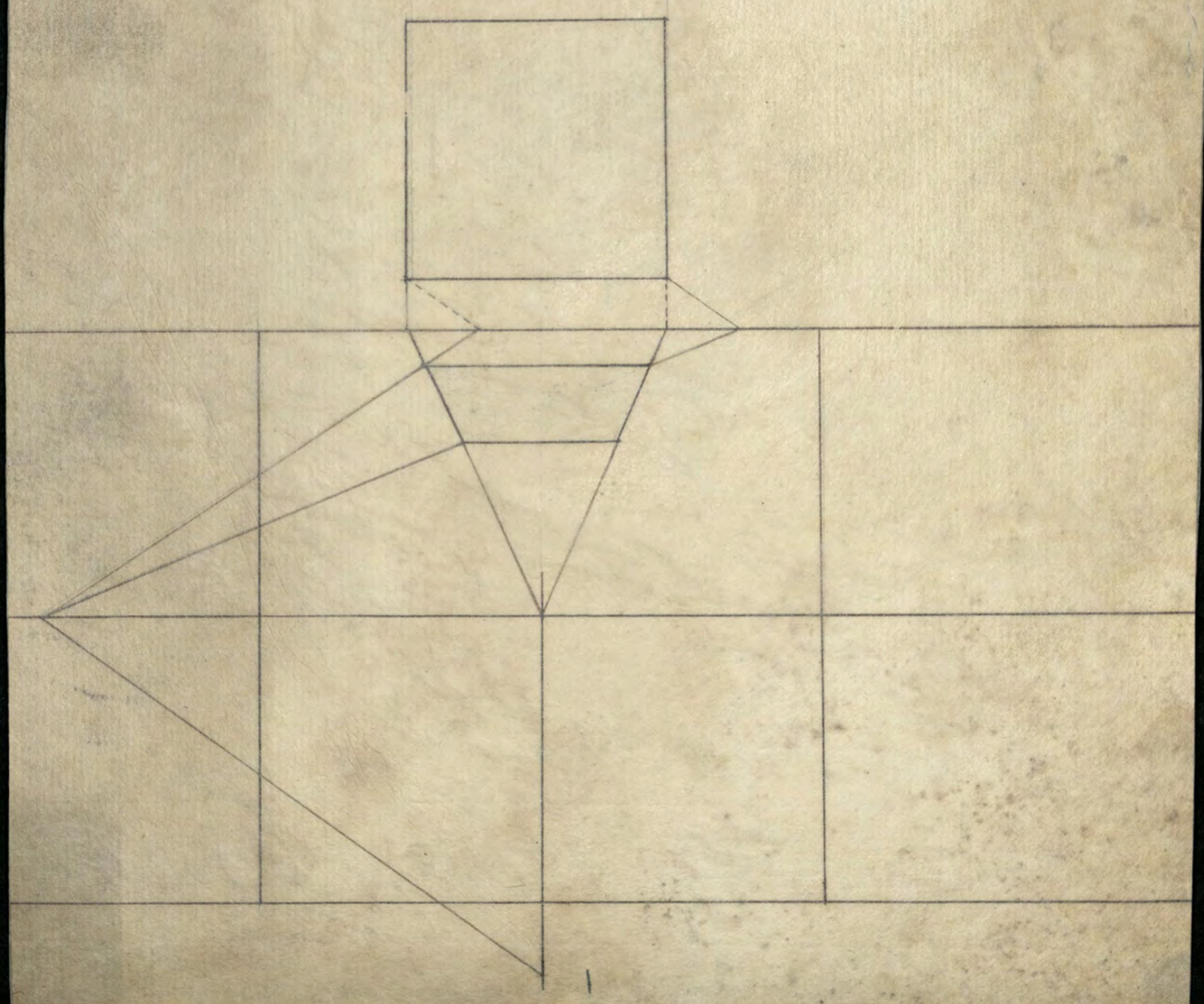
