THE CONSTRUCTION OF PERSPECTIVE IMAGE
FOR A DIGITAL REPRESENTATION OF PIERO DELLA FRANCESCA'S PROCEDURE
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ABSTRACT

Perspective is known and practiced today as a direct and independent method of representation, developed over the centuries thanks to the contribution of artists, mathematicians and architects that have outlined in different times and ways its principles and have proposed various possibilities of use. The Tuscan painter Piero della Francesca, author of the well-known book *De Prospectiva Pingendi*, is the first one that tells us in detail about the process of construction of the perspective image of both plane and solid figure, which includes two different procedures. The first one, direct and faster, concerns the simple figures shown in the first two books – e.g. polygons, polyhedra and several volumes that derive from the addition/apposition of them – instead the second one, explained in the third book, is used for the representation of more complex solid objects, as the human head or the Italic capital. In this last procedure, Piero della Francesca synthesizes the projective principle that generates the perspective image and characterizes all of the perspective machines built from the Renaissance period, as the famous Dürer's Door. The physical model proposed by the Tuscan painter is a more refined system, which allows to reproduce the spatial operations of projection and section on the plane – the sheets – by using the double orthogonal projections and obtain the data – registered on different rulers, some made of wood, other of paper – that are required to reach the perspective representation of the subject in the final drawing.

This study aims to draw attention to the comprehension and illustration of this refined mechanical procedure introduced by Piero della Francesca to reproduce the principles of perspective representation and that will be crucial for the development of the famous indirect process known as the method of the architects.

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