After a huge delay, projective geometry – which, in plain English, studies geometric patterns of energy radiation and the images formed by that energy - has been applied to the Shroud of Turin and the Sudarium of Oviedo for the first time.

Like in other fields of research, projective geometry should have been the first science to be applied to the Shroud, allowing the other sciences to then work on the results of photogrammetric restitution and on the data it provides. However this has not been the case.

Using various methods and systems, a part of projective geometry can determine the bidimensional representative model of any tridimensional real or virtual object and, viceversa, can determine the tridimensional real or virtual object from any bidimensional representative model.

The latter process is called restitution.   Restitution follows the identification process.

Any scientific research must be based on the identification of the elements investigated.

Identification is preceded by perception of the object. So, although these two phases may seem simple and obvious, they are in fact a fundamental part of any scientific procedure.

Nature allows us to perceive an object through the lines that separate two areas of different colour, brightness and saturation.

How well this process of the eye-brain system is developed varies from person to person and is greatly improved by training: examples include the hearing of musicians, the olfaction of perfumers or chefs, and the sight of technicians who perform photogrammetric restitution.

Furthermore, the technique of rapid variation of brightness and contrast can highlight the lines and in this way help the process of perception.

The lines used for identification purposes in the research conducted on the Shroud are in some cases very clear-cut and easily perceptible, and in other cases, faint and barely perceptible and this depends, as will be seen, on the nature of the objects, which we were in any case able to identify.

Identification requires a deep knowledge of the characteristics of the perceived object, and is therefore in proportion to the perceptive and mnemonic capability of the scientist, to the quantity of data that he is able to grasp and retain.

Identification also requires knowledge of the laws of the projection process, of its effects and of the repeated application of these laws in the representation phase.

Think about the very high number of distinct and variable images of the same object that the projection process of sight can provide. A simple shape such as a circumference, projected onto a plane, can give rise, by changing position, to an ellipse, a parabola, a hyperbola, a segment of straight line, a straight line or a point.

Identification requires the knowledge and the repeated application, in the representative models, of the laws which light and other radiation (infra-red, ultra-violet, X, etc.) effects are based on. Therefore a radiologist can identify an element of the object on an X-ray projection, just as a chemist can identify the spectrum of a given element, and so on.

Identification occurs in two ways:

one is based on a huge number of characteristic perceptive data supplied by sight and stored in the mind, when the object presents a complexity that is not attributable to basic geometric shapes. The more numerous the characteristics and irregularities of the object, the easier it is to identify. Comparison of suitably enlarged projections of a scar or a mole can be sufficient to identify a whole human body;

the second is based on a very small number of characteristic perceptive data that follows laws, that is, when the model is composed of basic geometric shapes.