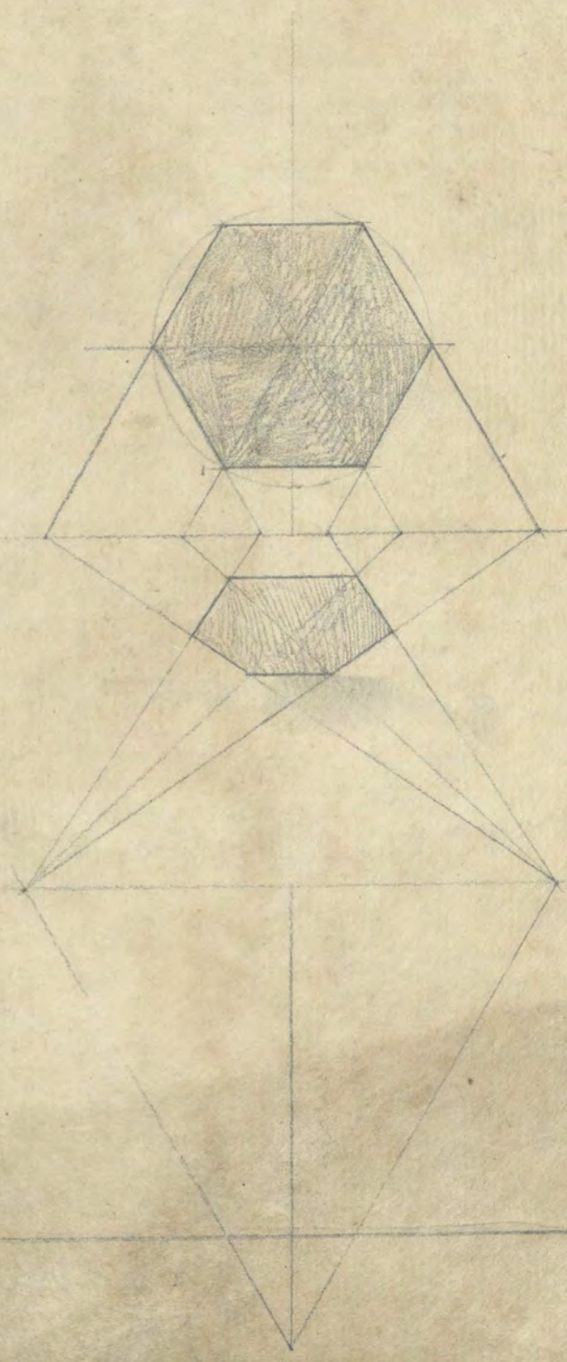
