

## A SEMIOTIC FOLLY: SEEKING THE OPPOSITE OF A CIRCLE

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**Abstract:** *This paper touches upon two seminal ideas: the concept of 'the circle' and the concept of 'oppositeness'. The idea of an 'opposite' can be applied to many things and concepts, but there would seem to be limits to such application, suggesting an impossibility of there being a 'pure opposite' of anything. This paper has therefore sought, through a consideration of the concept of 'the circle' to explore whether such limits are indeed absolute or whether there are alternate ways of approaching the question of 'what is an opposite'. By considering a circle according to the hierarchy approach of the semiotic nonagon – form, existence and value – the conclusion is reached that there is an array of circle characteristics to which forms of opposition to 'circleness' may be identified in each. Though not the reach of this paper, the residual task would then be to use the semiotic nonagon triadic analysis to find a holistic opposite which may combine all these oppositional characteristics into some unitary idea.*

Keywords: Semiotic Nonagon; Circle, Opposites.

### INTRODUCTION

Some years ago, in one of my regular communications with William Huff, I mentioned I had been toying with the question: What is the opposite of a Circle? At the time, my thinking had focussed on the idea of creating a series of panels, each of which was to explore characteristics of 'oppositeness' to the idea of a circle, but all in search of some 'holy grail' of a convincing and overarching opposite form. As I considered the matter further, I realised that traditional linguistic concepts of 'opposite',

‘antonym’ or ‘antithesis’ all had limitations in addressing the question. At this point I encountered the significant work done by Claudio Guerri on the development of the Semiotic Nonagon concept of Charles Peirce; in particular, I noted this statement (Guerri, 2004;4):

*Any sign ... can be analysed in a first, second or third trichotomy. The use of the terminologies Form, Existence, and Value, as well as Firstness, Secondness, and Thirdness are the most abstract ways to confront the trichotomy of the sign.*

This necessitated a revision to the original question to one that instead analysed characteristics of ‘circleness’ to which specific juxtapositions might be considered, with no overarching singular opposite being possible. This would then give rise to a tapestry of oppositional elements which might approach the original question, even if only asymptotically. While this paper does not achieve the creation of a semiotic nonagon for a circle and its relationship to potential opposites, it has used its idea of the Peircean categories (Firstness, Secondness, Thirdness or Form, Existence, Value as Guerri describes it) in exploring the question about ‘What is the opposite of a Circle?’

## **THE SEMIOTIC NONAGON AS AN ANALYTICAL TOOL**

The question of ‘what is the opposite of a circle’ presumes not just clarity as to the simple definition of a sign such as a circle, but an understanding of concepts implicit within that sign. The idea of opposite must therefore address not just the simple definition but also those implicit concepts. This requires a project beyond random reflection; in other words, it needs a rational schema where complexity is described as simply as possible. Seeking such an analytical tool led me to the Semiotic Nonagon, the concept of Charles Peirce as adapted by Claudio Guerri. Writing about this, Guerri has stated:

*The Semiotic Nonagon acting in different ways, prioritizes the possibility to comprehend, to analyze, and to produce signs ... and allows a phenomenological description.* [Guerri, 2004; p3]

While this paper does not proceed to the full development of a semiotic nonagon that establishes triadic relationships between the three approaches of the Peirce/Guerri model, it does utilise the analytical lens of those three approaches. In particular, as stated in the introduction, the idea of Firstness, Secondness and Thirdness has been morphed by Guerri into a hierarchy of Form, Existence and Value. It is this typology which I have used in exploring the question of the opposite of a circle.

## CHARACTERISTICS OF THE CIRCLE

Euclid, in Book 1 of his work *Elements*, defined a circle as:

*A plane figure bounded by one curved line, and such that all straight lines drawn from a certain point within it to the bounding line, are equal. The bounding line is called its circumference and the point, its centre.*

This may be taken as a statement of its Form. But the concept of ‘circle’ has deeper elements of being which equate to the Existence and Value perspectives of the semiotic nonagon. We can talk of a ‘circle of friends’ and the cycle (in reality, the circle) of life amongst other ideas beyond a mere geometric form. Furthermore, there can there be metaphysical considerations applied to the form of the circle. According to Aristotle, the mythical Hermes Trismegistus was said to have commented on a metaphysical idea of the circle (cited in Victorinus, C12):

*God is a circle whose centre is everywhere and whose circumference is nowhere.*

## AN EXPLORATION OF OPPOSITES

With these three different ways of considering a circle – Form (geometry), Existence (concept) and Value (philosophy) – we may then consider a range of opposites to each. The question will then arise as to whether this hierarchy of opposites may contribute to some overarching concept of opposite which may link the individual elements into some meaningful whole.

