

Greek art theory influences future art

Art developed so much during the Ancient Greek Period that it became the driving influence on art for the following centuries.

What influenced Ancient Greek art?

Ancient Greek art was influenced by the philosophy of the time and that shaped the way they produced art forms. The difficulty in understanding Ancient Greek art is that the philosophers held a theoretical view of colour and art while the artists were more pragmatic in their production of art. This might be because the Ancient Greeks did not have a concept of art. They used the word *techne*, which translates as 'skill', to describe painting or any skilful act. Artists and architects were artisans.

Here in the word *techne* we see the embryo of what was to become technology. So, for the Ancient Greeks, art and technology were closely entwined, and it could be argued that this was influenced by the theories of Plato and Aristotle.

Did Plato and Aristotle agree in their views?

Plato's (c429-347 BCE) view of the world was as something always changing – a poor, decaying copy of a perfect, rational, eternal, and changeless original. So the beauty of a flower or a sunset is an imperfect copy of 'beauty' and just a pointer to perfection.

In book *The Republic*, Plato says art imitates the objects and events of ordinary life. It is a copy of a copy of perfection, and so even more of an illusion than ordinary experience. Works of art are at best entertainment, and at worst a dangerous delusion. **Art is imitation**, which was known as *mimesis* (the representation of nature). We can conclude that Plato didn't take the notion of 'art being created by divine inspiration' very seriously.

Aristotle (384-322 BCE) on the other hand, saw an 'art' form as a way of representing the inner significance of something, the 'essence'. To Aristotle art offers unity and the form should be complete in itself. He sums this up in his theory of *mimesis*; the perfection and imitation of nature. So, now art as imitation involves the use of mathematical ideas such as symmetry, proportion and perspective in the search for the perfect, the timeless and contrasting object.

Hence the Greek concept of beauty was based on a pleasing balance and proportion of form. The Ancient Greeks were innovators in the field of art and developed many new styles and techniques to achieve that perfectness of balance and proportion and that concept has influenced countless artists ever since. It can be argued that art up to the Greeks had been abstract and formal, while from the Greeks onwards it was based upon realism.



The idea of imitation to create realism through the capture of the essence of a form was still very strong in the Renaissance, when Vasari, in his *Lives of the Painters*, said that:

"... painting is just the imitation of all the living things of nature with their colours and designs just as they are in nature."

Beauty and utility

The ancient Greeks were obsessed with aesthetics (from the Greek *aisthetikos*, meaning 'of sense perception'). Aesthetics is the study of beauty and the Ancient Greeks held beauty above all. To Plato it was an ideal.

Despite the differences in Plato's and Aristotle's views of art they did agree that art objects should try to be beautiful and useful. For Plato beauty was summed up in an object's suitability and utility for purpose. It is from these times that beauty is linked to function.

Aristotle wrote about the idea of four causes. The first formal cause is like a blueprint for the idea. The second cause is the material; what a thing is made out of. The third cause is the process by which the artist makes the thing. The fourth cause is the purpose of a thing, known as *telos*.

Aristotle considered it important that there be a certain distance between the work of art on the one hand and life on the other. Functionality in these terms leaves us with a dilemma.

Can't an object be beautiful without being useful?

It is possible to see the problem since the skills of the artist, the craftsman, and the technologist involve changes. A sculptor changes a block of marble into a statue, the artist changes pigments into a coloured picture, and the craftsman uses tools and heat to change a block of metal into a tool. But really two of these examples would be described as art and the other as technology.

It appears that art and technology have diverged completely. It could be rationalised as artists aspiring to give permanence to the present, by creating works that will endure for all time, and technicians aiming to use skills to press on into the future, to new discoveries which will change with time. So, technology is about permanent change, improvement and moving society on to a new age; progress.

Imitation or self-expression?

The concept of realism and beauty could still be the most commonly held theory for art amongst the majority of people today. But is that too simplistic?



John Ruskin writing about art (1819-1900) stated:

"Art does not represent things falsely, but truly as they appear to mankind."

Yet not long after, Pablo Picasso (1881- 1873), when asked whether he painted what he saw, replied:

"I paint what I know is there."

Painting what one sees is a description of art as imitation, but Picasso's is clouding the issue of imitation alluding to artistic creation as something entirely within the artist. So now the goal of the artist is self-expression, not necessarily imitation of any feature. Inspiration and the subject matter can derive from within the mind of the artist, or they could be trying to distil the essence of what is seen, creating an abstraction of its qualities.

Arguably this view of art as an expression started with the impressionists in France, and their attempts to capture art through light. The artist is not just painting a representation, but giving a personal impression of what is seen. A painting or a piece of sculpture no longer has to refer to something familiar. It can consist of abstract lines, shapes and colours expressing the inner thoughts, imagination or emotions of the artist, or pure abstraction itself.

There is still a whisper of the Greek ideal since harmony is found in symmetry. An image which is perfectly balanced is appealing, and the perception of colour as contrasts can be beautiful in its balance.

Another dilemma - What is colour?

Aristotle believed light is something transmitted from an object to the eye, so the colour of the object is an intrinsic property, like its weight or taste.

Aristotle reasoned that in a rainbow each droplet of water acts like a tiny mirror. They reflect light and such mirrors change white light into coloured light. This led to the idea that colour in a rainbow is not the same as normal colour. Aristotle knew about prisms and the way light is refracted into its colours but he again believed the glass was modifying the light.

