

THE SURPRISE OF ANAMORPHIC SCULPTURE

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Introduction

Anamorphic art is another way of looking at things: a surprising, interdisciplinary art form that can excite the imagination by presenting us with a new, sometimes "more real than real" point of view.

Anamorphic History

The anamorphic experience can be traced back to the days of ancient Greece, when anamorphic principles were used to create the illusion of perfection that we know as the *Parthenon*¹. Other famous examples of anamorphic art include the anamorphic skull in Hans Holbein's painting, *The Ambassadors*², Leonardo da Vinci's distorted *Child*³, and Disneyland's Main Street.

Anamorphic Definition

Anamorphic art may be defined as an art of illusion, with the artist controlling both the viewpoint and the view. The specific word, here, is *parallax*⁴, which describes the phenomenon of things that appear to change their look or position when the viewer's own position is changed.

My Work

My own work integrates optical principles, reflective and corrective geometry, lost wax and metal casting, and twenty-first century mold-making techniques to create illusions that address myth and legend and, perhaps, a bit of philosophy.

My anamorphic pieces include *Self Portrait*, *Brothers*, and *Alice*.

First Piece: Self Portrait

My first piece was a *Self Portrait* which broke ground in the field of sculptured anamorphia. It implied the "mirror, mirror," feeling so common in today's society, and perhaps dealt a little with the notion of "truth." What is truth? Is it what you see in the sculpture itself, or is it what you see in the mirror? With this first piece, my working method evolved from conventional to intuitive, because, in this new area, the conventional methods, e.g., of geometric projection, could only work up to a certain point.

Second Piece: Brothers

My second piece, *Brothers*, was both a study in more complex reflective surprises, and an exploration of bronze casting and all the technical problems that this involves. It was also the start of my explorations of patinas, or the colored finish of each piece.

Third Piece: Alice

My third piece, inspired by Lewis Carrol's famous book, *Alice in Wonderland*, deals with symbolism, science, and the "magic" qualities of mirrors.

Optical Effects

In all of these works, my goal is to use the symmetrically reflective qualities of curving mirrors about their axes to create asymmetrical images. The sculpture itself is *not* to be the reflection that the viewer sees in the mirror.

I can predict some of the reflections I am creating through simple optical principles. For practical purposes (ignoring space curvature, for the time), light

waves will travel in a straight line until they are deflected or reflected, and the angle that light reflects at, or the reflective angle, will be equal to the angle of incidence, or the angle that the incoming light strikes the mirror⁵. I also refer to the optical "maps" that divide curving mirrors into six basic categories: (1) flat, or plane, surfaces; (2) convex surfaces; (3) concave surfaces; (4) convex cylinders; (5) concave cylinders; and (6) saddle backed surfaces that curve like a saddle. That is, they curve *outward* on one axis, and *inward* on the other axis⁶.

The process of sculptural, as opposed to flat, anamorphia becomes more difficult, however, because it deals with three axes: x, y, and z. Optical surprises often revolve around this fact.

Multidisciplines, Symbols, and Surprises

Surprises in the philosophical field evolve through the use of symbolism. I found *Alice in Wonderland* to be a perfect vehicle because of its dynamic involvement with many disciplines, as Lewis Carrol mixes satire and science together into an extraordinary work of art. The dynamics come from the Victorian environment itself, where people like James Clark Maxwell and Michael Faraday were laying the foundations of electro-magnetism, Darwin was involved with his unprecedented theories of evolution, Jules Verne was writing predictive fiction that still influences scientific directions today, and the first cameras were changing the way we look at space, as well as at art.

Future Plans

This Victorian source, with its mixture of scientific fact and fantasy, is too rich for a single piece, so I plan a series of twelve anamorphic sculptures: one for each *Alice* chapter, compressing the essence of the chapter into symbolic form.

I'll be investigating other mirror configurations, a bell-shaped reflective surface, for example. Then I want to take a distorted sculpture and create a distorted image, as when Alice eats the mushroom and her neck grows.

An Art of Imagination

Anamorphia is endlessly intriguing because it brings together so many disciplines and interests: optics, the geometry of perspective, illusion and transformation and the slightly slanted view. Taking the symmetrical light reflection, it twists the angle--to offer new dimensions and surprises in the worlds of imagination and art.

¹ "Light and Matter: Refraction and Dispersion." *Compton's Encyclopedia, Online Edition*. Downloaded from America Online May 12, 1995.

² Martin Gardner, "Mathematical Games: The Curious Magic of Anamorphic Art," *Scientific American*, January 1975, 110,

³ Gardner

⁴ Jess Stein, Editor in Chief, *The Random House Dictionary of the English Language*, 1966.

⁵ Carle, Mark A., Mickey Sarquis, and Louise Mary Nolan, Ph.D., *Physical Science: The Challenge of Discovery*. (Massachusetts/Toronto, Ontario: D.C. Heath and Company, 1991)

⁶ Gardner.