

# Propylaea

by Kevin Halpin

As soon as it could, the universe created the sphere. Today, the ratio between a circle's diameter and its circumference, pi, is essential to all fields of science and mathematics. Modern technology would not function without it, and the applications of pi in the various fields of physics, engineering and even chemistry are very broad, as are its applications in other fields such as probability and statistics which involve no circles or circular motion. The circle and the sphere are the least of what pi can do. Despite this, who has ever heard an explanation of how? How does pi arrive at 3.14159265358979... when a single revolution of a circle arrives at the same value? Why is this number, of all numbers, the number that must be the ratio between a circle's diameter and its circumference?

*Propylaea* explains for the first time how pi is the ratio for a circle's circumference and why it is connected to the form of the circle. An understanding of pi allows for a new quantification and understanding of logarithmic spirals, the Pythagorean theorem, new equations for the calculation of arcs, new procedures for the calculation of the circumferences or areas of ellipses, an explanation for its manifestation in the 'needle dropping' phenomenon, and much more. All these discoveries are significant in themselves, but they interrelate precisely and remain consistent as a whole with the discoveries in the previous works. That is the greater discovery: the model of information being developed in these works of philosophy is the model used by the laws of nature, allowing for whole new fields of research in science, mathematics and natural philosophy.