

# Soul of a Child, Mind of an Engineer

George Rhoads died this year at age 95 in Loudun, France. He was a big player in the origami arena when only a handful of creators existed around the world. His models appeared in seminal books like *The Best of Origami* by Sam Randlett in 1963 and *Secrets of Origami* by Robert Harbin (1964).

Born in Evanston, Illinois, he attended the University of Chicago, where he studied math, physics and art. He later moved to New York and then to France. While in Paris, in 1953 he met legendary origami influencer, Gershon Legman, through Marty Weissman, an American mutual friend.<sup>1</sup> Legman was nine years his senior and immediately took notice of the young artist, encouraging him to explore the possibilities of paperfolding.<sup>2</sup>

Rhoads moved to Málaga, Spain, back to New York City and then Ithaca, NY, always corresponding with Legman well until the 1970s. His earlier letters included drawings, little foldings and diagrams of his creations.

In a 1956 cheerful letter, we get a glimpse of how important paperfolding was for him at that time: *“I have been spending an idle moment drinking beer and making a chart of how I met all the people I know. It turns out though I knew it before and forgot to tell you —that paperfolding has had a tremendous influence in my life.”*

Rhoads’ models were not simple models. Almost any person can create something out of folding paper. But only an artist can move you emotionally. Some of his most expressive creations have that power. They are whimsical, cute, smart and funny. They are unique.

His models were perfectly calibrated so no paper would be wasted (an artistic quality that is well appreciated in the origami world), and he devised ways to produce enough appendages to make four-legged animals without cutting... unthinkable designs in the early 50s!

As his interest in paperfolding dwindled, his name started to resonate in the world

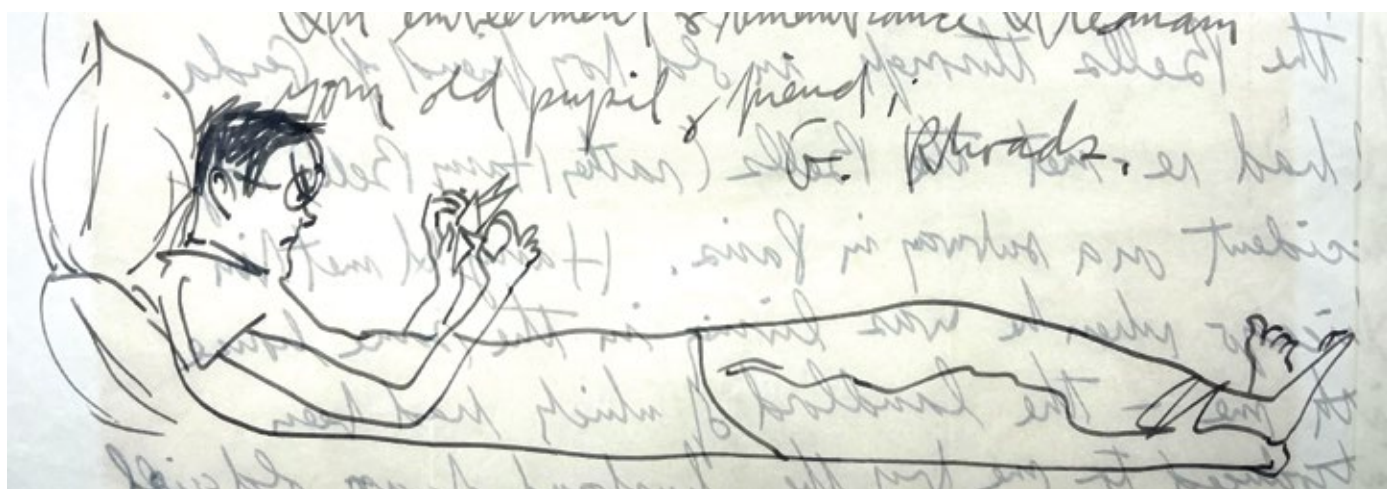
of kinetic sculptures. He was commissioned by shopping malls, airports, hospitals, and parks, where he would set up his monumental audio-kinetic ball machines.

