

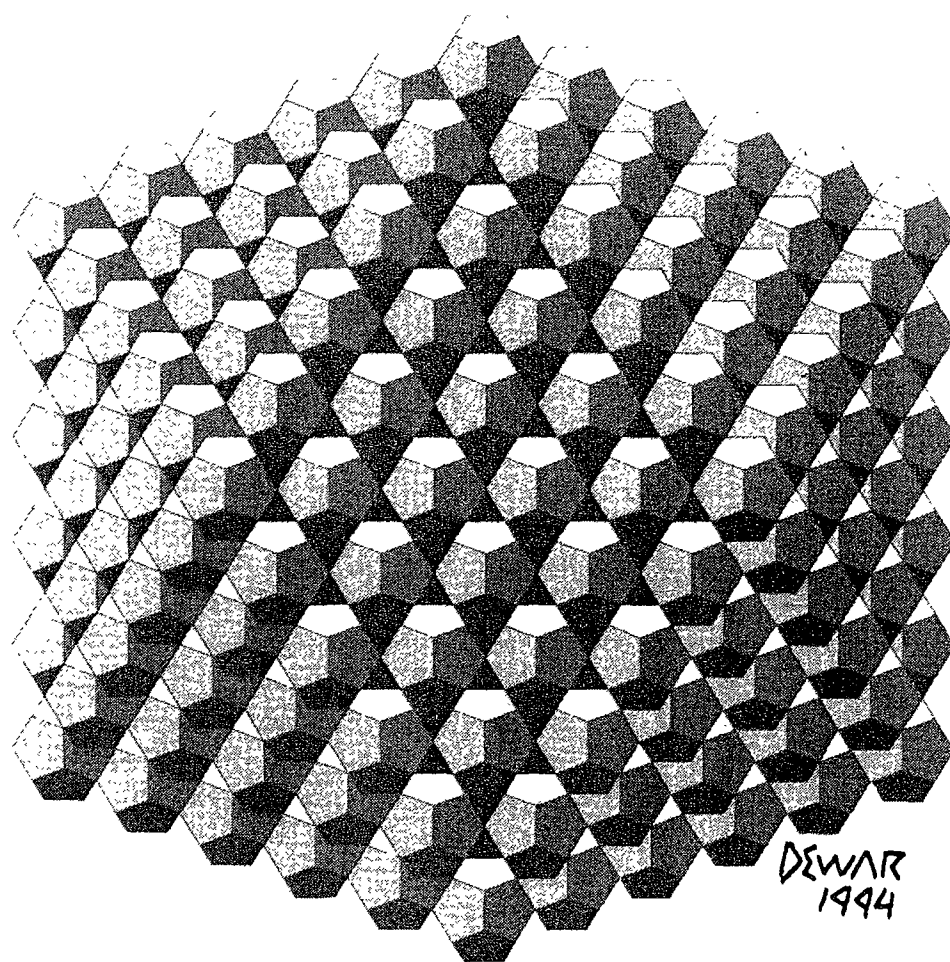
Symmetry: Culture and Science

Symmetry:
Natural and Artificial, 1

The Quarterly of the
International Society for the
Interdisciplinary Study of Symmetry
(ISIS-Symmetry)

Editors:
György Darvas and Dénes Nagy

Volume 6, Number 1, 1995



Third Interdisciplinary Symmetry Congress and Exhibition
Washington, D.C., U.S.A. August 14 - 20, 1995

**Crossing the Threshold: The Process and Interpretation of
The Helix, the Equipoise and the Praxis
 (Paris, 1992)**

E.A. Edwards

Visual Arts Program, Academy of the Arts, Queensland University of Technology
 Brisbane, Queensland, Australia
 E-mail: e.edwards@qut.edu.au

The square and the spiral have functioned throughout history as significant catalysts for both artists and scientists. They function as archetypal and primal metaphors appearing abundantly in nature. The square can be interpreted as representing absolute unity, or the *a priori*— original square defined by Leibnitz as the “monad”[1]. The division of the square can be seen as the separation of Unity. It can also be interpreted as a metaphor for the split between Heaven and Earth which is enclosed by the Universe. In the book, *Sacred Geometry*, Robert Lawlor notes that “The square and its gnomon...serve as an archetypal image of certain kinds of growth in nature, and as an image of time and evolution itself”[2].

The diagonally divided square is used throughout the installation, *The Helix, the Equipoise and the Praxis*. The work was completed in Paris in 1992, and was developed, as were subsequent works, by what E.H. Gombrich identifies as “perhaps the first treatise on Design”. The text *Methodé pour faire une infinité de desseins différents avec des carreaux mi-partis de deux couleurs par une Ligne diagonale, ou observations du P. Dominique Douat Religieux Carme de la Province de Toulouse sur un mémoire inséré dans l’histoire de l’Académie Royale des Sciences de Paris l’année 1704, présenté par R.P. Sebastien Truchet Religieux du même ordre, Académicien honoraire* (Paris,1722)[3].

