NURBS

NON- UNIFORM RATIONAL B- SPLINE

WHICH MEANS WHAT EXACTLY?

Math!

WHICH MEANS WHAT EXACTLY?

Math!

To produce

a curved surface

WHICH MEANS WHAT EXACTLY?

Math!

To produce

a curved surface

from curves

WHICH MEANS WHAT EXACTLY?

Math!

To produce

a curved surface

from curves

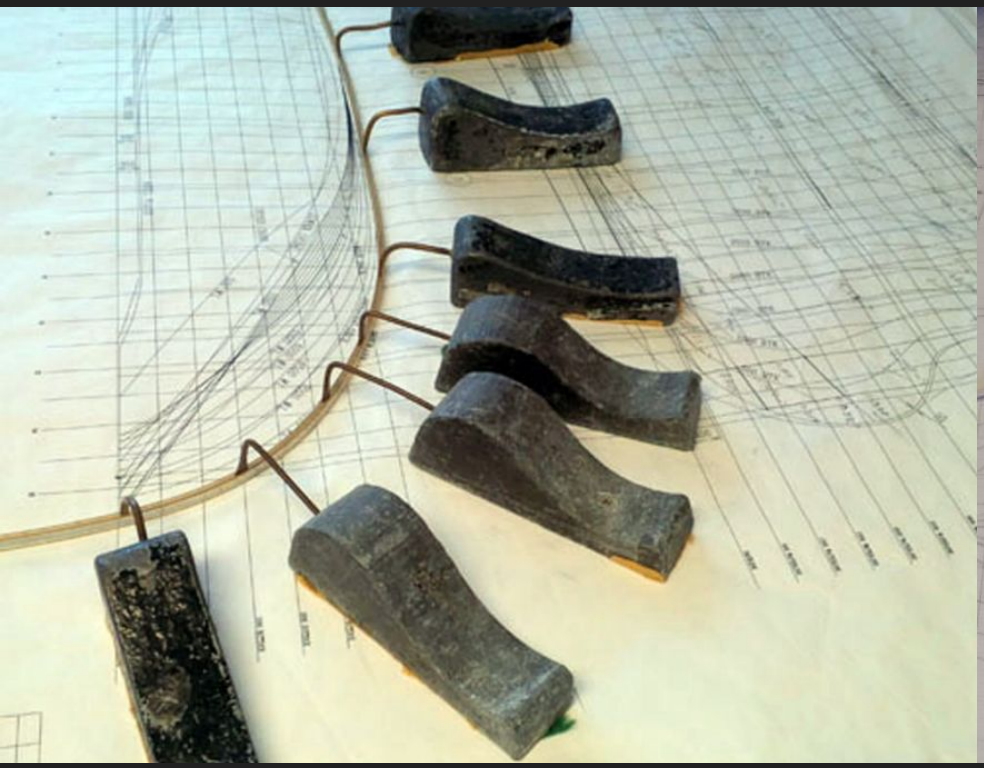
from a series of points

surfaces

from curves

from points

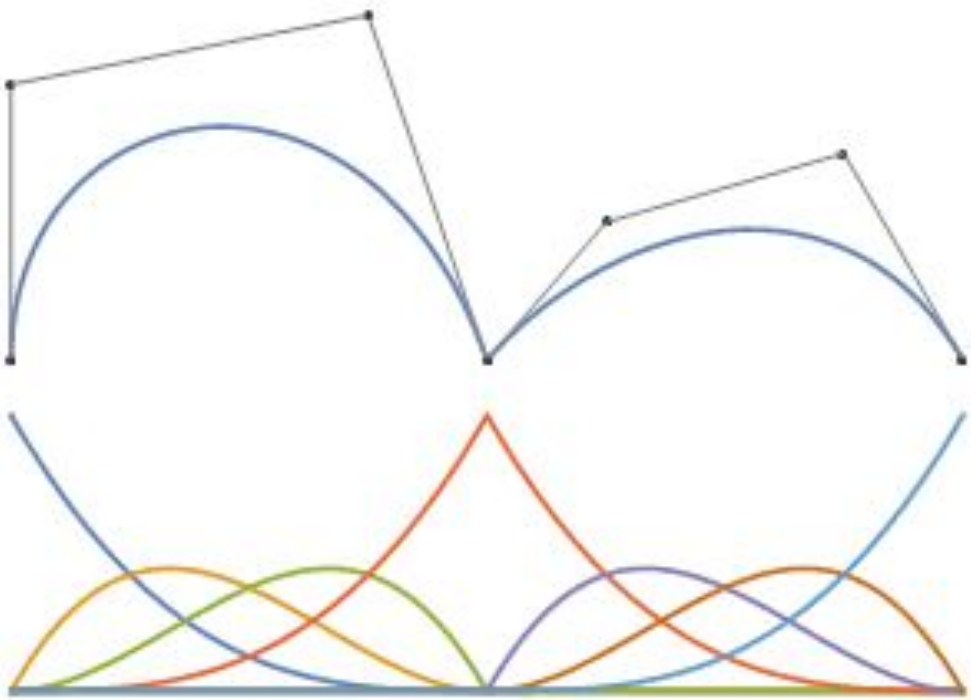
NON-UNIFORM RATIONAL B-SPLINE



Original drafting splines (and their weights)