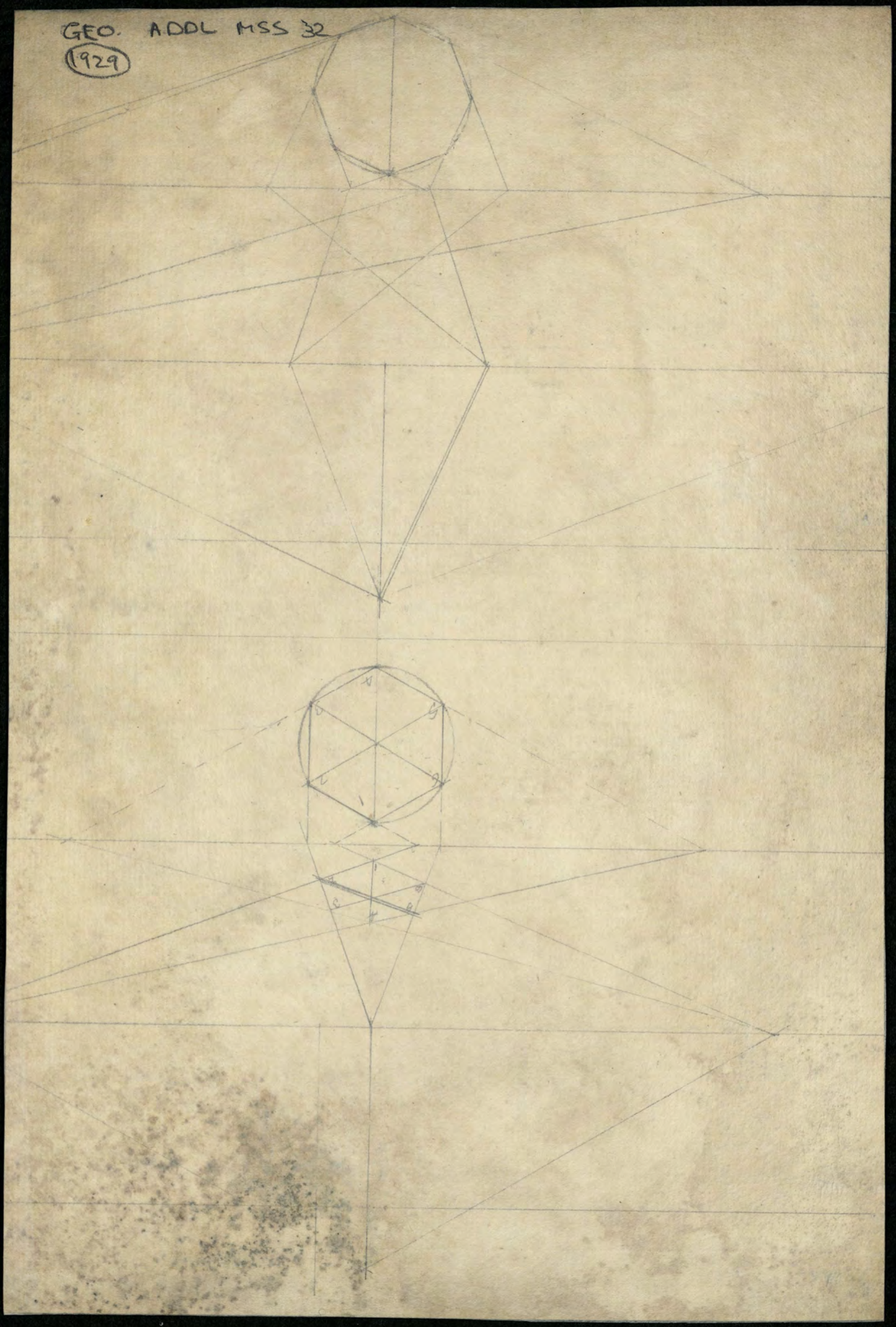
