



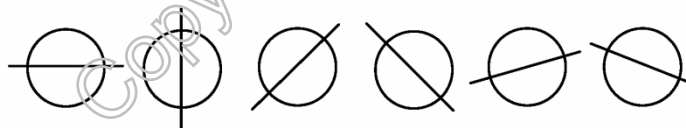
In Tibetan Buddhism, the circle is embodied in the almighty wheel (etymologically, something that “goes round”), symbolic of the Buddha’s Dharma. To meet the Buddha is to encounter the turning of the wheel of the Dharma. And so there is the wheel of life, the wheel of enlightenment, the wheel which represents the universe and the wheels of prayer. The renown mantra “Om mani padme hum” is written onto these prayer wheels and said to gain power and spread when the wheel is turned. The six syllables of this mantra of Avalokitesvara, deity of compassion, are also written on numerous pieces of paper inside the prayer wheel.

When symbols first appeared, their purpose apparently was to focus the minds of humans solely on the Infinite One. In the beginning, only three symbols were used: the circle, the equilateral triangle (all three sides are of equal length) and the square. Of these three, only the circle is absolutely geometrically perfect.

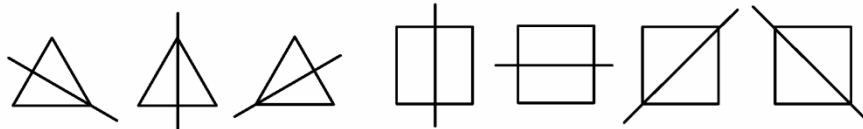
Any axis drawn through the center of the circle not only divides the circle exactly in half but is an axis of symmetry. That is, reflect half of the circle about that axis and you get the other half of the circle. Hence the circle is infinitely symmetric. Neither the equilateral triangle or the square is infinitely symmetric (see illustration). In fact, no other geometric figure period is infinitely symmetric. No other geometric figure has all its points equidistant from its center like the circle. That makes the circle unique.

For the ancients who were both mathematicians and philosophers, unique is a most fitting word for the circle as it derives from the Latin “unus” meaning “one” and that is precisely what the circle represented to them—one. No wonder then that the universe (literally “turned into one”) began with the one, the circle that is.

Fold an object along its axis of symmetry and one part folds perfectly into the other



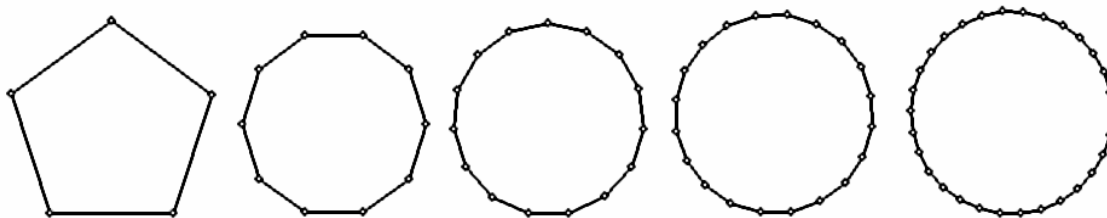
6 of the circle's infinitely many axes of symmetry



Equilateral triangle has 3

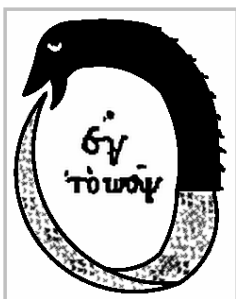
Square has 4

Within this symbol of unity are born all regular polygons for the circle is the only geometric figure that can circumscribe all regular polygons. If a regular polygon has enough sides, it assumes a circular appearance. Increase the number of sides to infinity and a regular polygon ultimately becomes the circle.



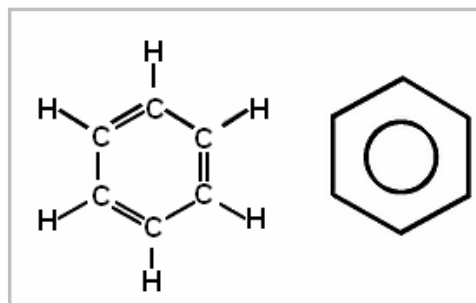
As the number of sides in a regular polygon increase, the polygon increasingly assumes a circular shape. From left to right: 5 sides, 10 sides, 15 sides, 20 sides, 30 sides.

