



SEMINARIO DE IMÁGENES Y VISIÓN INSTITUTO DE OPTICA (CSIC)

Studies of the oldest Known Lenses at the Louvre (4600 Years Before the Present)



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RESUMEN

4600 years ago, at the outset of the **Fourth Egyptian Dynasty** (the beginning of The Old Kingdom), there appeared the World's oldest known lenses. These were parts of eye structures created for funerary statues often representing the "ka" or essence of the individual represented. Other examples of these statues may have existed as far back as the First Dynasty during the Early Dynastic Period of Egyptian history, but all lenses and eye structures are missing from existing artefacts. During the Early Dynastic Period, great progress was made in working and polishing hard stones of various types. The early lenses were made of rock crystal or crystalline quartz. These lenses were of complex design, thus, it is doubtful these are the first lenses. They had a front convex ground surface with good polish (the front of the cornea equivalent), they were thick, they had a ground flat rear surface (the iris equivalent), and in the middle of the latter surface there was ground a high power concave surface (the pupil equivalent). The pupil was imaged roughly where the iris plane is seen in the living eye. Associated with this lens was an illusion which resulted in the eye structure appearing to follow the observer of the statues in any direction (the author knows of no application of this illusion in modern times). The speaker and associates were given opportunity to study the lenses available at Le Louvre, both the available reserve eyes and "Le scribe accroupi" (the statue "Kai" was on loan at the time). The only other source of these lenses is the Egyptian Museum in Cairo. Here, data on the remarkable reserve eye #E-3009 and "Le scribe" are presented. After about 200 years these lenses disappeared, only to reappear briefly 700 years later. Then, these special designs apparently were totally lost!

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