His engineer’s mind gave life to his folding creatures. *“The beauty of origami is the beauty of economy,”*<sup>3</sup> was one of his mottos. 🏠

by Laura Rozenberg\*

\*The original foldings and letters that illustrate this article are kept in the Gershon Legman Archives of the Museo del Origami in Colonia, Uruguay

1. Letter from George Rhoads to Gershon Legman (May, 25, 1956)
2. Legman’s interest was in the history of paperfolding: he had been collecting books and was writing a bibliography of paperfolding but he also developed an “eagle eye” for discovering young talents. He’s credited for having encouraged Neal Elias, Ligia Montoya, George Rhoads and others, and of course he was also the man behind the exhibition of Akira Yoshizawa in Europe in 1955.
3. Randlett, Samuel. *The Best of Origami* (1963) Dutton. Pg. 181.



Rhoads used to illustrate his letters. In this self-portrait, he is struggling with a difficult fold (Letter to Legman, May 25, 1956).



Ballerina

# My Brother, the Wizard

By Emily Rhoads Johnson

No one could have chosen a smarter, funnier, more extraordinary, or more loving older brother than the one my parents blessed me with. He wrote me wonderful (always illustrated) letters throughout my life and encouraged me in my writing endeavors. I am reminded of his persistence and his sense of fun every time I look at his three origami figures on the shelf over my desk: a donkey folded from a dollar bill, an armadillo, and a very tiny pig.

George was ten years old when I was born, so I didn't really know him well until he was a teenager. We played games and drew pictures together, and sometimes he let me "help" when he was building a new invention—like the diving helmet he made from a popcorn can, or one of the many clocks he made from old watches gleaned from flea markets in Chicago.

At one point he became obsessed with kite-making, which may have been the beginning of his interest in origami.

Except where danger was involved, our parents encouraged George's inventiveness. In a letter our father sent to our mother once when she was away, he wrote: George has built a small paddle wheel steamer today to have ready when his class (4th grade) gets to steamboats. If he can retain his aloofness from the world and still survive in it, what a rare bird he will turn out to be! I honestly think he has the clearest brain of anyone I know.

I feel so grateful to have had a brother like George.

## Resources

For a list of books and magazines with Rhoads' diagrams (he never published his own book), visit Gilad's Origami Page:

<https://www.giladorigami.com/origami-database/Rhoads>

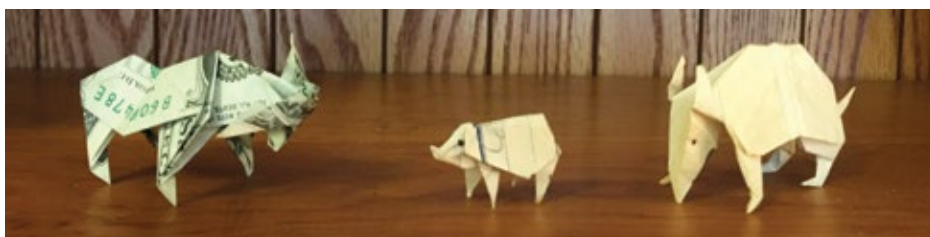
*Wizard at Work: The Life and Art of George Rhoads* (Dog Ear Publishing, 2011) is a nice book written by Emily Rhoads Johnson, George's sister. It has a chapter dedicated to George's passion for paperfolding.

*New York Times* obituary:

<https://www.nytimes.com/2021/07/28/arts/design/george-rhoads-dead.html>

Letters by George Rhoads and original models by the artist can be found at the Museo del Origami in Colonia, Uruguay and at the British Origami Society.

Wikipedia has lots of information about Rhoads' life and career.



