To design structures more efficiently, German structural engineer, Carl Culmann, invented a geometric design method to generate the form of classic tensile graphic statics based on the work of the French mathematician Pierre Varignon. Architects borrow this idea to model designs with magnitudes. One of the most famous structures designed using this technique is the Eiffel Tower in Paris. The theory of three-dimensional graphic statics was proposed by William John Macquorn Rankine in the 19th Century. The idea was very similar to his time that the method was not able to be delivered by the tools he had. Rankine proposed the idea of the reciprocal relationship between the form and force in three dimensions and it was not normalized by people at the time due to its complexity. The method has been recently redeveloped by Prof. Babouzas en Linen using a computational framework. Authors have been working on designing bridges using this method and most of the three-dimensional graphic statics design techniques have been integrated into our research on his design. The results of our work, using the dimensions given in the drawings of Leonardo da Vinci, are based on the most rigorous research of his actual design? Was he aware of mathematical and geometrical aspects of his design? Did he know the architecture techniques that were known in his time? This research further continues to explore the potential of Da Vinci's design with the use of modern materials and methods of construction to see how the design would have been built in our modern time. Furthermore, it pays homage to the genius mind of Da Vinci in realizing such an advanced design concept age, and to speculate on what he would have done using the mater of the age of Digital.