Visual Pyramids
Following Alberti, Dee used the idea of “Visual Pyramids” to describe how vision works.
Perspective
Without understanding Perspective, “Astronomical Appearances” cannot be easily comprehended.

It deals with Light, “...the First of God’s Creatures.”

It deals with the Eye, “the light of our body, and his Sense most mighty, and his organ most Artificial and Geometrical”
Zography means “painting from life”
Dee’s definition of Zography in his Preface to Euclid

Zographie, is an Arte Mathematicall, which teacheth and demonstrateth, how, the Intersection of all visuall Pyramids, made by any playne assigned, (the Centre, distance, and lightes, beyng determined) may be, by lynes, and due propr[e] colours, represented.
A notable Arte is this, and would require a whole Volume to declare the proper.
“a certain odd Art” called “Althalmasat”
Al + thalamus + at
an illustration of a **tholos** on the Title page
Dee’s (1570) definition of Zography

“Zographie, is an Arte Mathematicall, which teaches and demonstrates, how the Intersection of all visual Pyramids, made by any plane assigned, (the Centre, distance, and light, being determined) may be represented by lines, and due proper colours.”
Alberti’s (1435) definition of a painting

“A painting is the intersection of a visual pyramid at a given distance, with a fixed centre and a defined position of light, represented by art with lines and colours on a given surface.”
The "visual pyramid" from a square-shaped object is a sideways "Pyramid of Giza" shape.
The scene at the Farm
that Alberti visits
while on holiday in Tuscany

Farmer building a “tee-pee” fire

Barn (with flat roof)

Farmhouse (with pitched roof)

Cow
The “visual pyramid” from a pole or stick is actually a tall, thin four-sided pyramid (plus a base).
The one “intrinsic” ray emanating from the exact geometric center of the face of the object observed is called the “centric ray”
Dee’s cryptic references to the camera obscura in the Monas Hieroglyphica
Dee’s Advice to Astronomers:

And won’t the ASTRONOMER regret all his sleepless vigils
and cold labors he has suffered under the Open Sky,
when here, without any Discomfort from the Air,
Under his own roof, with windows and Doors Shut on all sides,
at any given Time, he is able to observe the movements of the heavenly bodies?
And, indeed, without any Mechanical Instruments made from Wood or Brass?
Dee’s advice to the Experts on Weights

And will not he, who has devoted all the Time of his life
to making exacting measurements with WEIGHTS,
judge just how well his Labors and costs have been invested,
when here, the Magistery of our MONAD will teach him,
most assuredly by actual Experience,
that the Element of Earth can float above that of Water?
(WATER ABOVE EARTH)  (EARTH ABOVE WATER)

JOHN DEE'S STUDY AT MORTLAKE
AS A CAMERA OBSCURA
Dee’s Original Latin Phrasing

“…Cum, hic ex Tetrahedri Sectione Trigonica, Linea exhibeatur; ex cuiss Forma Circulata, fieri potest Speculum…”

...Yet here a Line is presented, resulting from a Three-Cornered Section of the Tetrahedron, from which, when Made Full-Circle, a Mirror may be found...
One tetrahedron (like a visual pyramid looking “outside” a camera obscura) implies another tetrahedron (like the visual pyramid inside a camera obscura) when it is in “Forma Circulata” (complete, whole, or in “Circular Form”).
...when it is in "Forma Circulata" (complete, whole, or in "Circular Form")
From the 3-Cornered Cross Section of a Tetrahedron...

...a Line presents itself...

...When this is Made Full-Circle, ...

...a Mirror can be found..

Dee’s cryptic description of a camera obscura, written as part of his advice to Opticians, in his *Letter to Maximillian*
(even when the Sun is being blocked by Clouds)
can reduce any kind of Stones or Metal into Impalpable Powders
by the force of (truly the very strongest) Heat.
The Monas symbol as a camera obscura
I = eye
I = eye
ENTER!

WARNING!

IMAGE WILL BE UPSIDE DOWN!

WHY?
Giant Camera

Optical Freak of Nature

Solar Powered

Walk Inside the Amazing Camera Obscura

Look

See the World Anew
Mike’s Maze
Bird’s-eye View of Camera Obscura Calendar in the First floor room of the Tower (if west window has a small aperture in it)
dome room

second floor room

first floor room

3 camera obscura rooms
The Union of Opposites
Union of Opposites in Geometry

Bucky Fuller
Bob Marshall
Union of Opposites in Number
Bill Penhallow

The Tower’s Lunar and Solar Alignments

Sun alignment
Moon alignment
Lunar Minor
Winter Solstice

WILLIAM PENHALLOW
Union of Opposites
in a Camera Obscura

Jim Egan
Union of Opposites in Geometry, Number, and in the Camera Obscura

Bucky Fuller
Union of Opposites in Geometry

Bob Marshall
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The Tower’s Lunar and Solar Alignments

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