A donkey, a pig and an armadillo. Gifts by George Rhoads to his sister, Emily. (Photo courtesy of Emily Rhoads Johnson)



Two dogs



Lion



LEFT. Aardvark. ABOVE. Dancing Monkeys

# How Rhoads Became an Origami Star in the 1950s

*It was shocking to discover that George Rhoads created most of his figures within a span of a few months in 1953. From being a newcomer in paperfolding, he excelled beyond the imaginable.*

by Laura Rozenberg

*“The best folder in the world after Akira Yoshizawa”. With these words, Gershon Legman introduced George Rhoads to Lillian Oppenheimer, founder of the Origami Center of America located in New York, in a letter dated July 16, 1958. He went on describing Rhoads as “young” (he was 32), “a wonderful personality,” “very tall and grave and looking about like a cross between Abraham Lincoln and Henry Fonda.”*

The letters (and this is the focus of this story), bring to light the way –and the unusual speed – with which Rhoads created his origami figures. It's hard to believe that he was able to produce most of them, including his most iconic pieces, in a span of a few weeks. The dates can be established from a couple of letters with daily entries that Rhoads sent to Legman between November and December, 1953.

## A smart idea, a simple folding

His first original model was the “Fardel Bearer.” He announced it in a letter dated November 18, 1953. He wrote: *“This fardel bearer was created first on Friday the 13 of November, 1953.”* Because it was relatively simple, he wondered that someone else might have invented it already. *“I suppose it has been done before*

*because it's simple enough but I can at least claim to have thought of it independently,”* he wrote.

Legman encouraged Rhoads to experiment combining the blintz base with the bird base in order to free paper for more appendages.<sup>1</sup> Immediately Rhoads began to send Legman one idea after another, some of which contained the seeds of Legman's guidance.

In the same letter of November 18, he said he had completed a Spanish Toro (bull) and Toreador (bull fighter), a dachshund, a boxer dog, a rhinoceros, a lion, a giraffe, and a frog.

The next entry in his diary (November 19) has Rhoads working on *“a hind leg for my antelope deer”*. He also continued working on the giraffe but he didn't like the outcome.

On November 24, he announced a duck and a pig. Then a *“monstrous but ingenious inflatable octopus”* out of a blintz bird base.

After the New Year, more figures followed.

## Rhoads' Origami Landmarks

March 7, 1954, marked the culmination of Rhoads' creative fever, when he triumphantly sent Legman his final



Fardel Bearer, November 11, 1953



The four-legged elephant. March 7, 1954



Frog



T-Rex (1953)



Bear



Armadillo



Hog (1953)

model of a paperfolded elephant. Legman could not be more pleased with his “pupil.” Based on blintzed bird base, Rhoads managed to create an elephant complete with tusks, tail and four legs without the need of cutting the paper. The model was folded out of a sheet of handwritten air mail, light-weight paper. It is still in mint condition, preserved at the Museo del Origami in Colonia. No one in the origami community worldwide had managed to create a four-legged animal without cutting. Rhoads’ was the first one.



Duck



Pig



Dromedary (1953)

About a year later, Rhoads mailed to Legman his masterpiece, the same elephant on “vellum” paper painted with black tempera (see picture and details on page 29).

Legman was in awe. He photocopied the instructions for the elephant and sent them to folders in United States and Japan. “*You are an international figure now,*” he proclaimed.<sup>2</sup> He had the model photographed and wrote on the back of the picture his admiration for the artist: “*This is the most remarkable ‘pure’ paper folding ever made outside of the Orient.*”

Soon, Rhoads became part of a small network of exceptionally talented paperfolders around the globe. He corresponded with Sam Randlett in the United States, Robert Harbin in England and Ligia Montoya in Argentina, among others.