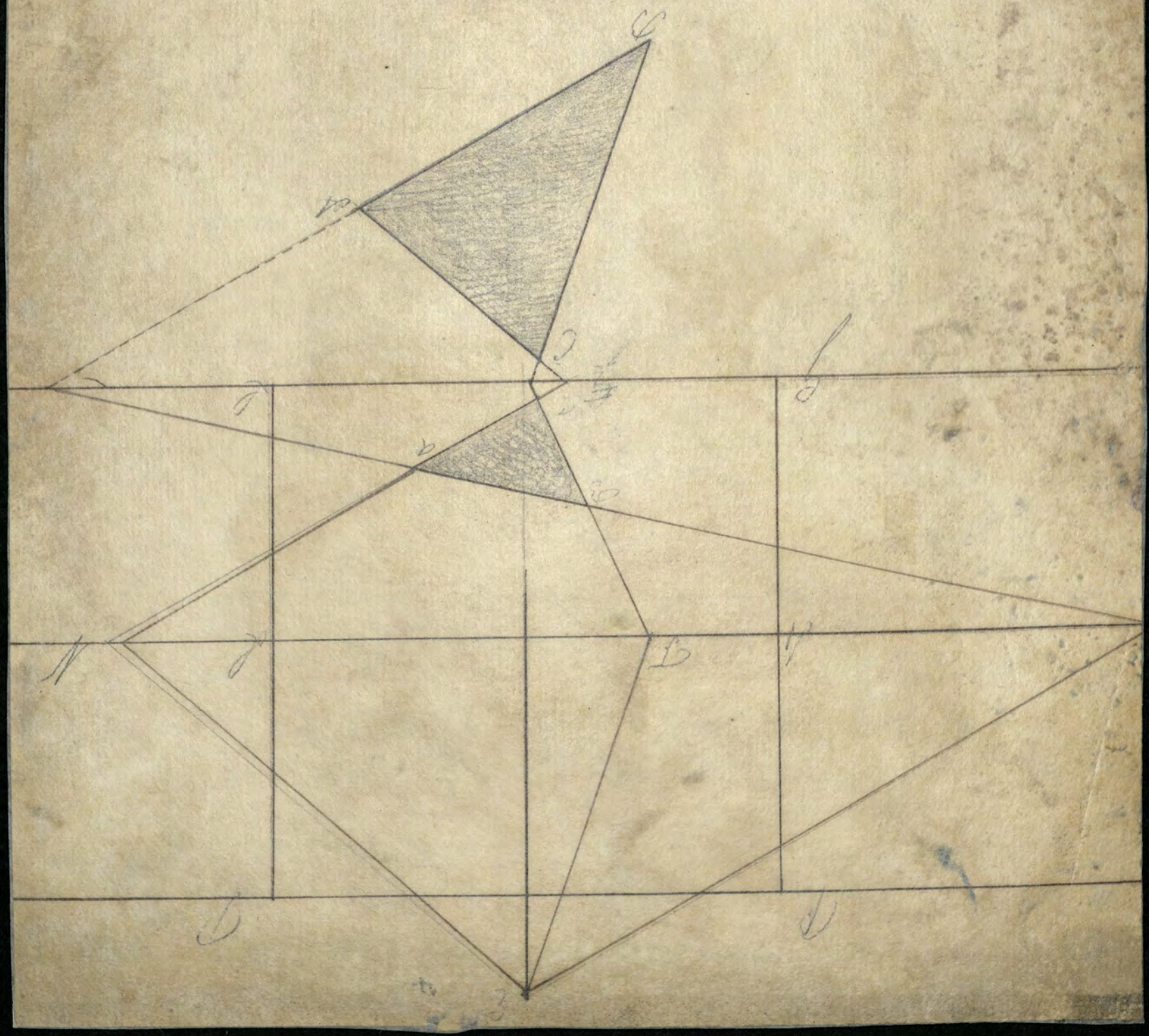