The 19th century German chemist Friedrich August Kekule provided a striking example of this intimate relationship between the circle and its inscribed polygons. While conducting research into the molecular structure of benzene, Kekule fell asleep. In the dream state, he envisioned an age old image: a serpent contorted into a circle as it swallowed its own tail, thereby conjoining its beginning (mouth) with its end (tail). Kekule interpreted his dream symbol to mean that the benzene molecule was a closed ring, a hexagonal (six-sided polygon) ring. He was correct but was it because he recognized the special relationship between this particular polygon (a regular six-sided one) and the circle in which it is inscribed? In a subsequent chapter, we shall explore this special relationship.



An ouroboros as it appeared in a 3rd century BC Greek manuscript entitled *Chrysopoeia* or *Gold Making*. The serpent encompasses an inscription, the meaning of which is "all is one." It also is self-embracing, uniting its polarity of black and white into one indivisible whole. As this was an alchemical manuscript written by that early female alchemist Cleopatra, perhaps there is more to the story of Cleo and her asp than is known.

Two modern chemical symbols of the hexagonal benzene ring C_6H_6 that Kekule deduced after envisioning an ouroboros in the dream state. There are six Carbon and six Hydrogen atoms with three double bonds of Carbon. The three double bonds of Carbon (represented by the double lines) is something to take note of in terms of number and the symmetry of every other bond. In light of sacred geometric explorations in later chapters, the three of the equilateral triangle is connected to the six of the hexagon and of the unity of the circle. The hexagon with the circle in its interior is another symbolic representation of benzene.



Similar symbols appeared throughout time and diverse cultures, seeming to cross pollinate as the serpent assumed snake-like or dragon-like appearances depending



upon the culture. The serpent appeared on Roman coins, Egyptian papyri, Oriental vases and Syrian amulets among other places. But always it would be circular in shape, the “tail-devourer” as is the meaning of “ouroboros.” Symbolically it always meant the circle itself as representative of the whole, one, unity, completion, endless cycle, and the primeval waters. It was rebirth, immortality and the perpetual movement of the cosmos; it was no beginning and no end; it was the endless cycle of life and death, good and evil, night and day, heaven and earth.

Symbolic pictures with accompanying text emerged during the 16th century and remained in vogue for over 200 years. These were called Emblems and Emblem books seemed to capture people’s imagination, heavily influencing the visual and literary arts. The ouroboros was featured in the Emblems of two renown works in particular, reflecting the themes of eternity and no beginning and no ending. But they also echoed the themes of a “flower” and water, both of which are intimately tied to the circle in terms of sacred geometry.



Illustration XL from George Wither's *A Collection of Emblemes, Ancient and Moderne* (London, 1635)

The Greek letters rimming the circumference of the circle translates as “timeless” and “timely.” A portion of the text accompanying the Emblem appears below:

*Time is a Fading-flowre, that's found
Within Eternities wide round.*

Five *Termes*, there be, which five I doe apply
To all, that *was*, and *is*, and *shall be done*.
The *first*, and *last*, is that ETERNITIE,
Which, neither shall have *End*, nor, was *begunne*.
BEGINNING, is the *next*; which, is a space
(Or moment rather) scarce imaginarie,

Made, when the first *Materiall*, formed was;
And, then, forbidden, longer time time tarry.
TIME entred, when, BEG NNING had an *Ending*,
And, is a Progresse, all the workes of *Nature*,
Within the circuit of it, comprehending,
Ev'n till the *period*, of the *Outward-creature*.

TIME'S nature, by the *Fading-flowre*, appears;
Which, is a *Type*, of Transitory things:
The *Circled-snake*, ETERNITIE declares;
Within whose *Round*, each fading Creature, springs.
Some *Riddles* more, to utter, I intended,
But, lo; a sudden stop, my words have ended.



Emblem 133 from *Emblematum Liber* or *Book of Emblems* by Andrea Alciato. First published in 1531, this book assembles 212 illustrations accompanied by a motto or proverb and text into one collection.

That immortality is attained by literary studies
Triton, the trumpeter of Neptune (whose lower part shows he is a sea-monster, whose face shows him to be a god), is enclosed in the middle of a circle of a snake, who seizes his tail in his mouth with his teeth. Fame pursues men worthy in spirit and their splendid deeds, and commands that they be read by all the world.

Wrapping itself around to swallow its own tail, the ouroboros completes 360° of arc in mathematical terminology. In gematria, these 360 angular units reduce to the number 9,