Rhoads’ ingenuity has been described by Legman as “*a tour de force that opened up a whole new system of making four footed animals.*”<sup>3</sup>

In the years that followed, Rhoads moved to New York, and in 1958 he was invited by Lillian Oppenheimer, the founder of The Origami Center of America, to help organize an origami exhibition at the Copper Union Museum. *Plane Geometry & Fancy Figures* (1959) showcased models by Akira Yoshizawa, Samuel Randlett, Robert Harbin, Giuseppe Baggi and Miguel de Unamuno, among other international artists. Rhoads worked on the displays, and he also brought to the exhibit several figures that caused a sensation.

Among them was his famous elephant, a group of bats, a cardinal, some insects, and an armadillo that illustrated the exhibition catalogue. 🐘

1. Legman, knowing his own limitations as a creator, graciously passed his ideas to his talented “pupil.” This generous gesture paved the way for Rhoads’ advancement and experimentation with paperfolding as it had never been done before in the Western World.

2. Letter from Gershon Legman to George Rhoads (June 24, 1954)

3. Letter from Gershon Legman to Ligia Montoya (September 14, 1954)

# 1954: The Year of the Rhoads Elephant

*The first four-legged origami ever created with one piece of paper*

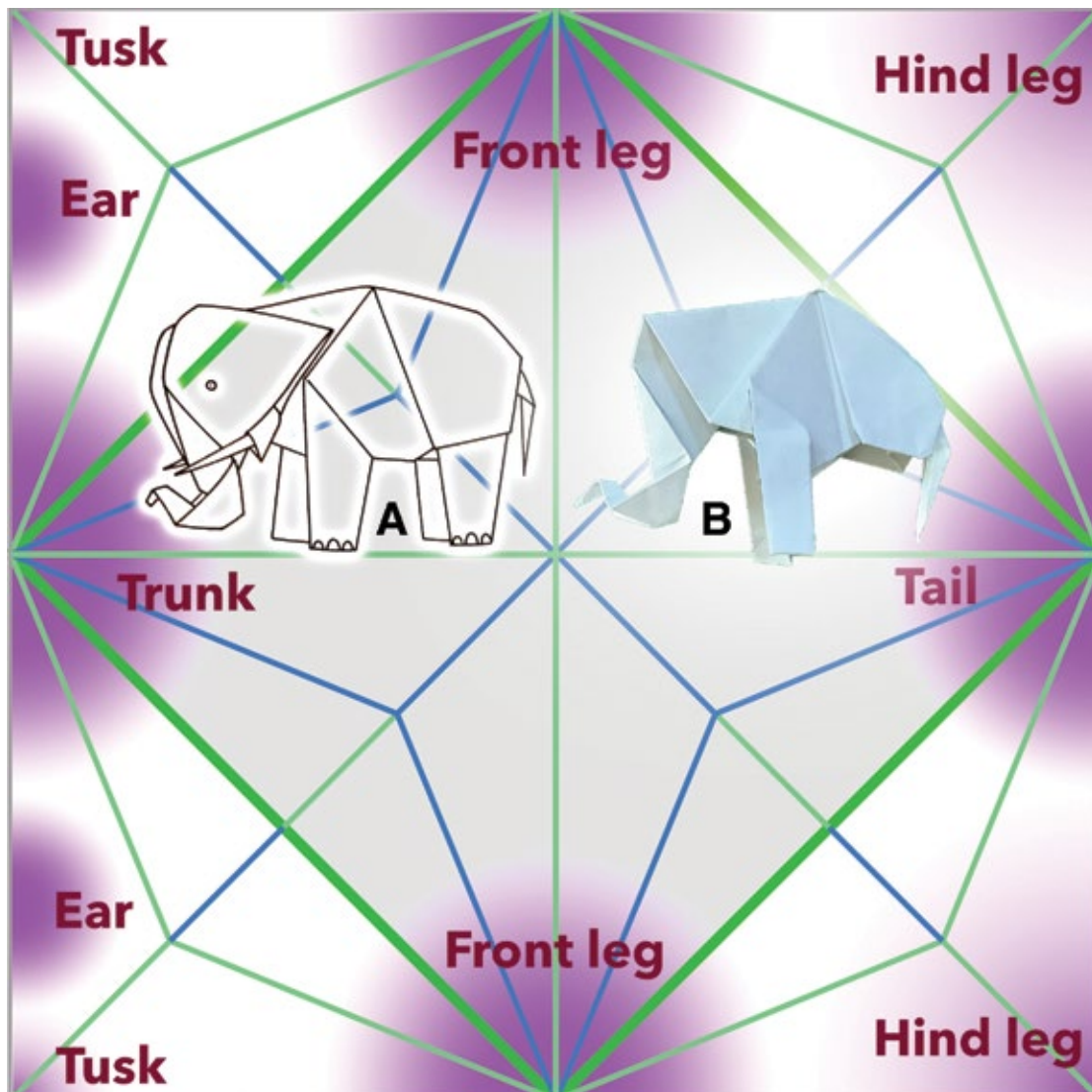
by Hans Dybkjær (Denmark)