## OPPOSITE OF FORM

There is no complete opposite to the geometric form of a circle but there are some candidates that address various characteristics of the circle. Two of these being:

A circle is a curve – a straight line (a side in a polygon) has no curve

A circle has no beginning or end – a finite line (or a side) has a beginning and an end

Given these two characteristics of a circle and their opposites, one option for a geometric opposite of a circle which has aesthetic appeal is the Apeirogon – a polygon with an infinite number of sides, for it has no curve while a circle has no straight line. Furthermore, the infinite number of lines (sides) in the former, implies an infinite number of line beginnings and endings, unlike the absence of such features in a circle. The result being two figures which appear identical to each other but are oppositely constructed. However, there are other characteristics of a circle to which the apeirogon cannot offer opposition. Both, for example, have a notional centre point which is equidistant from all points on the surface; and both bound a space contained within. Geometric opposites to these

characteristics require a geometric figure that has no equidistant centre point and no contained space within its bounds. The closest geometry with those features is an unbounded open space with no lines whatsoever; or a single point, which is neither line nor curve, and which sits in the centre of an infinite space and is infinitely distant from its outer limit.

## OPPOSITE OF EXISTENCE

The ‘existence’ of a circle might be considered to include characteristics such as descriptions of function and purpose but more generally deal with a higher order of ‘nature’ than mere geometric form. Potential opposites must contend against such perceived function or purpose. Inasmuch as a circle might contain a set of constituents (eg a circle of friends), its opposite would also be a mathematical (if not geometrical) circle – the set of all non-constituents (ie non-friends in this instance). But this opposite is itself contingent upon that to which it is opposite; for, in the words of Albert Schweitzer, a person may:

*Extend his circle of compassion to include all living things.* [Meyer, 2002]

In other words, its oppositeness is contingent rather than absolute; the former only existing because of the object to which it is opposite, the latter, however, being able to exist independently of it.

In terms of a higher order of ‘nature’, Vitruvius proposed a type of opposition between circle and square in the drawing most famously reproduced by Leonardo da Vinci which contrasted the divine (symbolised by a circle) and the temporal (symbolised by a square) with the human form being the bridge between these two ‘pure’ forms.

Other cultures also sought to contrast relationship of function between the divine and the temporal through form. The Zia symbol of Native Americans being a case in point. In a metaphor of the Vitruvian Man, Jean Constant has artistically explored the theme of the contrasted relationship between the universal (circle) and the temporal (straight lines), by converting a Zia symbol into rectangles.

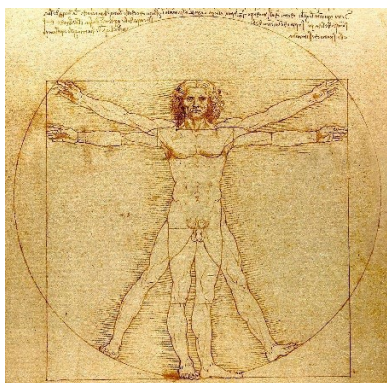


Figure 1 Leonardo da Vinci's representation of Vitruvius' of the relationship



Figure 2 Zia symbol

between the divine (circle) and the temporal (square), c1490 [public domain].

[public domain].

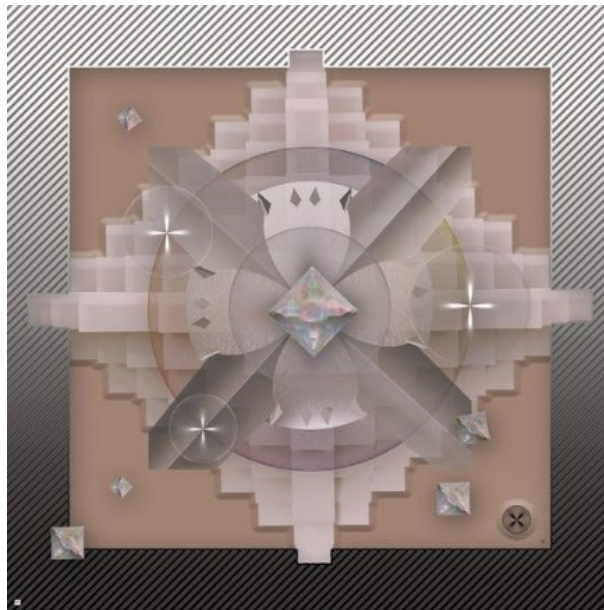


Figure 3 Art piece by Jean Constant where a circle has been converted into rectangles turning ‘into something close to a Zia symbol’ symbol. [Constant, 2021]

Another ancient writer, Plato, also supported what might be considered opposition between two forms of geometry – in his case the triangle and the circle, representing respectively the real and the surreal. In *Timaeus*, Plato contended that a circle was a divine creation well beyond human capacity:

*... [God] made this world one complete whole, consisting of parts that are all wholes, and subject neither to age nor to disease. The shape he gave it was similar to its nature. A suitable shape for a living being that was to contain within itself all living beings would be a figure that contains all possible figures within itself. Therefore, he turned it into a rounded spherical shape ... the figure that of all is the most complete ... [Lee, 1977; p22]*

In his work *Cratylus*, Plato further contended that a perfect circle could not be drawn as it could only exist in a place ‘above heaven’; while, in contrast, again in *Timaeus*, he argued that the triangle was the most fundamental temporal shape, defining it thus:

*In the first place ... fire, earth, water and air are bodies; and all bodies have depth. Depth ... must be bounded by surfaces, and all rectilinear surfaces are composed of triangles. [Lee, 1977; 45]*

So, in terms of Existence, perhaps both triangles and squares may be considered opposites to the idea of a circle; with a triangle being the simplest 2-dimensional form possible from finite elements, and a square being its simplest construct.