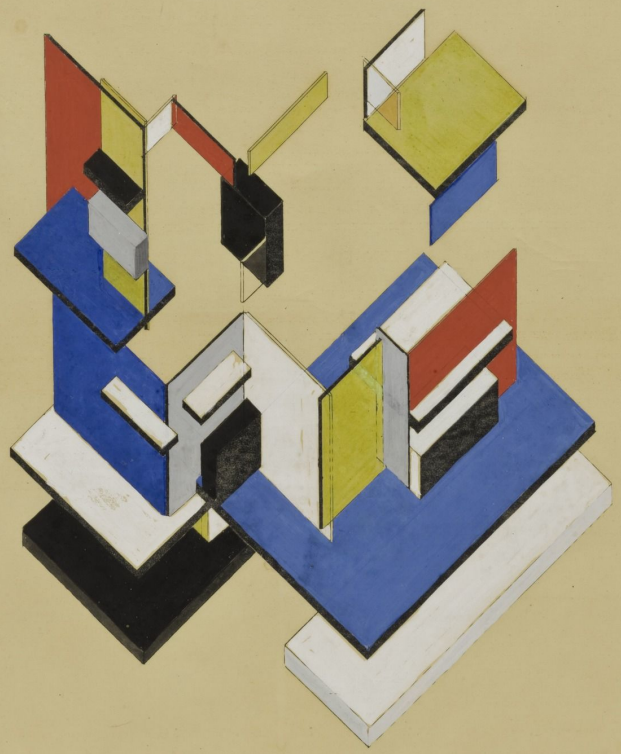
NON-UNIFORM RATIONAL B-SPLINE

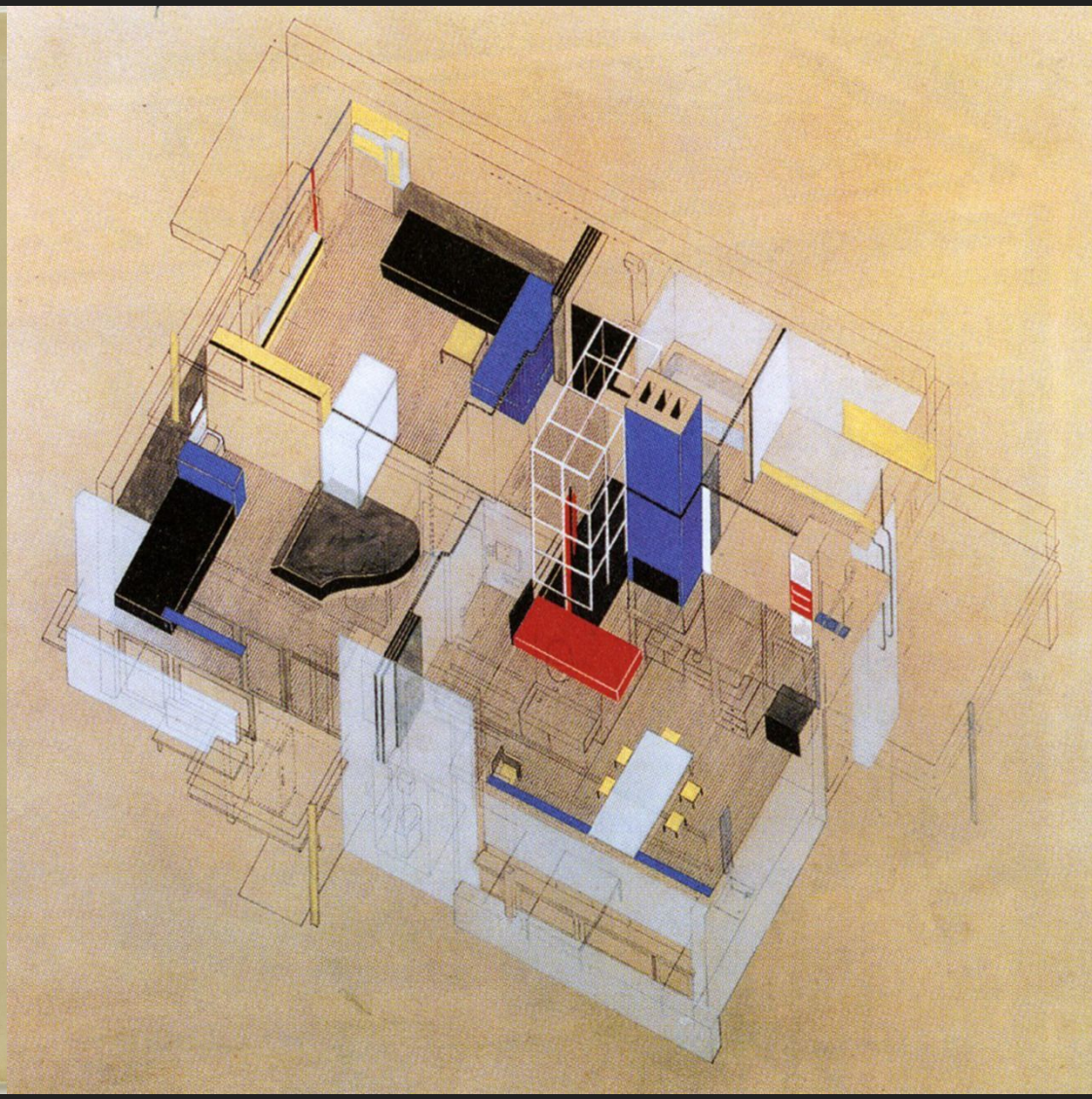
NON-UNIFORM

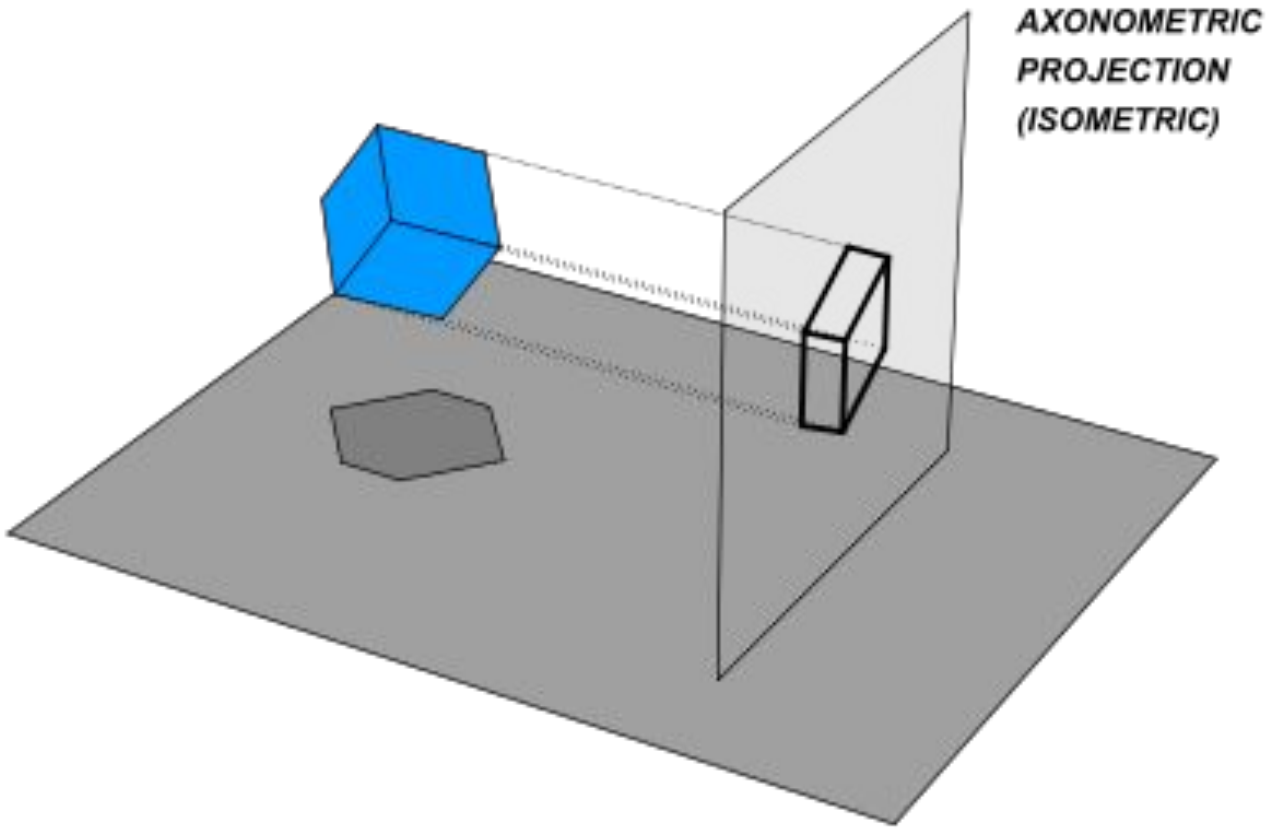


AXONOMETRIC PROJECTION

