



"The urge for good design is the same as the urge to go on living
The assumption is that somewhere, hidden, is a better way of doing things"

Harry Bertoia





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Bertoia chair shell frames are still made by hand

Harry Bertoia's first experience of Florence ("Shu") Knoll was in Eliel Saarinen's house at Cranbrook, when he and she were both students there. Shu was reclining on a big sofa of Saarinen's design. Bertoia remembered it as a "brief encounter" but "kind of marvellous" just the same. It led to his subsequent career in furniture design and made possible his career as a sculptor.

When Eero Saarinen and Charles Eames entered The Museum of Modern Art's furniture competition Bertoia got involved, if only on the fringes; it aroused his curiosity.

Born in Italy in 1915, he went to the USA in 1930 and enrolled at Cranbrook in 1938. From an original interest in metalwork at the jewellery level he had moved on to being what he described as "sort of the student sculptor."

The students were so few that they all knew each other. Bertoia set up a metal workshop at Cranbrook, and he and Charles Eames taught there. As the war came on metals were harder and harder to get, and for other reasons not wholly clear the bloom began to go off the Cranbrook flowering.

In 1941 Ray Kaiser and Eames were married and moved to southern California, where somewhat later Eames asked Bertoia to join him. "That was one reason I went to the West Coast," said Bertoia. "Another was not to be cold and wet."

In the long run it was not a congenial arrangement, though at first they worked well together. The Eameses had wanted to develop low-cost techniques for laminating and molding wood, and they successfully produced plywood splints and stretchers for the Navy during the war. But it was in Eames's mind all along to make the furniture he and Eero had designed for the competition they won, which had been essentially a paper exercise.

With Bertoia helping in production, Eames now wanted to realize the chairs in a practical form that could be manufactured and sold. It was an effort doomed to failure; as Bertoia later said, "it was forcing plywood into a shape it did not want to take."

After three months of experimenting Bertoia told Eames the attempt was futile. Eames, suggested that Bertoia go ahead on his own.

What happened thereafter is a subject on which opinions differ. Bertoia began to be more deeply involved in furniture design, not simply as sculpture but as an expression of bodily and skeletal behavior. How long was the chair going to be sat in? The longer, the larger the seating surface should be, to take account of the body's motion.

In three weeks they arrived at about a dozen possible designs, including one that reminded Bertoia of a barber's chair. He was interested in metal, Eames in plywood. They ended up with a plywood seat and back on a metal frame with three legs - the first of the "Eames" chairs .

Bertoia's understanding had been that this was a group effort, "that whatever contribution was made it would be as a group." But things didn't quite work out that way; the Cranbrook group spirit was breaking up under the pressure of branching careers.

Eero Saarinen was to realize his own role as a furniture designer under the Knoll aegis; Eames, looking back, was to rationalize his decision not to go that route as a consequence of being a Midwesterner, for whom Knoll had too classy and international an image for him to be comfortable with it. More than likely there were other reasons, among them his perception of the space he needed for his own gifts to expand. At any rate, when the chairs were exhibited at The Museum of Modern Art in 1946; they were taken on for commercial production by the Herman Miller furniture company of Zeeland, Michigan; and when they passed into history - they did so as "Eames" chairs.

Bertoia was understandably disappointed. He began to look around, to think about other jobs, of which there were not many in sight. After a year he left Eames to go to the publications department of the Naval Electronics Laboratory in San Diego, not exactly a place where he wanted to spend the rest of his life.

Then one day Hans and Shu Knoll turned up in California. Bertoia thought they were there to negotiate with Eames about the chairs, but soon out of the blue came a letter from Hans asking Bertoia to join the Knoll company, "put so nicely that I couldn't possibly resist," Bertoia said.



Bertoia in his studio in Bally, Pennsylvania, surrounded by his works - 1976



Harry at home with a "Colour Monotype"

He hesitated only because he really did love the Pacific Coast and hated to leave it. Hans was impatient; he wanted to put Bertoia's name on a catalogue he was preparing.

So Bertoia's wife Brigitta sent the Knolls a postcard saying, "Harry is happy to come." When Bertoia got a telegram of thanks he called home, only to be told, "Oh Harry, I forgot to tell you."