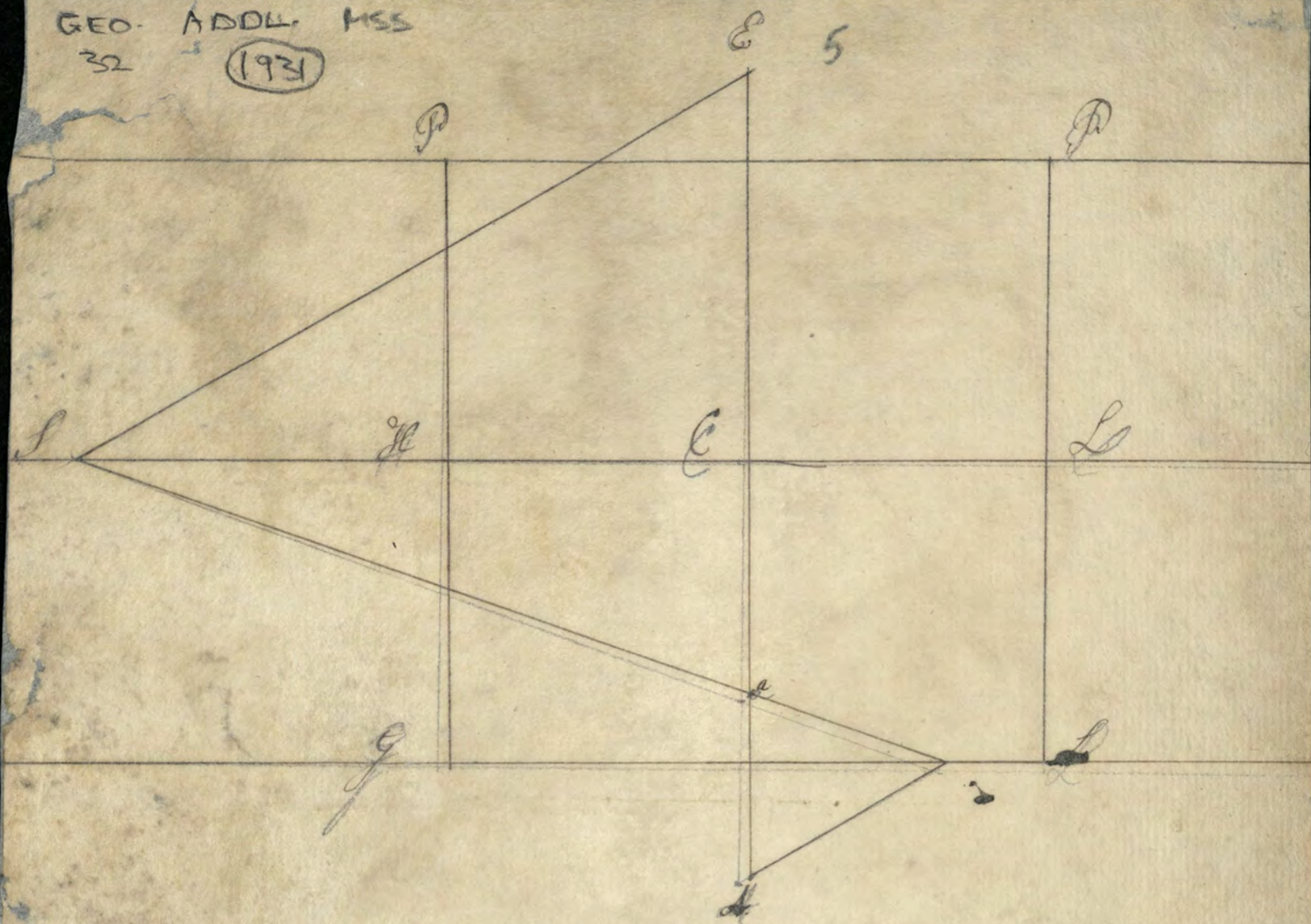
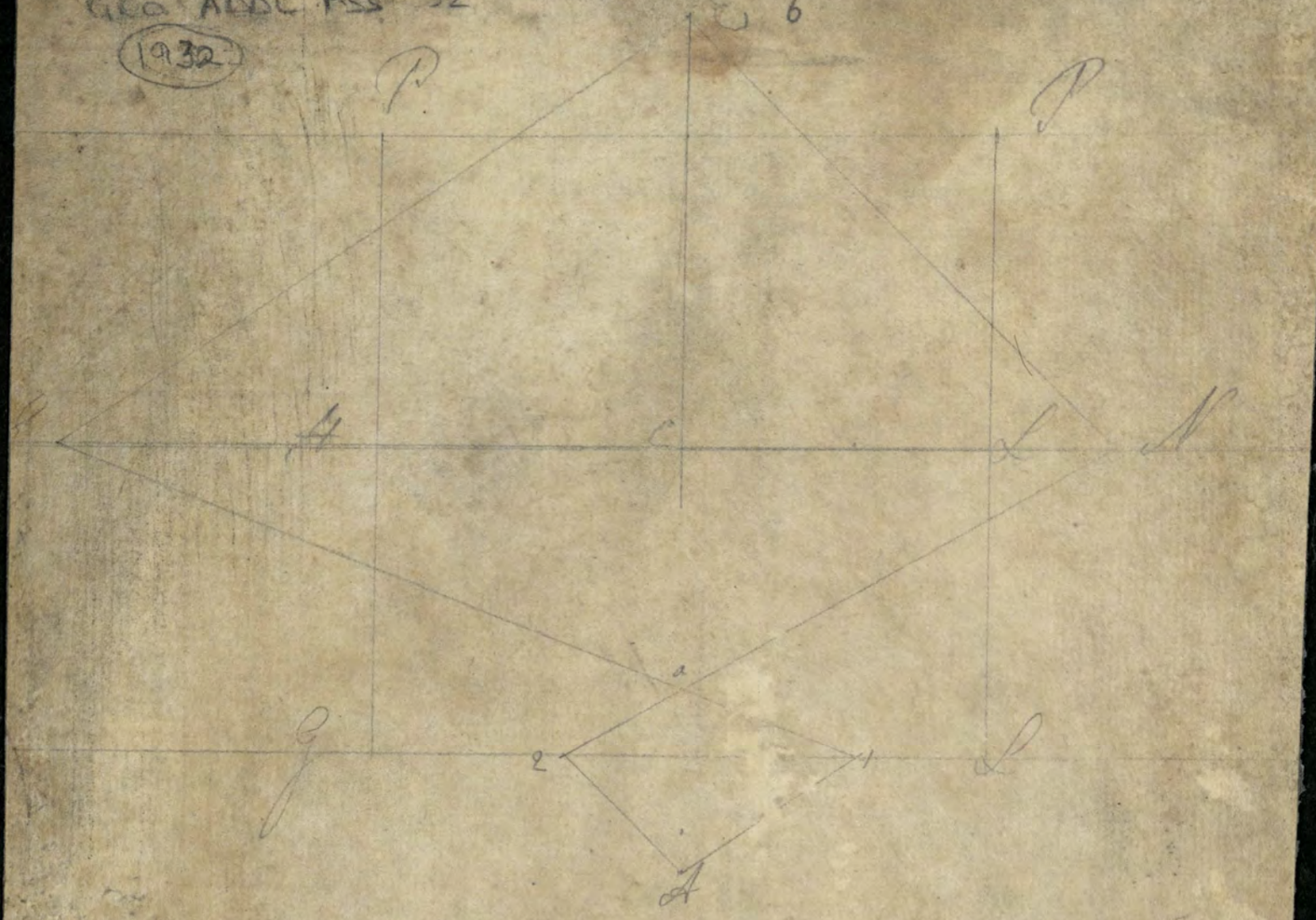