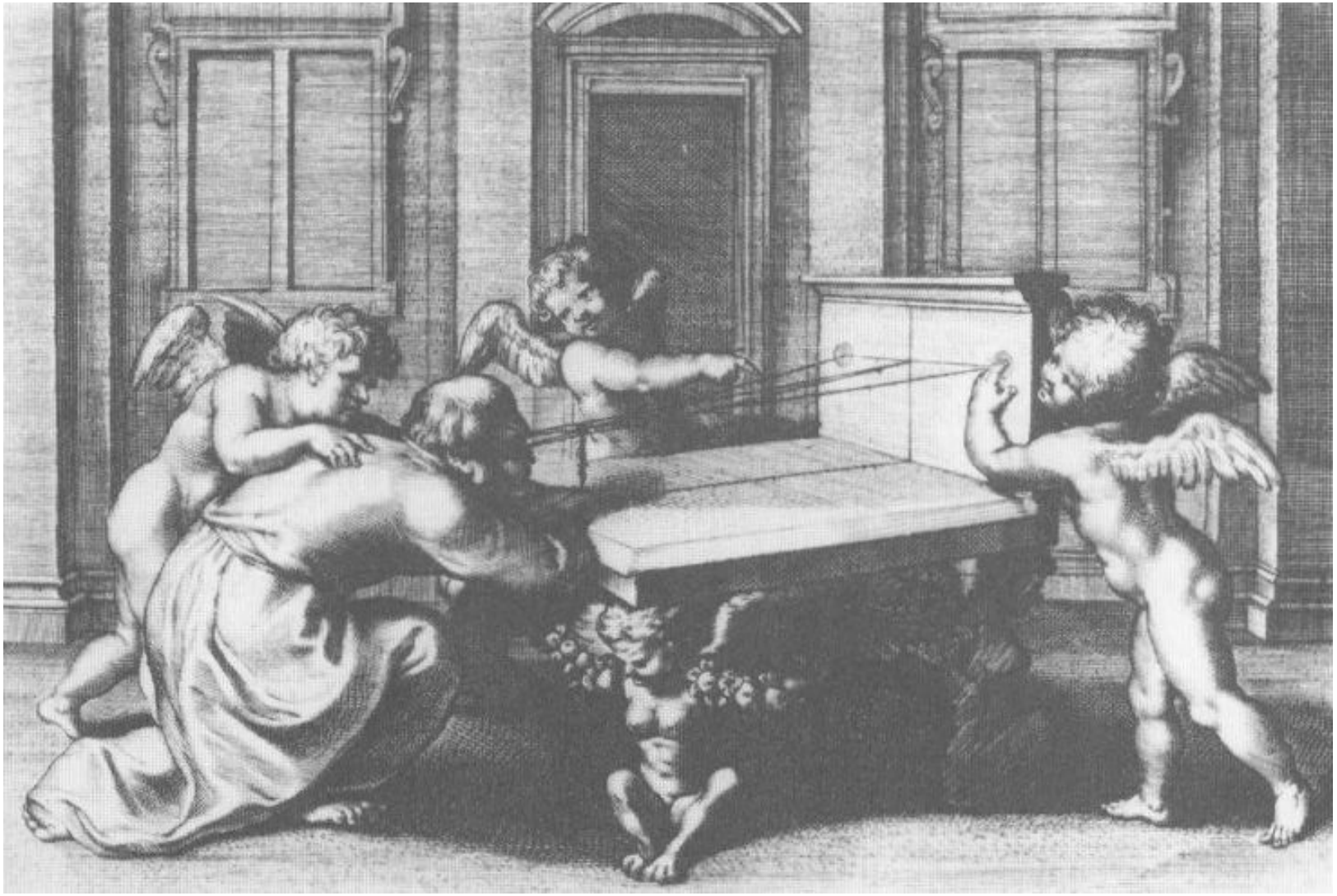
AXONOMETRY=
TO MEASURE ALONG AN AXIS



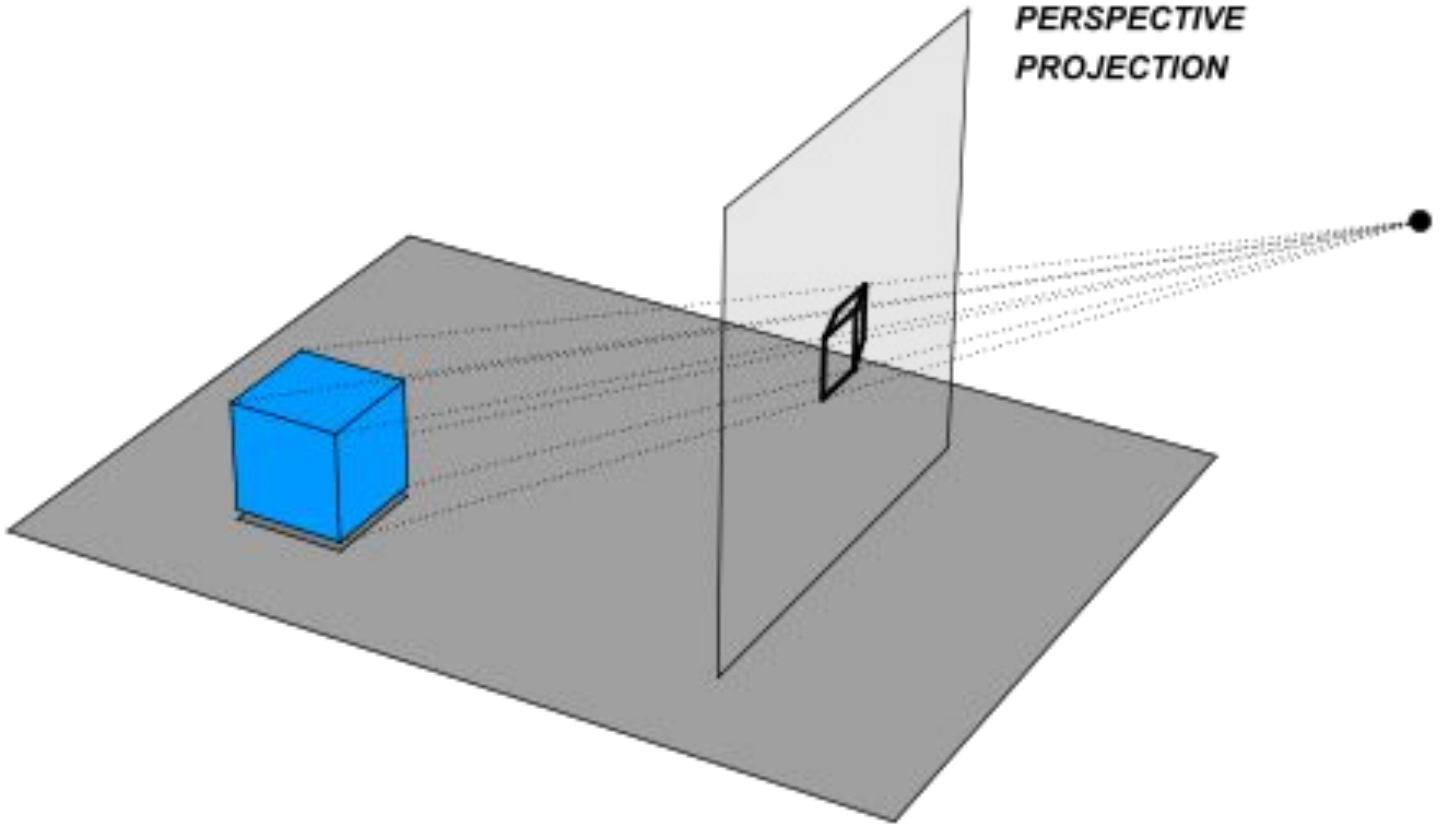


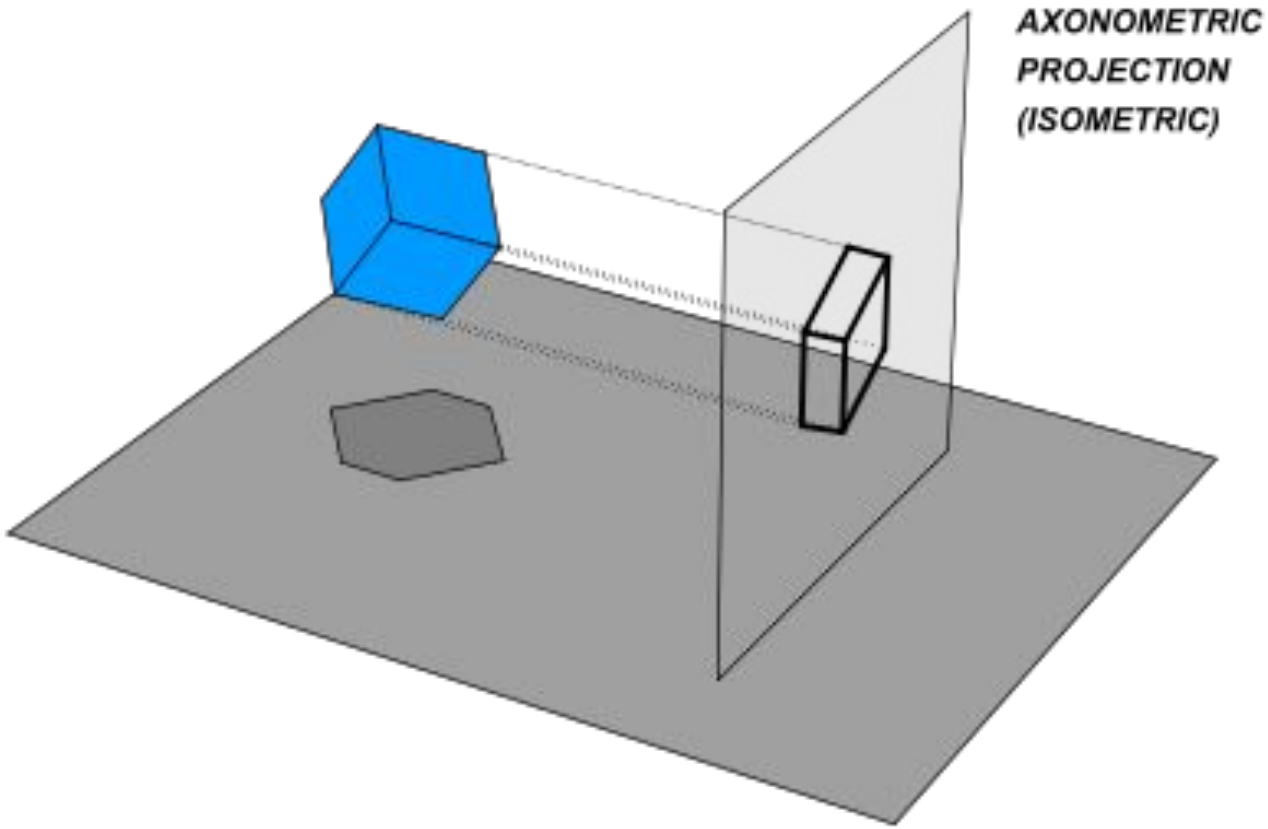

AXONOMETRIC
PROJECTION
(ISOMETRIC)

