Jay Hambidge

The Elements of Dynamic Symmetry

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ARH 490/590 Twentieth Century Language and Vision Seminar

Jay Hambidge (1867-1924) was a Canadian born American artist and writer whose chief contribution is considered to be his influential book, *The Elements of Dynamic Symmetry*. The book is based on a series of lectures concerning pictorial composition delivered around 1916 and the refinement of his ideas in such publications as *The Diagonal* that Hambidge published in Europe in 1919 and 1920. His collected writings, which include a number of his geometric renderings, were published posthumously by Yale University Press and later mass-produced by Dover.

Hambidge had what appeared to be a happy, though brief, marriage to Mary Lee Crovett. After his death she established the Hambidge Center for Creative Arts and Sciences in north Georgia, an artists' residency program partly based on Hambidge's theories. Mary appears to have been quite the character having worked as a model and professional whistler and owning a pet mockingbird named Jimmy. She owned the rights to *The Elements of Dynamic Symmetry* at her death in 1974. All publications of the work have been with her consent. Several books by imitators have been published since the last print run of *The Elements of Dynamic Symmetry* in 1967, but it is still considered the modern classic dealing with these ideas.

Though the geometrical compositions used by Hambidge were not new he tried to establish a scientific basis for a concept that had historically had a variety of metaphysical interpretations. The golden rectangle, section, ratio, spiral or what Hambidge calls dynamic symmetry has a long history. The golden ratio is 1.6180339… and is represented by the Greek letter *phi* in mathematics. It is intrinsically linked with the summation series also called the Fibonacci series after the Italian mathematician Leonardo of Pisa, known as Fibonacci (1170-1250). In the summation series each number

is the sum of the two preceding numbers in the series as in: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34. In painting and two-dimensional design the substrate is divided along these principles using its length and width. Many artists use this method of composition. Besides Hambidge, who clearly used the golden rectangle in his paintings, George Bellows incorporated these ideas into his work after attending Hambidge's lectures.

The European art academies routinely taught the golden ratio and most artists of that tradition would have used it or, at least, been well aware of it. Some modern and contemporary artists not directly associated with Hambidge also used these design principles. Salvador Dali is known to have based the composition of *The Sacrament of the Last Supper* on the golden rectangle and Piet Mondrian based much of his work on it as well.

The formula possibly goes back as far as the Egyptians but was certainly known to the Greeks. The sculptor Pheidias utilized it and Euclid wrote about it extensively in his *Elements*. The golden ratio has been used to create harmony in all the arts including music, sculpture and architecture. It has always been utilized by some element in Western societies including Islamic artists and the architects and masons who built the Gothic cathedrals. The goal was perfect harmony and it is closely related to the golden mean that Aristotle described as the desirable middle between extremes.

In the nineteenth century thinkers began to search for a more scientific basis for what was basically a mysterious underlying principle of aesthetics. There is a widespread belief that much, if not all, of nature grows according to the golden ratio. Spiral galaxies, sunflowers, the human body and the nautilus shell have all been associated with the design principles of the golden ratio. In biology this is called the law of phyllotaxis or

spiral symmetry. In such a scenario the human eye and brain might have developed in the same incremental system used to divide the pictorial space of a painting. The German psychologist Gustav Fechner (1801-1887) performed a number of experiments attempting to prove that perception worked in the same progressive stages as the Fibonacci series and that certain abstract forms are more naturally pleasing to the senses. But modern scholars are skeptical of these assertions and note that this is "only one of a large number of such ratios."[1] Concerning the "question of aesthetic universals…it is most likely the don't exist. It is cultural authority and tradition that creates them, although they may be shaped by 'universals' associated with cognitive systems."[2]

In *The Elements of Dynamic Symmetry* Hambidge expands upon these old ideas and adds a new philosophical dimension for artists. He asks whether or not composition should be mechanically prescribed and based on a fixed set of rules. Hambidge argues that his contemporaries should "recover the themes of classical design."[3] He believed that by building their compositions around these traditions artists would be more likely to produce aesthetically pleasing results. Hambidge wrote that he "could not entirely agree with the modern tendency to regard design as purely instinctual."[4] Philosophers debate the relationship between mathematics and human experience but the golden ratio is a traditional compositional standard used by many painters, photographers and architects today.

1. Subhash Kak, “The Golden Mean and the Physics of Aesthetics,” *Foarm Magazine*, no. 5 (2006): 73.

2. ibid. 80.

3. Jay Hambidge, *The Elements of Dynamic Symmetry*, (New York: Dover Publications, 1967), xi.

4. ibid. xvi.