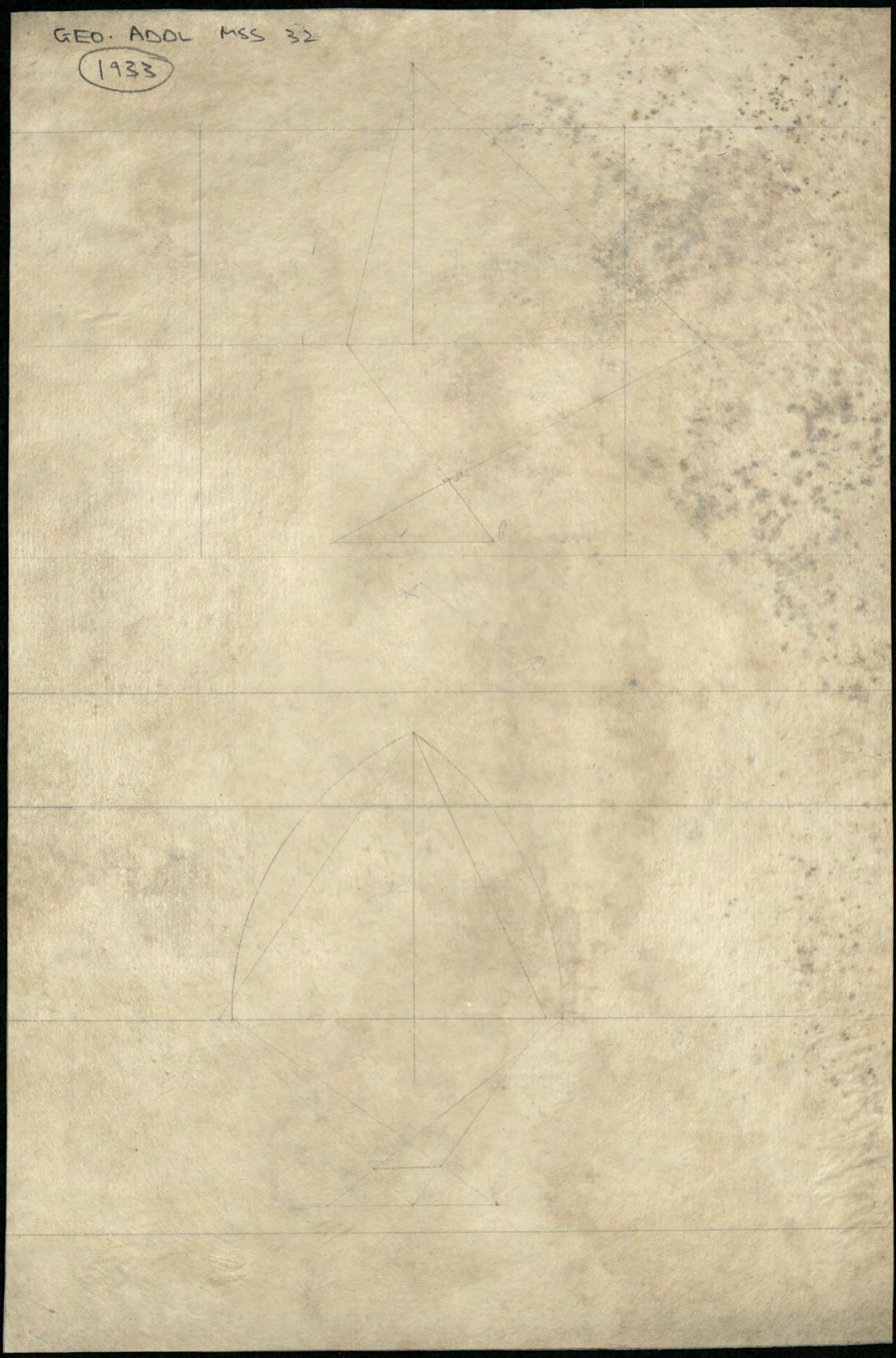