AXONOMETRY ≠ PERSPECTIVE



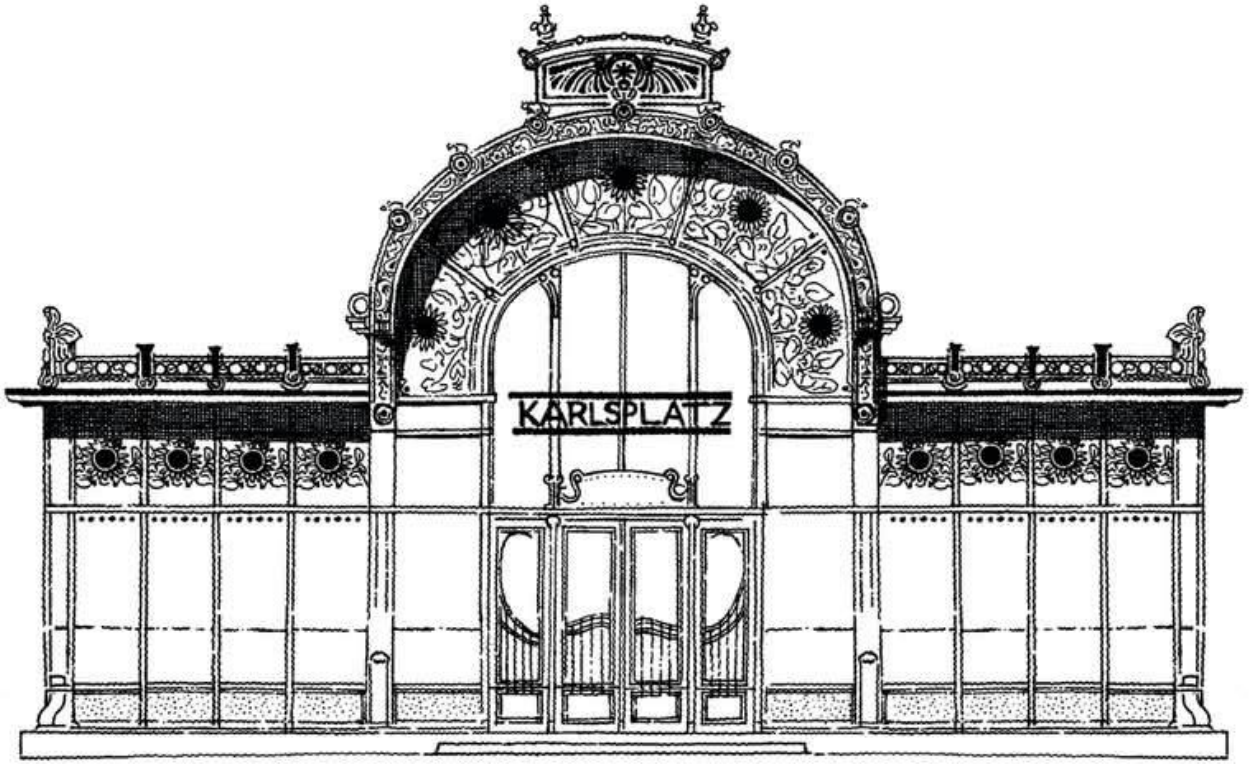
Francois d 'Aguilon


PERSPECTIVE
PROJECTION

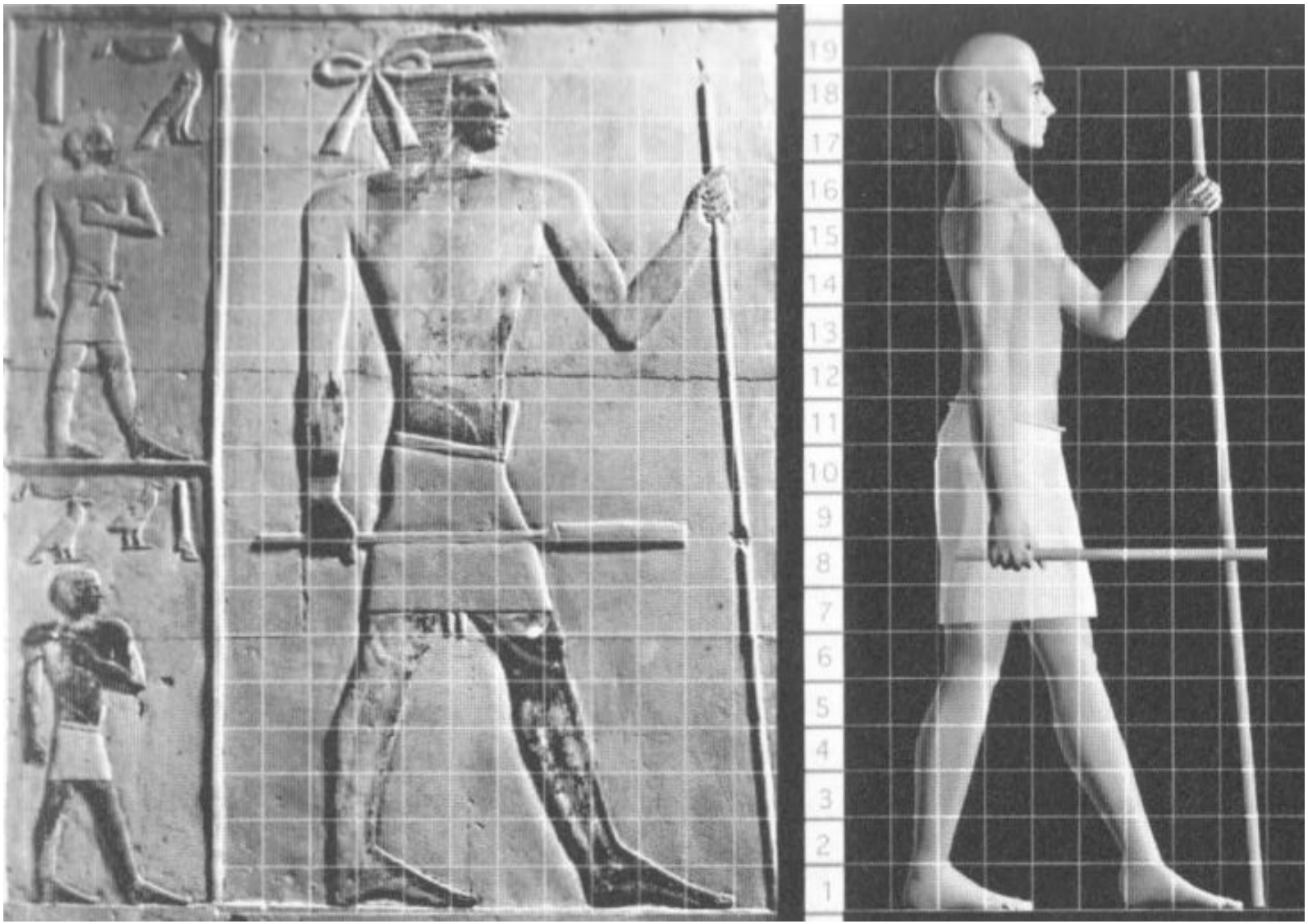

AXONOMETRIC
PROJECTION
(ISOMETRIC)

AXONOMETRY=
ALL PARALLEL PROJECTION?

