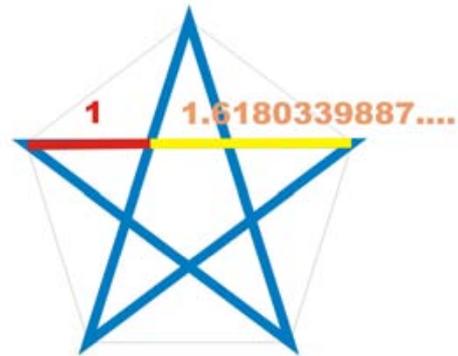


## The Golden ratio.

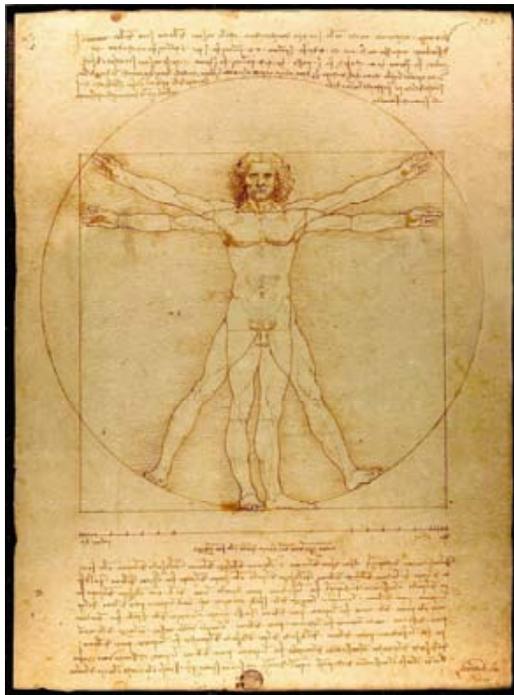
James Allan

There has been a little discussion during judging about the golden ratio. I thought I might do a little research and find out what all the fuss was about. I found a lot of useful information on Wikipedia and recommend that article to anyone wishing to find out more. I will summarise my understanding of the concept.

The golden ratio seems to be a mathematical oddity that was described by the great classical mathematicians Pythagoras and Euclid, but may go back further than that. Simply stated you can divide a line such that the ratio of the two segments is the same as the ratio of the larger segment to the entire line. This point occurs roughly 62% along the line. The actual point is an irrational number like pi (the ratio of the circumference to the diameter of a circle). By coincidence this ratio occurs naturally when you draw a 5 pointed star.



There is no evidence that it was used in classical sculpture or architecture until it was asserted in 1509 by Luca Pacioli in his 3 volume work *De Divina Proportione* (The divine proportion). Leonardo Davinci, a contemporary of Pacioli illustrated the divine principle in his famous