Isaac Newton, in the 17th century, also showed that white light was split into the spectrum of red, orange, yellow, green, blue, indigo and violet. When he used a lens to re-focus the spectrum the result was white light, showing that light is made up of different wavelengths and is not modified by passing through a prism.

The Greeks also held a view that colour was related to light and dark, so yellow would be related to light, and blue to dark. They also spent time trying to link pigment colours to the four Aristotelian elements, which led to the notion that mixed colours are inferior to the pure



colours. This could be seen as the origin of primary and secondary colours, since mixing colours changes the tone and hue and sometimes moves towards a brown or dark colour.

In today's world we refer to two types of primary colours. The first concerns the colours of projected light known as additive primary colours, which are red, green and blue. In the world of painting the primaries are reflected light, known as subtractive primaries, and are cyan, magenta and yellow, though an artist will refer to them as blue-green, violet-red and yellow.

In Ancient Greece, *mimesis* was the idea that influenced the creation of art as a model for beauty.

Examples of where the theories of Greek art have been used

The second half of the 5th century BCE, the Golden Age of Greece was the period of the most beautiful art and architecture. To look at the way this symbolises the Greek ideas of art we must consider the part geometry plays in the story. Geometry was entering a series of great developments one of which was the Golden Mean or Ratio.

Phidias and other architects knew, and used, the principles of geometry and optics. Their mantra was: 'Success in art is achieved by meticulous accuracy in a multitude of mathematical proportions'.

Their buildings symbolised perfection through the beauty of calculated geometric harmony. In the city of Athens geometry took another form. Philosophers were lecturing on mathematics, geography and rhetoric. Their method was called dialectics, and had been borrowed from the geometers in the design of deductive reasoning and proofs.

Pythagoras (560-480 BCE), the Greek geometer, had founded a school of philosophy in Athens where mathematics was studied and taught. Pythagoras was especially interested the proportions of the human figure and had shown, in the Golden ratio, that it was the basis for the proportions of the human figure. Pythagoras' discovery had a huge effect on Greek art. In architecture every part of a major building was constructed upon this proportion and the Parthenon was perhaps the best example of a mathematical approach to art.

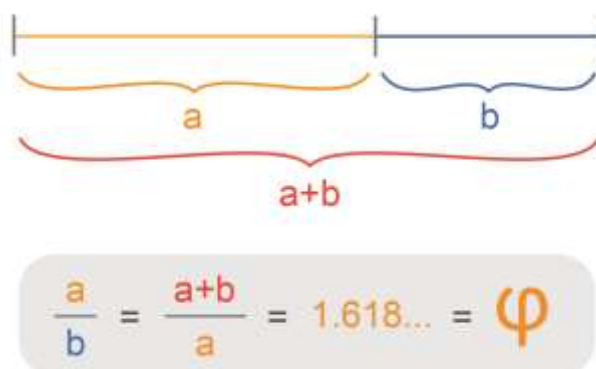
It is true the Parthenon (447-438 BCE) had been designed by Ictinus (c450-420 BCE) and Callicrates (5th century BCE) according to mathematical principles but there is no evidence of the use of the golden ratio. Its surrounding pillars were an example of applied 'number': an even 8 pillars in the front, as Pythagoras advised, so that no central column would block the view, then where it was alright to have an odd number, 17 pillars were built on each side.

Some people have gone further and claimed the Parthenon was built according to the principles of the Golden Ratio. However as stated, there is no strong evidence to support this. Analysis has shown that parts do follow the principles, but there are many who have



demonstrated that when a beautiful piece of art is analysed the proportions will all follow the Golden Ratio. The question is: Is that by design or just the eye of inspiration?

It was not until 300 BCE that knowledge of the Golden Ratio was published and this was in an historical record by Euclid called '*Elements*'. So, maybe it was the influence of Pythagoras on mathematicians at the time that promotes this idea. In his record Euclid had shown that in the Golden Ratio (known as phi Φ) the longer part of a line divided by the smaller part of the same line is equal to the whole length divided by the longer part. This ratio (phi Φ) is 1.6180339887. See the diagram below:



If the Golden Ratio was applied by an artist it produced a balance and harmony in the object. Whether or not the ratio was applied in the construction of the Parthenon, to the Greeks it was considered the most pleasing building to the eye.

The Greek sculptor Phidias sculptured many things using the Golden Ratio. Many artists who lived after Phidias, such as Leonardo Da Vinci (1452-1519), used the ratio in the execution of their work. Indeed the *Mona Lisa* has been shown to conform to the Golden Ratio.

Perspective

Another important development in art is that of perspective; the illusion of three dimensions (3D) from a two-dimensional (2D) picture. In it the artist must use tricks to fool the observer's sight into perceiving the object in 3D.

As part of the Ancient Greek theatre the Greeks had experimented with perspective from the 5th century. To give the scenery depth they created illusions using *skenographia* in which depth of colour and foreshortening created the sense of depth. However, in terms of linear geometry the Ancient Greeks did not have a clear idea of perspective. The philosophers Anaxagoras (c500-428 BCE) and Democritus (c460-370 BCE) worked out some simple geometric theories of perspective for use with *skenographia* on the stage, but in art it was not so widespread other than in the use of colour, tone and hue.



To conclude, Ancient Greek art was influenced by the philosophy of the day and there are arguments to support the proposal that to the Greeks, good art was about imitation, with balance, proportion and harmony in colour and structure, to create beauty.