AXONOMETRY ≠ TWO-DIMENSIONAL ORTHOGRAPHIC PROJECTION



Otto Wagner, Metro Station


19
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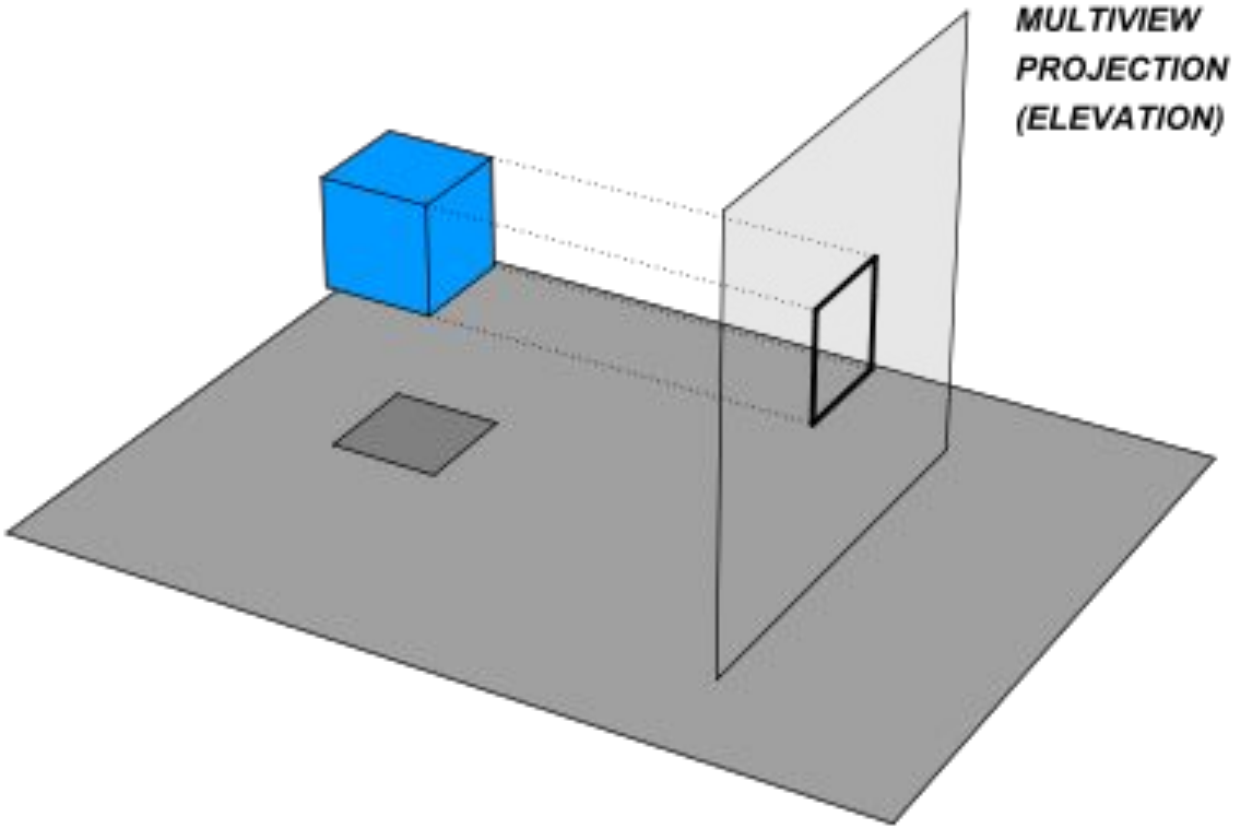
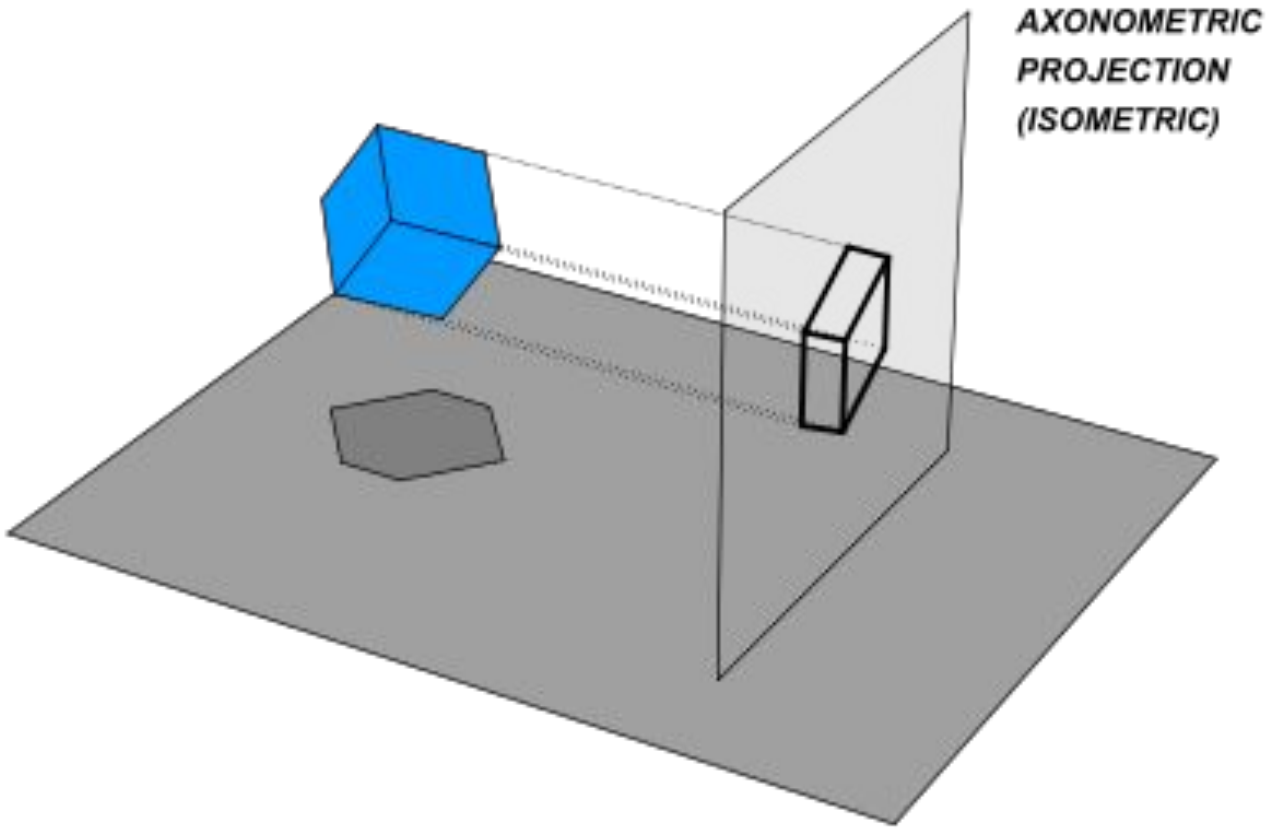
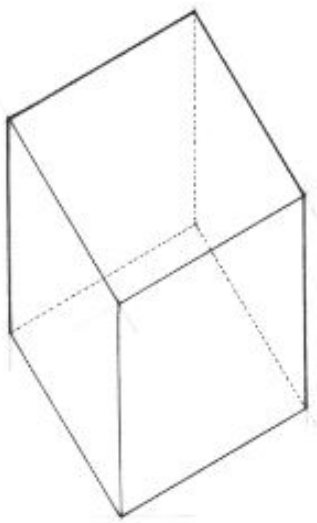

MULTIVIEW
PROJECTION
(ELEVATION)


AXONOMETRIC
PROJECTION
(ISOMETRIC)

ISOMETRIC =
EQUAL MEASURE

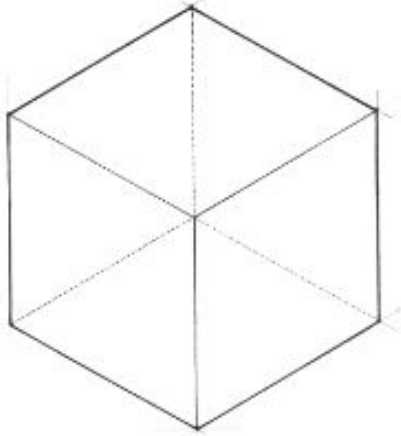
Sim City 2000

OBLIQUE =
NOT PARALLEL OR PERPENDICULAR
(TO THE PICTURE PLANE)



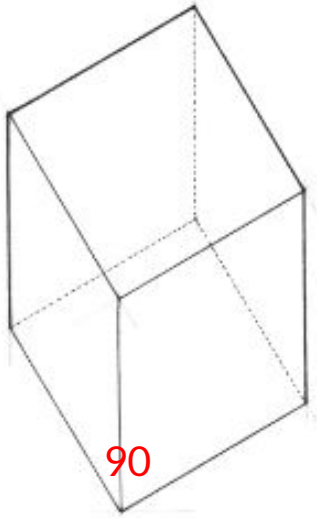
Plan Obliques

- The principal set of horizontal planes oriented parallel to the picture plane is emphasized and can be represented in true size, shape, and proportion.
- Plan views can be used as base drawings—a definite advantage when drawing horizontal planes with circular or complex shapes.
- Plan obliques have a higher angle of view than isometric drawings.



Isometric Drawings

- All three principal sets of planes share equal emphasis.
- The angle of view is slightly lower than that of plan obliques.
- Plans and elevations cannot be used as base drawings.