"It turned out," said Bertoia, "to be a very happy decision." In 1950 they went east. Pennsylvania, with its change of seasons, was a change in every way, a new beginning. He got to know Hans better: "The more I stayed with him, the more pleasurable it became."

The Bertoia's rented a place on Long Island in the summertime and after a busy week the Knolls would sometimes join them there. "It was a stimulation," said Bertoia. "It created an atmosphere of wellbeing, of projections, of expectations. I think it was essentially Hans's way of recognizing an individual's ability and bringing it out as much as possible."

Bertoia's assignment was very open: go to work in his own way, and if he came up with a piece of furniture, so much the better. He was given a small room in the factory next to the railroad track: "There was not a single pair of pliers, a hammer, a grinding wheel, nothing."

Hans thought Bertoia might want to begin by visiting institutions which used furniture, to see if they suggested any ideas to him, but Bertoia quickly discovered that he was not the man for this kind of research.

"My feeling was that it had to come almost from an inward direction," Bertoia later recalled. "I began to rely once more on my own body. I began to think in terms of what I would like as a chair. It started very slowly, but things were beginning to shape up."

Bertoia's method was to work with his own hands, trying variations, never satisfied. "When I get involved with something," he said, "there will be a grouping. You will see them all around." Different chair functions - to sit up in, to relax in, to have the head held - would begin to find their natural form as he saw it. "You know," said Bertoia, "when you have something in front of you that can really physically be held, it becomes easier to make adjustments."

He found that he was increasingly comfortable with metal rods and wire. When he came into rod or wire, whether bent or straight, he seemed to find himself at home. It was logical to make an attempt by utilizing the wire.

About this time Eero Saarinen asked Bertoia to do a "structural screen" for the General Motors Technical Center, one of the first of the metal screen sculptures for which Bertoia became famous (he had earlier done them only in miniature).

Saarinen invited Bertoia to Michigan and told him one evening that they were invited to dinner with Alexander Girard and George Nelson, designers who (like Eames) were associated with Herman Miller.

"Harry," said Saarinen, "do you realize that we are now going into enemy territory?"

Bertoia was amused, and in fact it would be fair to say that if there was a rivalry between Knoll and Miller designers it was a remarkably friendly one. Modern design in those days was still a small family, a shared faith against the unbelieving world outside.

But after they had arrived and been served drinks George Nelson, "of all things," said Bertoia, "pulls out a wire chair. It really surprised me . . ."

When he returned and told Hans Knoll, Hans was "quite bothered" and wondered whether or not they should proceed. Bertoia reassured him that the two developments were independent and would end up differently anyhow, so they went on ahead.

It took about a year and a half. Hans and Shu Knoll were very supportive of Bertoia - "they were sources of inspiration in many ways; my relationship with both was quite wonderful" - but there must have been moments of tension and impatience.

After six months Hans sent over Dick Schultz from the New York office to help out and, about eight months later, Don Pettitt.

They were thinking about finding ways to bend the wire by machine. But in the end it turned out to be more practical and less expensive to do it by hand, in wooden jigs which allowed the wire to snap back into the desired shape. Indeed this is the way Bertoia chairs are still made (his original jigs are still in the racks at the East Greenville plant). The chairs were exhibited in the Knoll showroom at 575 Madison Avenue in late 1952.



Massimo Vignelli designed the catalogue for Knoll "Portarit of a Corporation" for an exhibition in 1972



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"In the sculpture I am concerned primarily with space, form, and the characteristics of metal," Bertoia once said. In the chairs many functional problems have to be satisfied first . . . but when you get right down to it the chairs are studies in space, form, and metal too

If you will look at these chairs, you will find that they are mostly made of air, just like sculpture. Space passes right through them."

On their appearance the Bertoia chairs were praised by the design press and profession, and have had a durable popularity down to the present; the risk had turned out to be worth the running. It was a good time for Bertoia and the Knolls.

"We were all young," said Bertoia. "I was no exception. Everybody was young."

Harry was 63 years old when he died in 1978.





Knoll ad campaigns (by herbert matter) featuring Bertoia chairs - 1950 -1955







