. They want to constantly rework their ideas but see them differently every time and continue to evolve them and push them. Every time they make something they are learning something new about their ideas and that's what a really great exhibit should do I think.

Shawn: Yeah, there's a glow of grime. A lot of exhibits are actually built to wear in. They are just beautiful to see with fifteen or twenty years of kid tarnish on them. It's kind of quaint decrepitude, sort of like New Orleans, where you had buildings got old elegantly. I like that idea of things being built well – not in that they are highly crafted but they are solid and honest.

Susan: You can tell that people enjoy using them over and over and over again.

Editor: What do you think Frank Oppenheimer (the museum's founder) would think about the way exhibit design is involving in the new space and in the outdoor spaces?

Susan: That's a hard question. There are some things we've done that I think he wouldn't like. I wonder what he would have thought about a lot of the visualization technologies we are using now. Computers were beginning to be used a lot before he died, and he thought they would be really great for showing simulations of phenomenon you couldn't see either because they were too big or too small, but he tried to steer us away from doing too much of it or making it seem too technological. This museum was not supposed to be about technology or industry, it was supposed to be about phenomena. So, where we have really honed down the apparatus to focus people on a principle of nature, I think he would really approve of that. I think he would have liked the outdoor collection quite a bit.

Shawn: Working in the state of ambiguity that he encouraged is really tricky. The place was really good at it when Frank was here because there was a kind of playful approach, almost like a jazz musician playing around with an idea or a musical riff. You could argue for this or that, and anything could be okay. That ambiguity is difficult to navigate without a Frank around. When you get second- and third- and fourth-generation people coming in as designers and developers, when you can argue both sides of almost any argument about design or development, it gets pretty tricky. In some ways you start to wish for a stronger guideline and some constraints.

That's one of the reasons I think that our Fort Mason outdoor project was so successful because early on we set up constraints that were extremely usefully in serving as both a filter and inspiration.

Editor: Can you summarize those constraints?

Shawn: One thing was we wanted to build noticing skills rather than point out information. For example, with the pier gyroscope, the exhibit is not about what the waves do, it's just a beautiful machine that makes you notice how the wave fronts come in and how they move. So you develop the noticing skill and how to read the wave patterns and where they come from. We asked ourselves a long list of questions: is it beautiful, is it gender-specific, is it too ambiguous, is it too full of information so that it becomes overwhelmed with content, does it fit well into the setting, is it aligned with our partners' goals for the park? They were honing questions, they were constraints in a way but were also a way of keeping ideas flowing. It made the development process a little bit more rigorous.

Susan: We learned so much from Frank. One of the crucial pieces is that as a working scientist (you know he worked on the Manhattan project and he was in a laboratory developing prototypes), he knew what it meant to try to understand a process through prototype development. So what has happened is that exhibits actually look a lot less like prototypes than they used to. We have become more sensitive to the public. We want to make sure things are safe to use and that people in wheelchairs can use them. We have a professional research and evaluation department (not the exhibit developer) who tests it with the public. They make sure the graphics work, that everyone understands where the knob is. Every single exhibit passes the evaluation criteria but also the exhibit developer feels that it's doing some of the things that got them interested in investigating that particular phenomena in the first place.

Shawn: I think evaluation team is getting more sophisticated in the way that they assess exhibits. Informal evaluation has always been a part of Exploratorium design process. Designers always talk to staff. I think the big difference with our floor than maybe other museums is there's a sense of fearlessness when you develop exhibits – you just want to do what's right for the piece and for the visitor and for yourself. Whatever gets between you and that goal needs to be moved over, gone under or through. That sense of passion and focus is at the heart. The character of the new location will be driven by this more than anything else.

Editor: When do you move into the new space?

Susan: We are still aiming for 2010, if all goes well.

Editor: I can't wait to visit. Thank you both.