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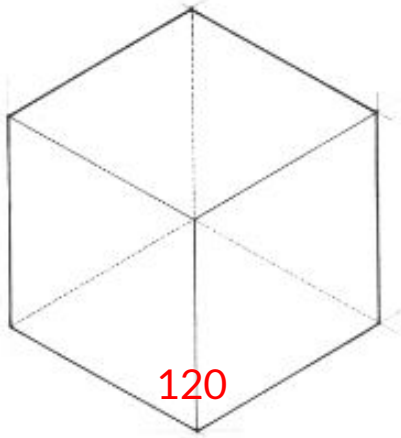

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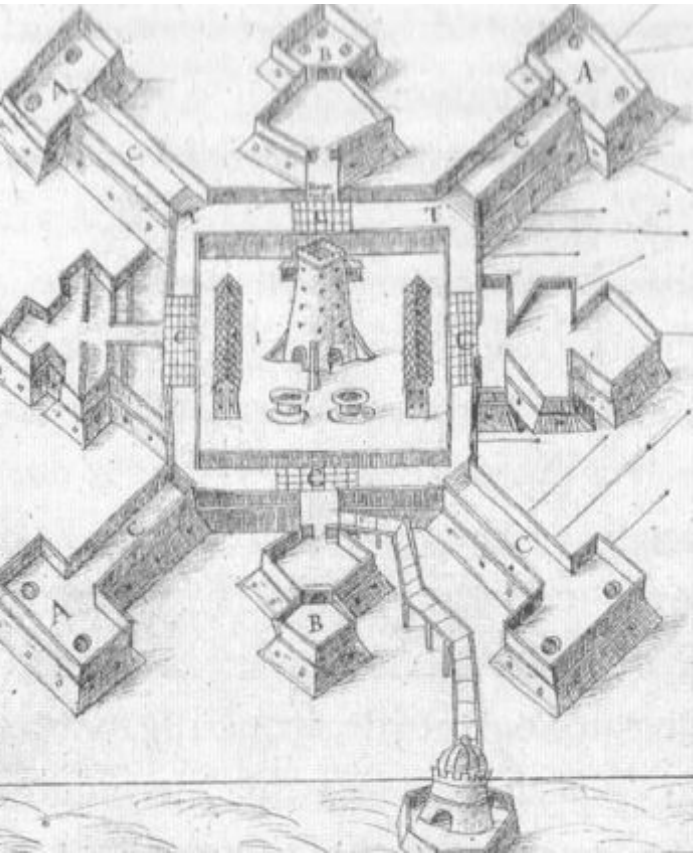
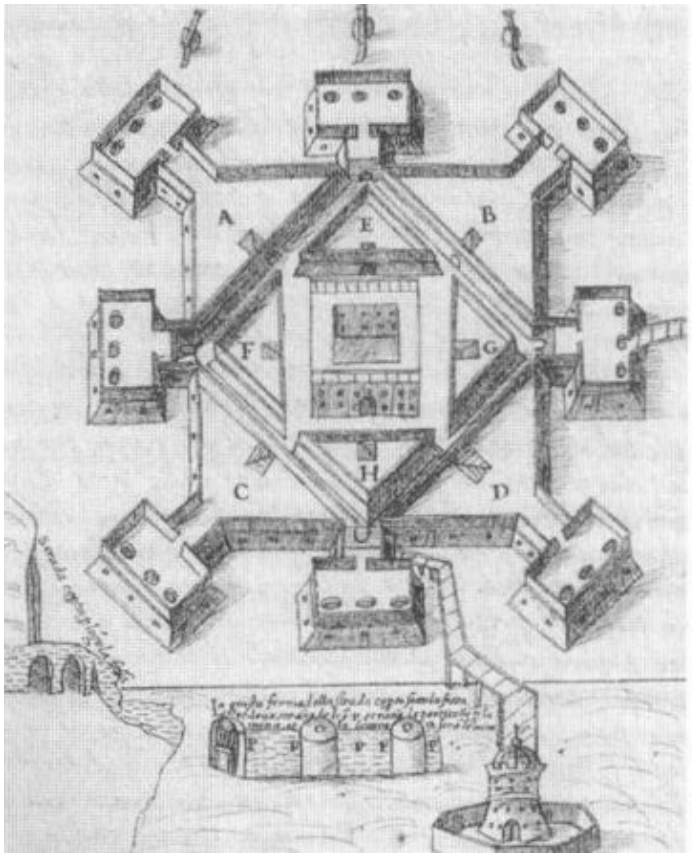
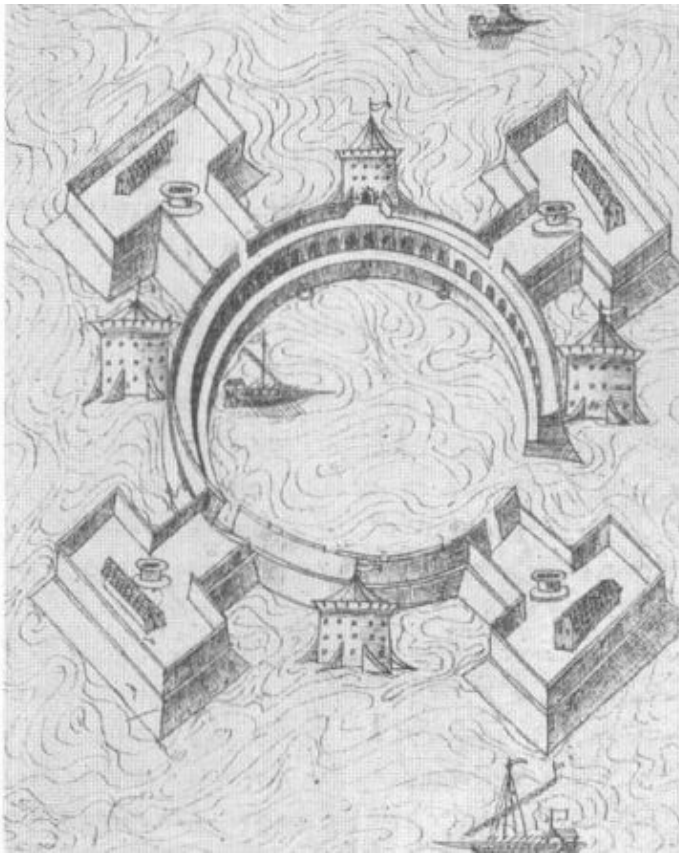
Francis Ching, Architectural Graphics

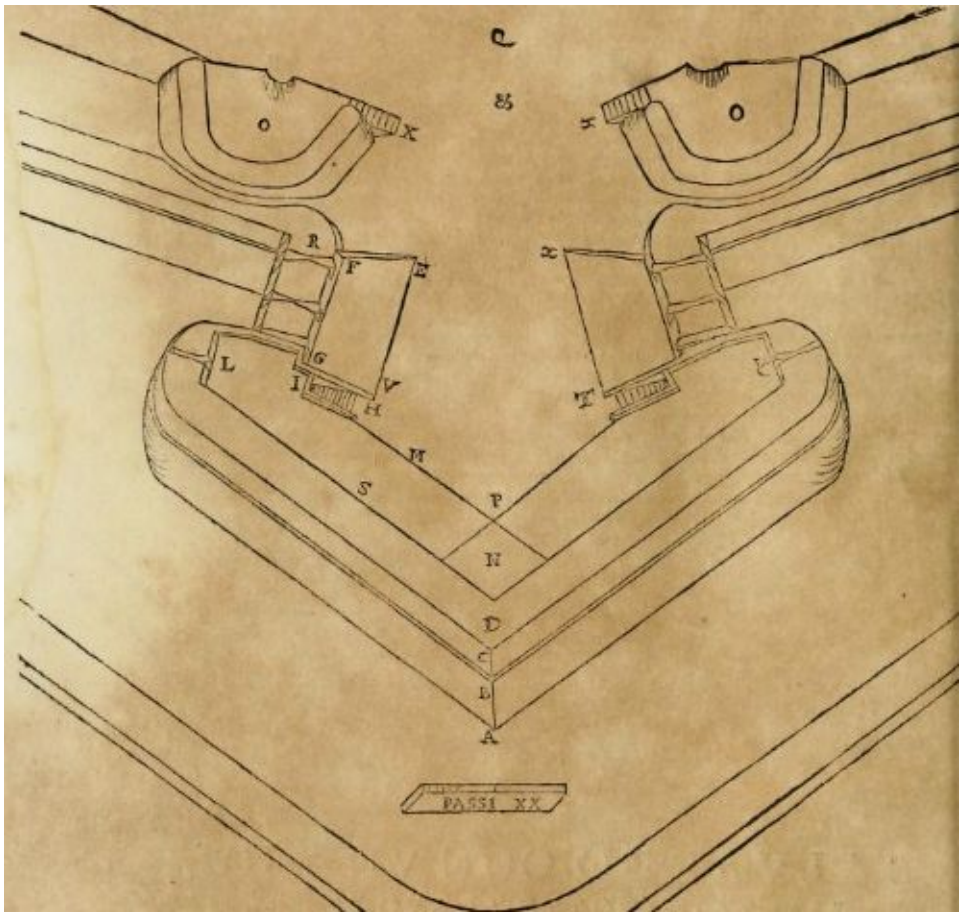
CAVALIER =
VIEW FROM THE CAVALRY
(AKA FROM ABOVE)