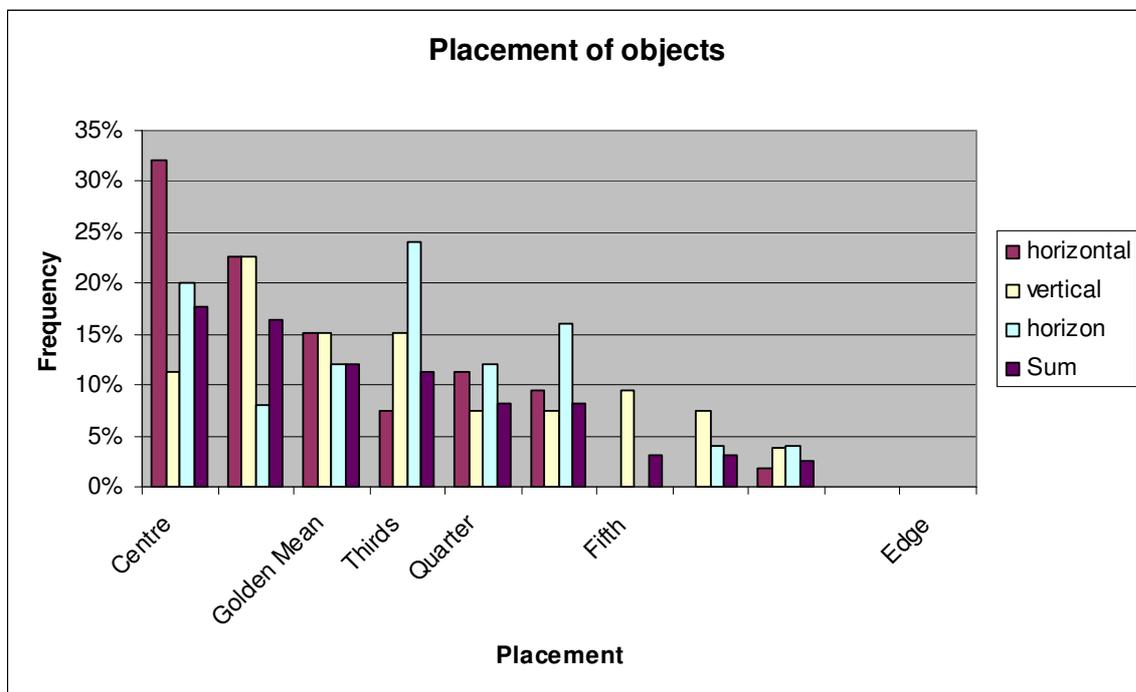
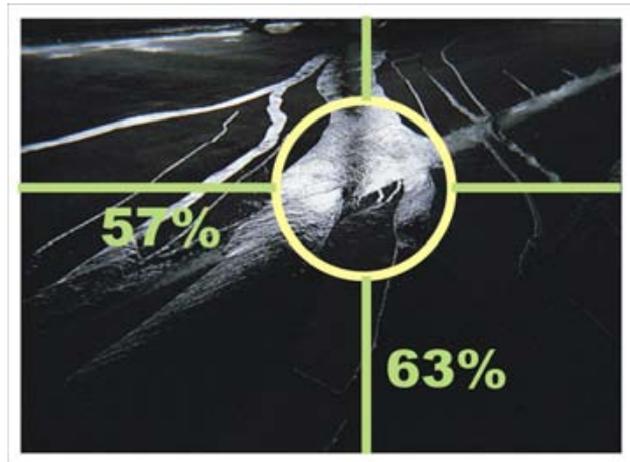
drawing of the Vitruvian man. In this picture Davinci attempted to describe the proportions of the human frame. The rectangle drawn over the figure, and various other measurements conform to the golden ratio. (A golden ratio rectangle has the long and short lengths in the divine or golden ratio to each other.)

Pacioli asserted that the divine proportion is naturally pleasing and an intuitive principle of aesthetics found both in nature and in classical design. He quoted many examples. Perhaps he was selective in the examples he chose, failing to mention examples that failed to meet the criteria. Needless to say Pacioli's work was very influential and the divine proportion was incorporated into a lot of subsequent art, architecture and even book design.

It is common advice in photographic books to place the horizon and also the subject of a picture off centre.

This is seen to be more pleasing than a symmetrical central composition. The rule of thirds (67%) is often quoted. The golden ratio would suggest a slightly more central placement (62%) would be better.

At this point I decided to do an experiment of my own. I visited several photographic websites and downloaded 53 consecutive first prize winning photographs. I selected the centre of interest in the photograph, then measured the distance to the edge of the photograph from this point. I did this both vertically and horizontally. If a horizon was evident, I also measured the distance to the horizon. Hypothetically if Paicolis assertion about the golden ratio holds true, there should be a preponderance for horizons and focal points at 62% across the picture.



What I actually found was that there was a gradient with the least objects placed at the edge of the picture and the most close to the centre. The golden ratio was more often selected than the one third point, however the central region was more often selected than either. So what is the meaning of that? The centre according to the books is least recommended. I wonder if what is happening is that many objects are placed centrally on a vertical axis and to one side of the horizontal plane, or vice versa. Regardless it seems that the centre is not as bad as the books would suggest. It would seem better advice to warn against placing the object at the very edge of the picture. That is if you want to win first prize.

At the end of the day I am heartened by Arthur's advice that there are no rules of composition, only techniques.