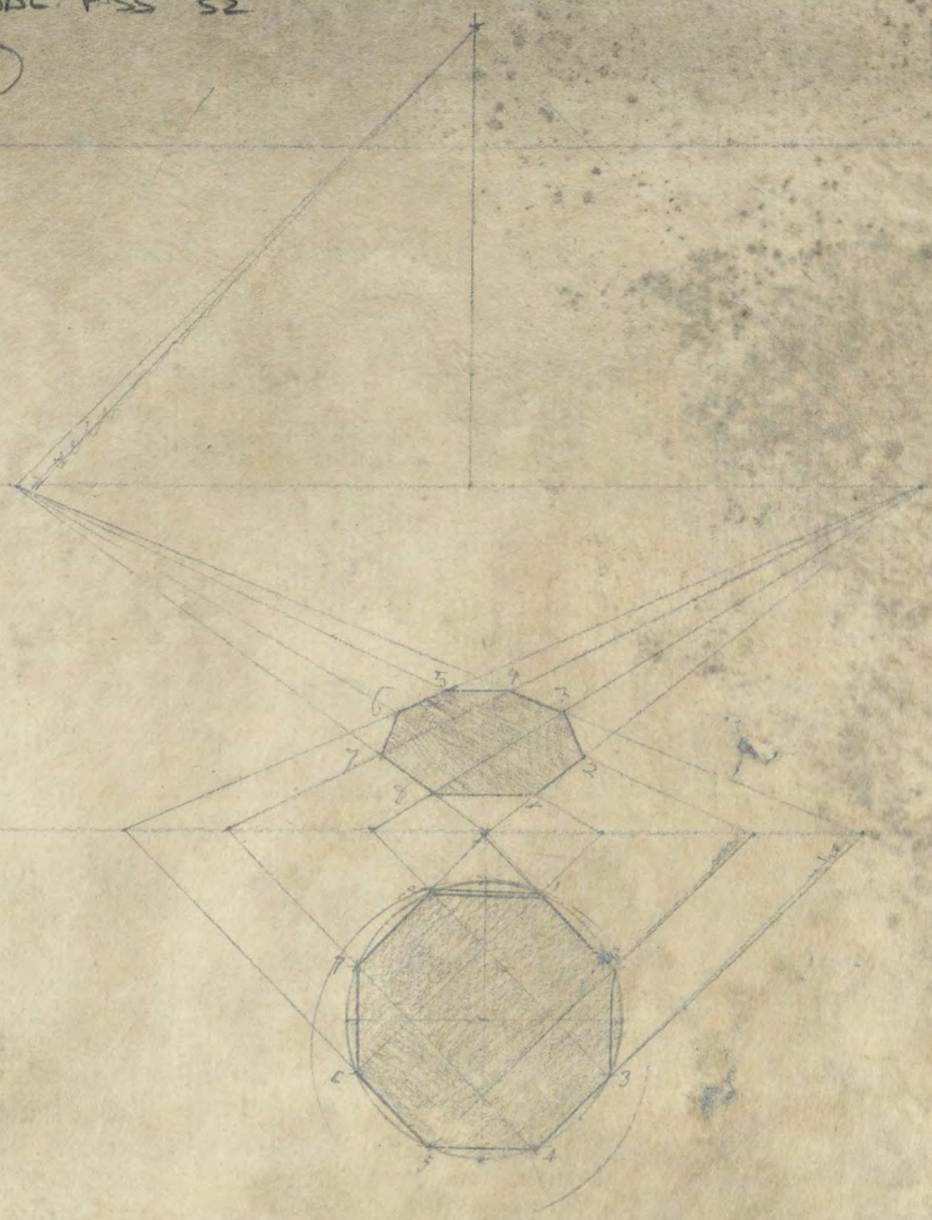