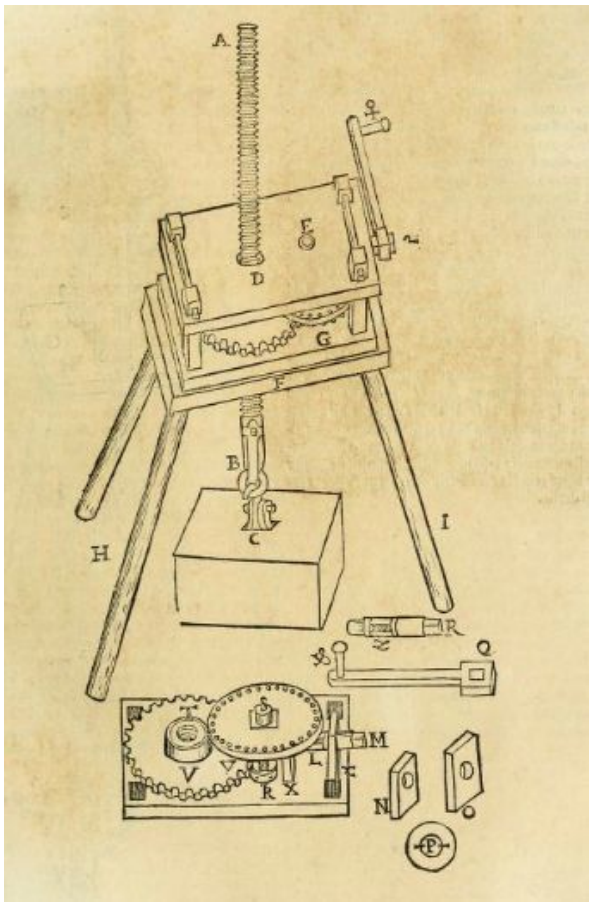




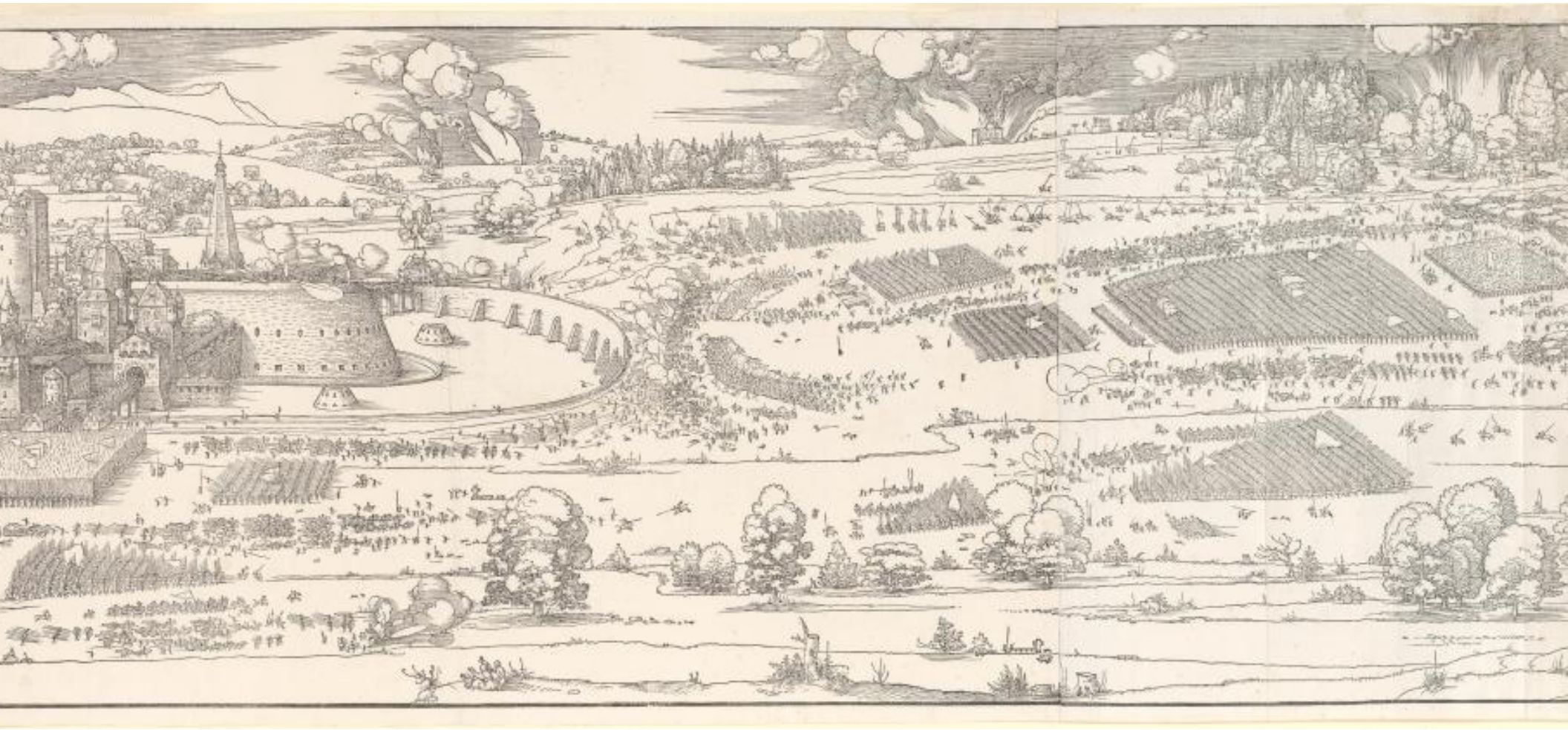


Giovan Battista Minio, 1550



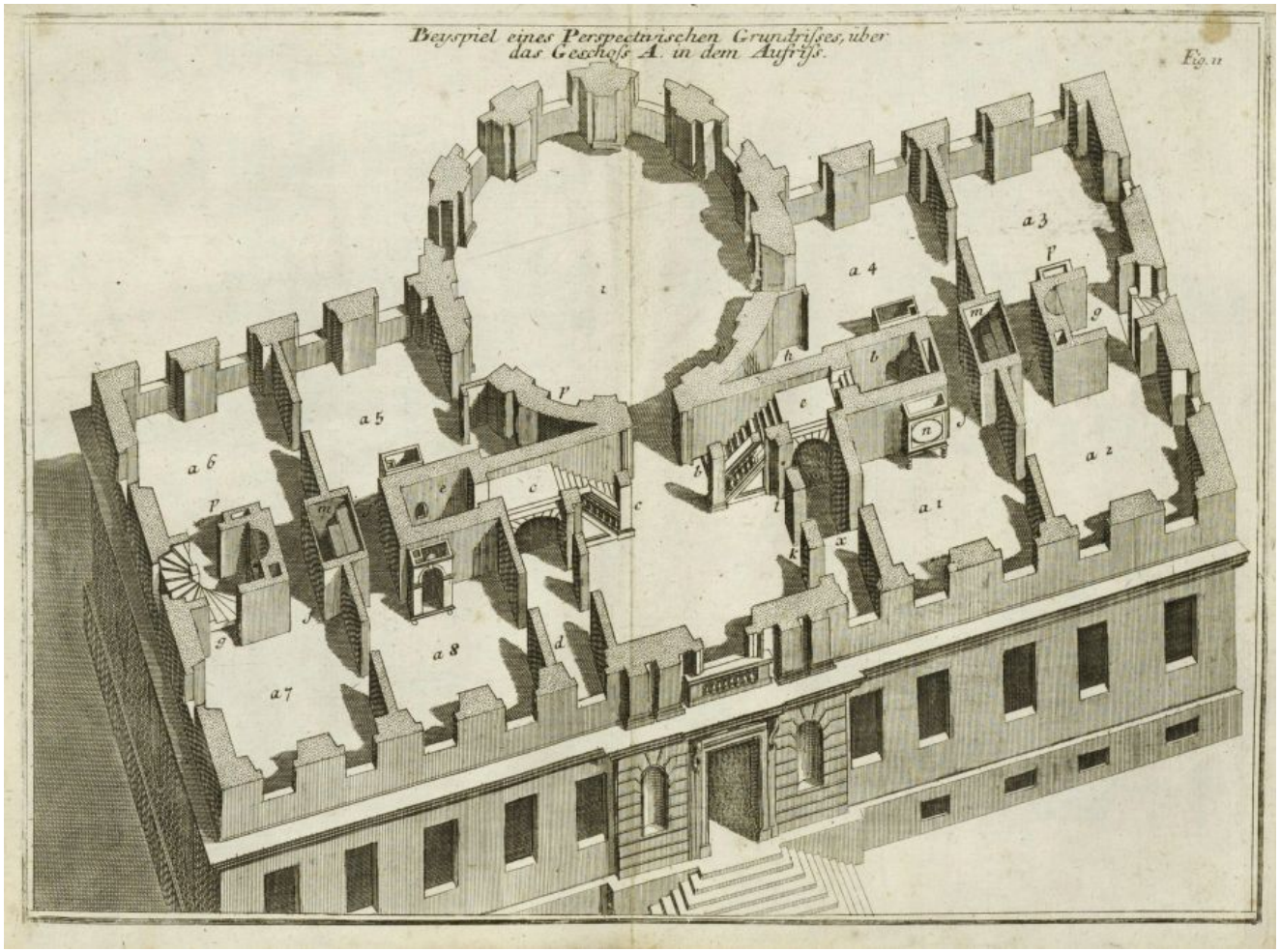


Buonaiuto Lorini, 1597

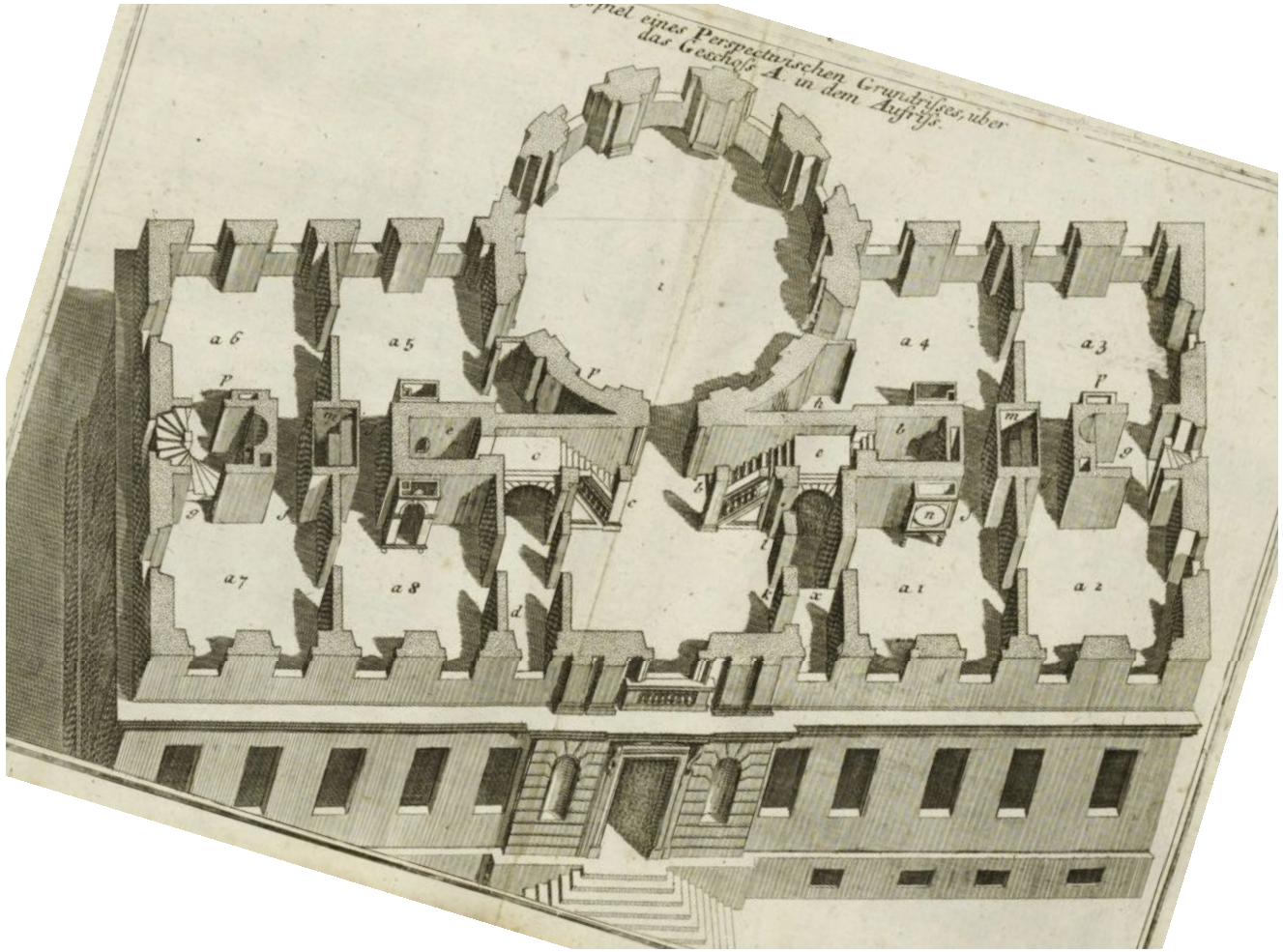


