

The seminal idea for this special issue of the *Nexus Network Journal* dedicated to Perspective was born while drinking coffee with Kim Williams during a recess of the Nexus 2006 conference in Genoa. Two years later, at Nexus 2008 in San Diego, Kim and I released the Call for Papers with the goal of bringing together original investigations regarding perspective, looking for new insights that might enrich the knowledge of this science. Now, it is the reader's turn to judge if we have achieved our goal. To begin, I would like to introduce each one of the contributors.

My curiosity was piqued when Volker Hoffmann told me by e-mail: "working on my contribution for your edition of *NNJ*, I made a nice discovery which changes the common history of perspective." Once I received his article on "Giotto and Renaissance Perspective", I became aware of the importance that his discovery could have. In my opinion, his insightful writing is going to raise many questions among the scholars of perspective, or at least it is going to make them reconsider when and where on the timeline of the history of art the first rigorous application of perspective will have to be placed. Here, Hoffmann provides the answer to this question by means of his geometrical analysis of the left *coretto* painted by Giotto in the Arena Chapel (Padua), a remarkable analysis that could bridge the gap between Gothic and Renaissance painting.

In his article, "Perspective, a Visionary Process: The Main Generative Road for Crossing Dimensions", Celestino Soddu brings together perspective with other geometries to explore architectural design. He starts by exploring space from a fixed point, and then moving all around the observer so that he is able to render endless points of view of one target. With the help of the computer program that he himself developed, Celestino has achieved the perspective practitioner's dream of, that is, the total visualization of the object. This will be clear to the reader from the illustration of his project to create a 360° spherical perspective of the Tower of Babel. In Celestino's own words: "We could see, together in the same drawing, the front and the rear, the right, the left, above and below." His new approach in design, called Generative Art, states that the idea is more important than the product, a principle that is well portrayed in the conclusion of this interesting article.

In her article "Perspective in a Box", Agnes Verweij analyzes how a Dutch peep-show-box works geometrically. Most Dutch perspective boxes were made during the seventeenth century but only a few have survived until today. The extant boxes are on exhibit at the National Museum of Denmark (Copenhagen), the Museum Bredius (The Hague), and The National Gallery of London. Included in the Bredius collection is a triangular box, leading the spectator to wonder how it is possible to place the scene of a rectangular space within a triangular shape, while in the London collection, the internationally known box by Hoogstraten shows an atypical disposition of two peepholes through which the opposing views of the interior of a Dutch house can be observed. Dutch artists used real architectural scenes to captivate people's imaginations; thus, when looking through the box's peephole the observer was able to recognize to which building the scene belongs. The cut-out of the baker's box, discussed at the end of Agnes's article, shows us that Danish people still carry on this unique tradition today.

The question of whether Ezekiel's vision of the temple refers to Solomon's temple or an ideal, unbuilt temple is a controversial one, although most scholars agree with the latter theory. An explicative note in the Ryrie Study Bible points out: "The description is not of

Solomon's Temple, the specifications being different and larger" (Moody Press, Chicago, 1994, p. 1282). In her article, "Juan Bautista Villalpando and the Nature and Science of Architectural Drawing", Tessa Morrison addresses this controversial issue, and states clearly that: "Villalpando claimed that Ezekiel's vision was the Temple of Solomon and he made no distinction between Solomon's Temple and the vision of Ezekiel." Here, the aim of studying Villalpando's treatise, *In Ezechielem Explanaciones*, is not the controversy itself; rather, it is the analysis of the ideas about architectural drawing contained in Villalpando's treatise. Tessa's proficiency in Latin gives us an opportunity of reading a first-hand interpretation of Villalpando's exegesis on the book of Ezekiel.

In the article, "Perspective versus Stereotomy: From Quattrocento Polyhedral Rings to Sixteenth-Century Spanish Torus Vaults", José Calvo-López and Miguel Ángel Alonso-Rodríguez explain the principles of orthographic projections and perspective, and what features they have in common. Both Piero della Francesca's treatise *De prospettiva pingendi* and Gil Rodríguez de Junterón's design for the Recapilla chapel in the Cathedral of Murcia will show the reader that stereotomy and perspective do indeed share common principles. While the stonemasons needed orthographic projections to determine the voussoirs of an arch at full scale, Piero used these projections at a random scale to construct a perspective. The interplay of perspective and stereotomy is made clear in the figure of Piero's construction for a rotated cube applied to a *mazzocchio*. Whether Spanish architects may have been influenced by the Italian Quattrocento or by the Gothic tradition, is another question at the core of this article.

In my own article, "The Sunlight Effect of the Kukulcán Pyramid, or the History of a Line," I explain the geometrical features of the pyramid that produce its unique effects of light and shadow. I started by formulating a hypothesis about how the base of the pyramid was laid out, and this in turn spurred me to propose a method for laying out a square (of a given side) without using Euclidean right angles. I present an experiment that was actually performed on the UNAM campus to prove the feasibility of what I call the Mayan method for laying out a square. As we know, many scholars have repeatedly referred to the singular orientation of the diagonal line of the pyramid base but without fully understanding its meaning. The meaning of this line, which I am convinced is of paramount importance, is that of being the "prime line" from which the pyramid was built. Despite the fact that the field of Mayan studies is quite extensive, little is known about the geometry of their buildings in regard to the methods by which the builders achieved their forms. These and many other questions, such as whether their observatories were built at day or at night, will have to be investigated in order to achieve a better understanding of Mayan geometry.

John Hatch's article, "Some Adaptations of Relativity in the 1920s and the Birth of Abstract Architecture," bridges the gap between the traditional concept of space and the concept of space-time as a higher dimension. The Renaissance painters conquered the third dimension; the breakthrough of the Theory of Relativity brought a new dimension, and with it, the vision of new geometries for the arts. The early twentieth-century artists eagerly embraced the works of Minkowski, Lorentz, Poincaré, and Einstein, pursuing how to incorporate time and space in painting and architecture. Hatch brings to the core of his article the artworks of El Lissitzky and Theo Van Doesburg. The effort to conquer time and space is well portrayed in these words: "However, a unique feature of Van Doesburg's design is that there is never one fixed point from which one can define the whole of the structure. Every vantage point provides a unique view that is never repeated twice

throughout. In other words, there is no defining moment, no fixed or absolute point, and thus Van Doesburg achieves an inventive type of completely relativistic, Dadaist type of architecture. It embodies a notion we will encounter with Lissitzky, that every point in space is related to a unique moment in time.” In my opinion, the “relativistic” vision of space does not neglect the traditional vision of perspective because it comes from it. Lissitzky’s Suprematist works, inspired by Minkowski’s space-time diagram, describe the struggle of the oblique presentation of the x - and y -axes against the orthogonal ones in a 2D composition, in manner that is similar to what Van Doesburg did for the ceiling of the University Hall (Amsterdam, 1923); and so on until reaching four dimensions.

This special issue also includes book reviews related to perspective. Samuel Edgerton comments on his own book, *The Mirror, the Window, and the Telescope: How Renaissance Linear Perspective Changed Our Vision of the Universe*. João Pedro Xavier reviews Kirsti Andersen’s book *The Geometry of an Art. The History of Perspective from Alberti to Monge*. I myself review *Forma y Representación. Un Análisis Geométrico* by Javier Navarro de Zuvillaga.

To conclude this letter, I would like to express my gratitude to Kim Williams, and also to each one of the authors, for their efforts in accomplishing the present Special Issue of the *Nexus Network Journal* dedicated to Perspective.

A handwritten signature in black ink, appearing to read 'João Pedro Xavier', with a long horizontal line extending to the right from the end of the signature.