

# Interview with Peter Engel

By Jan Polish

Originally published in *The Paper*, Issue 53, Winter 1995

*Peter Engel is the author of **Folding the Universe: Origami from Angelfish to Zen**. I had the opportunity to talk with Peter on our return from the Second International Conference on Origami Science and Scientific Origami, held in Otsu, Japan in November, 1994. The following are a few excerpts from our conversation.*

*Jan Polish: How do you get your ideas?*

Peter Engel: They come from all different areas. With my older models, I sometimes fiddled with the paper until something emerged, or I set out to explore a certain geometrical property of the paper. With the newer models, I have a set idea of what I want to make. Perhaps it's a subject that intrigues me, or it's something for a special occasion. Either way, it has to have some sort of imperative.

With my Sun, Moon, and Stars Mobile, I wanted to make a mobile for my baby before she was born. I needed to make something appropriate for a baby, and I thought that the faces of the sun and moon would make a powerful impression on a baby, since babies are able to recognize human faces almost from birth. I had been talking with **Mark Turner** about the subject of a moon and sun, and it all came together.

*JP: A few years ago you spent a year in India, and you have recently been working in Sri Lanka. How have those experiences affected you and your origami designs?*

PE: India was a very powerful experience for me, especially in meeting so many Indian craftspeople. These people didn't intellectualize about whether theirs was an art or a craft--they just did it. Their work was symbolically rich and always deeply connected to their culture and the aesthetics of their own area. Often each village does a different craft with different designs and motifs, and then they trade with each other. While I was in India, I realized that a lot of origami models I had done had no connection to my own culture or personal experience. The subjects of my models were fascinating to me but didn't have a deep connection to me except through my love of form. I became interested in doing things that have a greater emotional connection. So making the mobile for my baby had great importance to me.

The Bodhi Leaf is another model that had a great imperative and grew out of my time in India and Sri Lanka. The bodhi tree is the one the Buddha attained enlightenment under. The model I made is a tribute to Mark Turner, who opened my eyes to plant forms and especially asymmetric forms. I really like his models; they have great beauty and quiriness. The desire to make this model drove me past the technical difficulties in doing it. These days, I need a greater imperative to get me past the technical. Because of work and my family, I don't have nearly as much time as I did ten or twelve years ago.

A further development with the leaf was to try to make it asymmetric. This came out of my time in India and examining my old attitudes. Before, I felt that everything had to be geometric and perfect. In India I saw crafts that were rough, that had the quality of people's hands on them. They were great works of art and craft at the same time. I wanted to change my old approach and bring imperfection and frailty to my models, both in the design and in the execution.

*JP: You talk a lot about structure, about how important it is to put structure into an origami model. What does that mean?*

PE: The forms of nature always combine an underlying structure with a quality of randomness to them--order mixed with chaos. The veins of a leaf, for example, are never perfect. But at the same time, paper is geometric. The challenge in making the asymmetric Bodhi Leaf was to bridge the geometry of paper with the looseness of the underlying structure of the object. If this were a different art form, we could just model or carve, but paper has a different property.

The fact that origami has mathematics and structure doesn't make it any less of an art. Certain art forms, like music, are quantifiable. Music can be broken down into notes, chords, etc., but when you hear it, it's packed with emotion. You need structure in music to make it intelligible. It's the same with origami--you need structure, but there are many different ways to give it that structure.

Western classical music, for example, often aspires to a quality of inevitability, of perfection. Japanese or Indian music, on the other hand, has a completely different feeling, often quite meditative and dreamlike. Each type of music has structure, but the structures are completely different. In the same way, my bodhi leaf model tries to avoid the feeling of perfection produced by using symmetry and standard geometries. It is looser than many of my other models, but, like the real leaf it is modeled on, it has structure nonetheless. It aspires to a quality that the Japanese call *wabi-sabi*, an aesthetic of impermanence and imperfection.

*JP: With origami designs growing more technical almost by the day, do you regard*

*yourself and other inventors of origami designs more as artists or as engineers and scientists?*

PE: In my book, I talked more about the scientific aspect of origami because that part is easier to explain. There's art and science in most people's models, but people talk about origami in different ways. In public, **Robert Lang** doesn't often wax poetic about his art, but he is definitely an artist. **Akira Yoshizawa** is both an artist and a scientist, but he talks more about the art. If the model is beautiful, it doesn't matter what the creator says. There's always an aesthetic in the hands, in the drawing, in the thinking.

Yoshizawa said that if a model is too technical, it can't be art. To some degree that's true. If you create an elaborate structure and have all the right appendages but the wrong proportions, you're stuck. By the time you try to shape it, it's already misshapen. But if you have control over your structure, if the structure you create serves the aesthetic purposes of the model, you're still functioning as an artist. Take **Issei Yoshino's** Horse with its big mane. I'm sure that from the very beginning he was working on the mane, that it gave purpose and structure to the entire model. Because the structure he came up with serves his aesthetic purpose, the model works.

I'm quite exhilarated by what I've seen here of the Detectives, the Tanteidan. They have a reputation for doing incredibly complicated models like dinosaurs and insects. But I found much more in their work than just technical achievement. In some of their models, I see textures I've never seen before. I've already mentioned Yoshino's Horse. He's also got a salmon with skin that suggests the scales of the fish. **Kawahata** has a unicorn with a twisted horn and a pegasus with a pleated mane and delicate, almost diaphanous wings that have the texture of feathers. **Nishikawa's** Tiger captures the fur of a real tiger. In all these models, the texture comes from extra layers of paper. If the models had made hyperefficient use of the paper, there wouldn't be any left over for texture, so the thinking about texture had to be built into the structure right from the start. It might be hard to see, but I think that rather than being opposed to what Yoshizawa was preaching at the convention, the Detectives are actually among his heirs.

Personally, I think that the struggle for supercomplex models will eventually exhaust itself. Even the Detectives are starting to get interested in simpler models. There's still the game of technical one-upmanship, but that by no means defines the totality of what they're doing.

*JP: How has origami affected your architecture?*

PE: Origami is connected to my architecture deep down, not on the surface. I haven't made any folded buildings, which is what people expect to see, but

I'm very concerned with creating a simple and clear structure that shapes space, light, and movement-the essentials of an architectural experience. Like designing an origami model, making a building requires being in control of the structure so that it serves your aesthetic and emotional purposes.

When I was in Japan, **Jun Maekawa** and his friend, **Akio Hizmne**, and I discussed how wonderful it would be to create an actual origami museum. Now that's an architectural project I would take on in an instant!