Albrecht Durer, 1527

CAVALIER =
PLAN OBLIQUE



Leonhard Christoph Sturm, 1699



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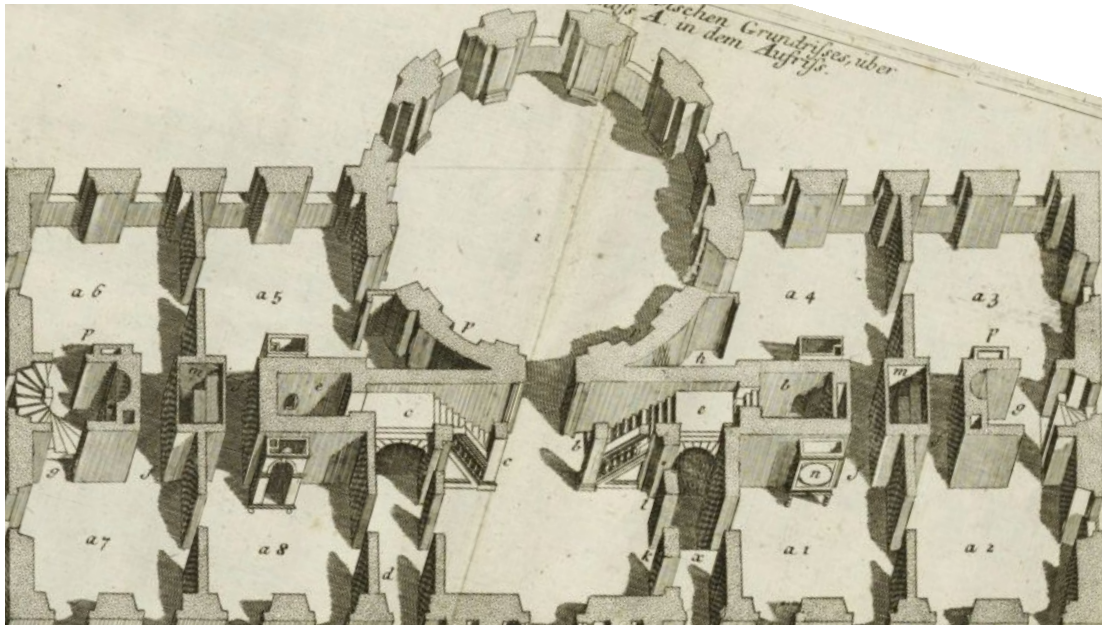

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