## OPPOSITE OF VALUE

Plato's reflections of geometric shapes would take us to the next stage of the three-step hierarchy. The proposition that the circle may be considered more than just the ideal form suggested by him, but also aspire to a philosophical or even metaphysical analysis, has been echoed through the ages. As such the circle has been seen as the representation of absolute order, indeed of perfect symmetry. In this context, its opposite must speak into that issue of perfection, order and symmetry. The opposite presumably would then be asymmetric and without order. A representation of randomness being the result, in other words a representation of chaos.

But there is also another possibility, the Torah opens with a message that God created the circle of all being from its antithesis:

*In the beginning, God created the heavens and the earth, and the earth being without form and empty [Gen 1:1-2]*

The Hebrew word תֹהוּ [tohu] being translated here as 'without form' but has often been considered in English to imply a pre-existing chaos. Yet the word should really be translated as 'nothing'; and as such it has nothing to do with the concept of 'chaos', for that notion would require there to be something which was chaotically arrayed. Thus, the creation of 'all being' grew from 'all nothing'. In this situation, the perfect symmetry, symbolised by the circle, would find its opposite not in asymmetry but in the absence of anything – a silence of both symmetry and asymmetry.

## DISCUSSION

By considering a circle according to the hierarchy approach of the semiotic nonagon – form, existence and value – the conclusion is reached that there is an array of circle characteristics to which forms of opposition to 'circleness' may be identified to each. But a significant value of the semiotic nonagon, as developed by Guerri, is:

*To establish the internal dynamics of the nine parts of the sign, which are strongly interdependent, and the relation of the sign to the Dynamic Object. [Guerri, 2004; p2]*

Thus, by exploring 'oppositeness' of a circle through the lenses of Form, Existence and Value, there arises a sense of an interdependence of the internal dynamics of each of these three considerations

which may give rise to an holistic sense of the concept of ‘the circle’. Thus, the existential reality of a circle may be considered to be a trinity of the three rather than just any single aspect. The previous sections of this paper have identified specific oppositions to the form, existence and value characteristics of a circle, but there would still remain the question of whether there may be an holistic opposite – in other words, some rich concept of ‘oppositeness’ which may feel apt both to the whole as well as to the constituent elements of form, existence and value. To return to the idea of the Semiotic Nonagon, Guerri has postulated the following diagrammatic representation of such interdependence:

*Table 1. Summary of formatting options used in the Styles of this document.*

	Form	Existence	Value
Form	Form of Form	Existence of Form	Value of Form
Existence	Form of Existence	Existence of Existence	Value of Existence
Value	Form of Value	Existence of Value	Value of Value

Developing an understanding of an interdependent concept of a circle would require each of these triadic relationships to be investigated in order to determine if a meaningful answer to the question ‘what is the opposite of a circle?’ might be achieved. However, as a key component of the concept of the circle is  $\pi$ , a transcendental number which, despite finite components (such as centre, radius and circumference), defies algebraic analysis of a circle’s geometric form, it may likewise be that a circle’s overall opposite is of a similar transcendent nature. If so, the most that may be achieved is for an analysis using the semiotic nonagon to enable an asymptotic approach to the question.

## CONCLUSION

In this paper, the three-step hierarchy of the Semiotic Nonagon was used to consider, in an ordered way, the answer or answers to ‘what is the opposite of a circle?’ Considered through the lenses of Form, Existence and Value, it contended there are reasonable proposals for answering the question for each step. Without resolution, the paper then discussed whether there could be some overarching answer which cohered proposed answers for each step into an overarching singular concept of ‘oppositeness’ to a circle. In doing so, the paper proposed the ‘interdependent dynamics’ of the nine components of the Semiotic Nonagon offered some direction in the search for that singular concept.

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Lynn has been Chair of the Australian branch of the SIS since 2015. He was introduced to the international symmetry fellowship by the late Prof William Huff who had been a friend of his parents since the 1980s. Attending his first SIS conference in Sydney in 2001, he became an enthusiast for the eclectic and interdisciplinary nature of the Society. He presented at the 9<sup>th</sup> (Crete), 10<sup>th</sup> (Adelaide), and 11<sup>th</sup> (Kanizawa) conferences of the Society. He has a PhD in Sociolinguistics, bachelor's degrees in arts and Education, a Diploma in Senior Community Administration from ESADE in Barcelona, and a Graduate Diploma in Theology from Charles Sturt University. Currently an adjunct Reader in Theology and a Priest at St Peter's Anglican Cathedral in Adelaide, he has previously headed up major NGOs (World Vision and Anglicare) in addition to having served 15 years in South Australian state politics, including 11 years in the State Cabinet culminating in his being State Premier.