The installation, *Cosine/Cotangent* (1994), implies the mystery of number and its magical qualities as they relate to energy and wave patterns. Number also elicits a “state of internal mystery, executing part of an infinite total” [4]. This view is reflected by E.H. Gombrich’s statement that “God speaks to man in symbols...the result in our terms is either Beauty or Mystery” [5]. Interpreting these symbols from a philosophical /psychological point of view, has opened the threshold for many possibilities in my work. Beauty and mystery are often represented through symmetry. Symmetry, in turn, may be defined as “Beauty or Harmony of Form resulting from a symmetrical or nearly symmetrical arrangement of parts” [6].

The Helix, the Equipoise, and the Praxis (1992), unites the formal elements of Balance, Harmony, and Repetition. Opposing forces move towards equilibrium, and as the divided square is unified, the archetypal form appears and is imprinted. A collision of elements, constant yet polar remains, and holds the viewer in a sensation of Unity. In the work *Gnomonic Spiral* (1994), an animation, the spiral infinitely expands, contracts and repeats. I have attempted to give it the vital motion that lay dormant in its mathematical potential. Through the use of the computer I have been able to attempt to develop its mathematical perfection.

The Helix, the Equipoise and the Praxis (1992), is comprised of over two thousand tightly rolled newspaper rods. As a completed work, it takes a minimum of 3 days to install and measures 4.5m X 9m X 1m. A devotion to tolerance is evidenced by many rituals which intersect the fields of Art, Religion and Science.

The sand paintings of the Mandala produced by Tibetan monks illustrate the patience required for such extreme repetitive action and increases the capacity to move the psyche progressively into a trance-like state [7]. As in the *Art of Thought*, Wallas describes a similar state, as the “Fringe consciousness” where “a mental picture or internal word... can present itself in the full consciousness or in the fringe consciousness of the recipient” [8].

The spontaneous nature of intuitive play, is necessary within the framework of the creative process. Also the negative aspects of frustration and manic exhaustion cause either momentum or inertia. In regard to this, Poincaré notes that “We think we have done no good, because we have moved these elements a thousand different ways in seeking to assemble them and have found no satisfactory aggregate.” [9]. In the end the artist and scientist both seek that aggregate—that entire resolution and completeness both physical and/or conceptual. Often the “thousand different ways” of which Poincaré speaks, involves patience by virtue of the necessity for many trials and/or experiments. Although not entirely in agreement, Hadamard restates an excerpt from Buffon’s thesis in *The Psychology of Invention in the Mathematical field* [10], that “genius may often be nothing else than a long patience”.

Newton reduced his visual world to mathematical relationships and ultimately made the objects which he created through his theorems[11]. An equation, hypothesis or idea has a potentially autonomous nature. Newton states that an

equation must seek, “a genesis of its own in order to seek its equilibrium or resting place”[12]. Hadamard reframes Newton’s view that the “... act of studying a question consists of mobilising ideas, not just any one, but those from which we might reasonably expect the desired solution” and “ A continuous course of thought” is “constantly directed toward its goal” [13].

The divided square, its subsequent permutations, and related gnomonic spiral, are inherently symmetrical. The transformational links in *The Helix, the Equipoise and the Praxis* (1992), aim to imbue the viewer with a sense interest in the process of inquiry. Teilhard de Chardin states “Transformation equals energy. Energy is the purist sort of Primordial Flux” [14]—perhaps the *quinta essentia*.

BIBLIOGRAPHY/REFERENCES

1. G. W. Leibniz, *Discourse on Metaphysics, Correspondence with Arnauld, Monadology* (LaSalle Open Court, 1902) pp. 251
2. R. Lawlor, *Sacred Geometry: philosophy and practice* (New York: Thames and Hudson, 1989) pp. 73
3. E. H. Gombrich, *The Sense of Order: A study in the psychology of decorative art*(U.K. Phadion, 1984) pp 70-72
4. See Lawlor [2]
5. E.H. Gombrich, *Symbolic Images. studies in the art of the renaissance II* (U.K. : Phadion, 1978) pp. 152
6. G. Wilson, *Standard College Dictionary* (New York: Harcourt, Brace & World, 1963)pp. 1357
7. J. Hadamard, *The Psychology of Invention in the Mathematical Field* (New York: Dover, 1954) pp. 38
8. See Hadamard [7]
9. J. Hadamard, *The Psychology of Invention in the Mathematical Field* (New York: Dover, 1954) pp 44
10. See Hadamard [7]
11. Hadamard [7]
12. Hadamard [7]
13. Hadamard [7]
14. T. de Chardin, *The Phenomenon of Man*, (New York: Harper and Row, 1975) pp 42