George Rhoads' elephant<sup>1</sup> deserves its fame: four legs, trunk, tail, two tusks and two ears, naturalistic origami decades ahead its time. Even many of

Akira Yoshizawa's animals at the time were missing a leg or composed of two pieces of paper.<sup>2</sup>

Today multi-flap models can be designed using techniques such as

circle packing and box pleating, as elaborated in Robert Lang's *Origami Design Secrets*. But back in the mid-20<sup>th</sup> century most traditional origami bases were becoming a barrier.



Crease pattern of the blintzed bird base: A bird base (grey) embedded in the blintz base. The purple areas mark the origin of the flaps of Rhoads' elephant. The elephant line drawing (A) indicates the model-to-paper proportion. The folded "elephant" (B) shows the bird base part of the model. Elephant line drawing (A) copied from original by Jean Randlett [4]. (Crease pattern and elephant "B" by Hans Dybkjær)

Design a giraffe from a bird base? Either miss a tail and a leg, or use multiple sheets of paper.

So how did George Rhoads achieve a 10-flap model? From Legman he got the idea that blintzing bases would add more flaps.<sup>3</sup> A bird base has four flaps, five if you count the centre which is mostly unused. Embedding that into the blintz provides four extra flaps that may be pulled out and used when needed. The ingenious George Rhoads found another 2 bases, bringing the total up to the 10 flaps needed for the complete elephant.

The illustration shows the blintzed bird base crease pattern. The grey area is the bird base embedded in the blintz. The line drawing of the elephant (A)<sup>4</sup> indicates the size of the final model: blintzing consumes a lot of paper.

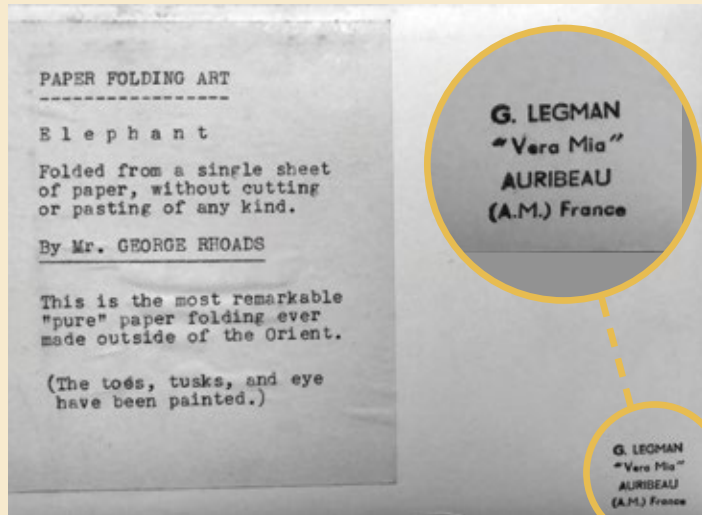
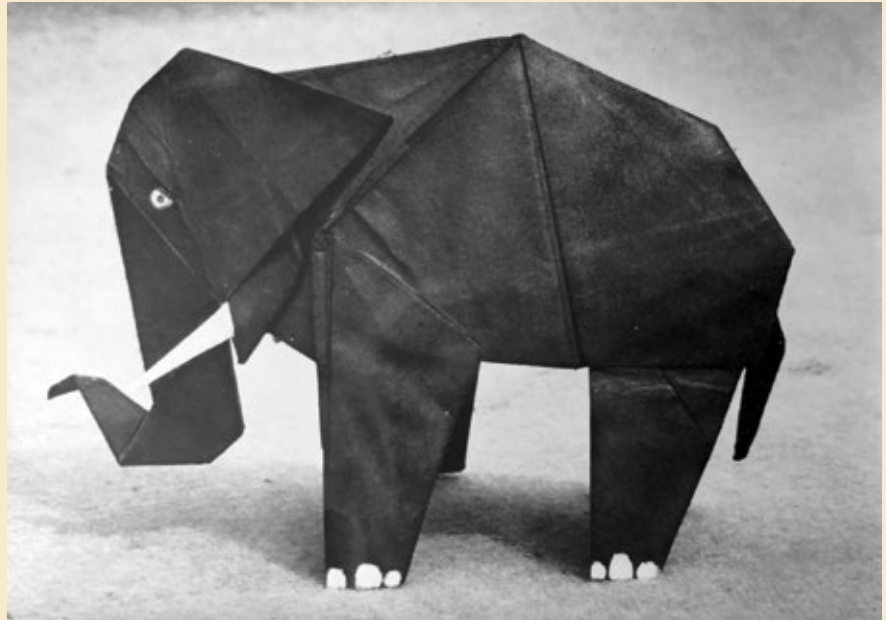
The purple half and quarter circles mark where the different flaps end up. The tusks and hind legs immediately follow from the blintz points, and by clever folding the ears and the skin of the head come from two of the blintz flaps as well.

The folded “elephant” (B) illustrates how it would look without the blintz flaps, using paper only from the bird base. Not surprisingly it lacks the hind legs, the tusks and the ears, and you see the inside of the head.

The reduced elephant hints at how Rhoads might have played with a traditional base elephant and recovered the missing body parts by adding the blintz flaps. 🐘

References:

1. Diagrams are in Samuel Randlett, *The Art of Origami. Paper Folding, Traditional and Modern*, (New York: E. P. Dutton, 1961). Diagrams by Jean Randlett.
2. Such as the giraffe in Akira Yoshizawa, *Sosaku Origami* (Creative Origami). Kamakura Shobo, Tokyo, 1973, page 40. ISBN 1072-0030-0952.
3. Gershon Legman, “Secrets of the Blintz: Historical and Technical.” In *The Origami Companion*, a newsletter created by Dokuohtei Nakano. Part 1 was published in newsletter number 4 (1972). Courtesy of The Gershon Legman Archives, Laura Rozenberg, Museo del Origami, Uruguay
4. Elephant line drawing by Jean Randlett, page 139 in [1]



The black elephant by Rhoads, photographed by Legman in Auribeau, France. (Photo courtesy of Museo del Origami in Colonia, Uruguay)

## The Iconic Black Elephant

The pictures that illustrate this article are photos of Rhoads' models from the Gershon Legman Archives at the Museo del Origami in Colonia, Uruguay. There are about thirty of these works. Of particular interest is a picture – and related letters – of the four-legged elephant created by the artist in 1954.

For years, the original elephant that Rhoads gifted to Legman was

believed lost. However, in 2016 David Brill from England announced that he had found it in a box that Legman's widow sent to the British Origami Society shortly after the death of her husband. The Origami Museum, therefore, maintains a folio with the aforementioned documents and a note reminding that the original piece has been identified as being currently in the collection of the BOS.

L.R.