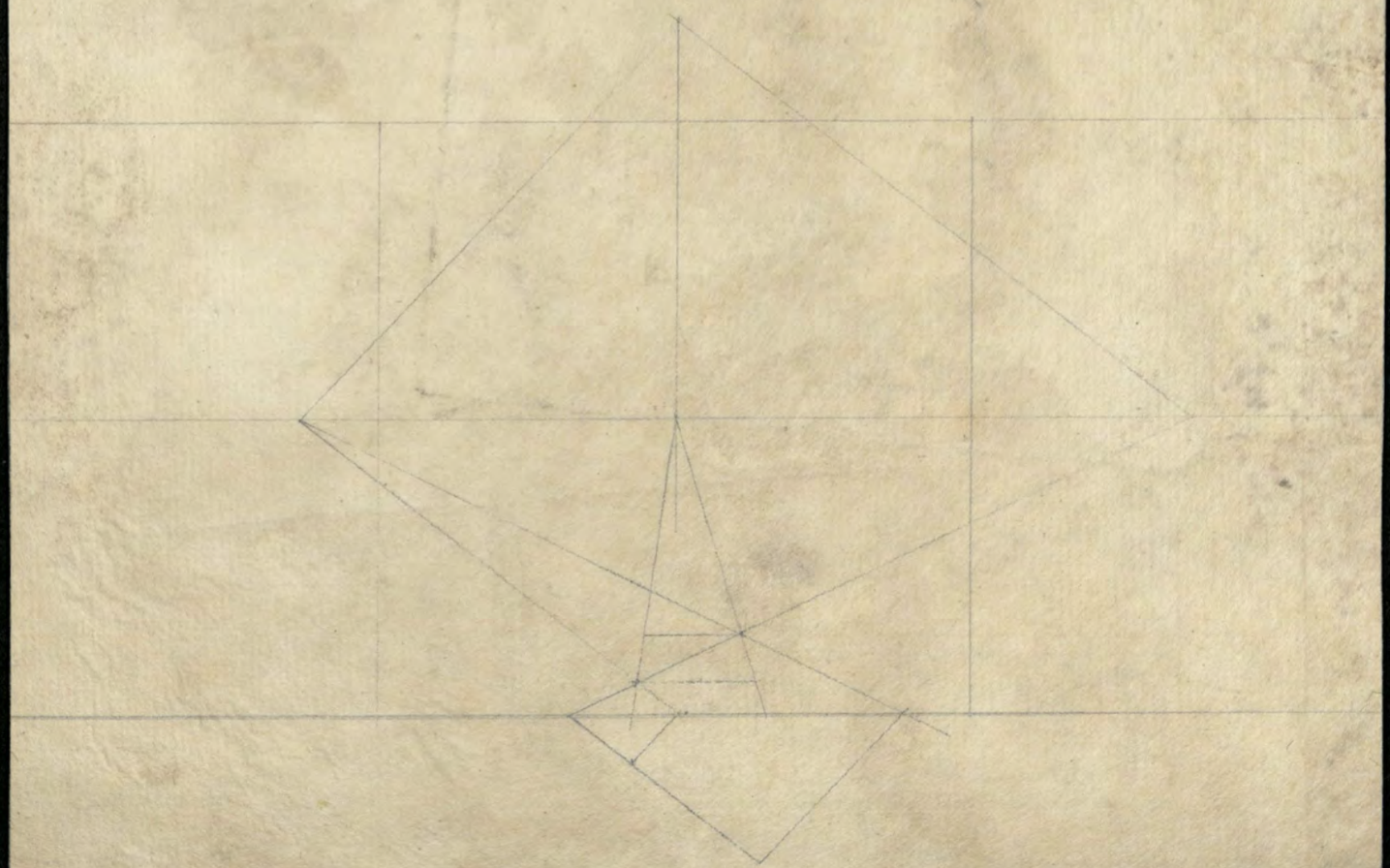


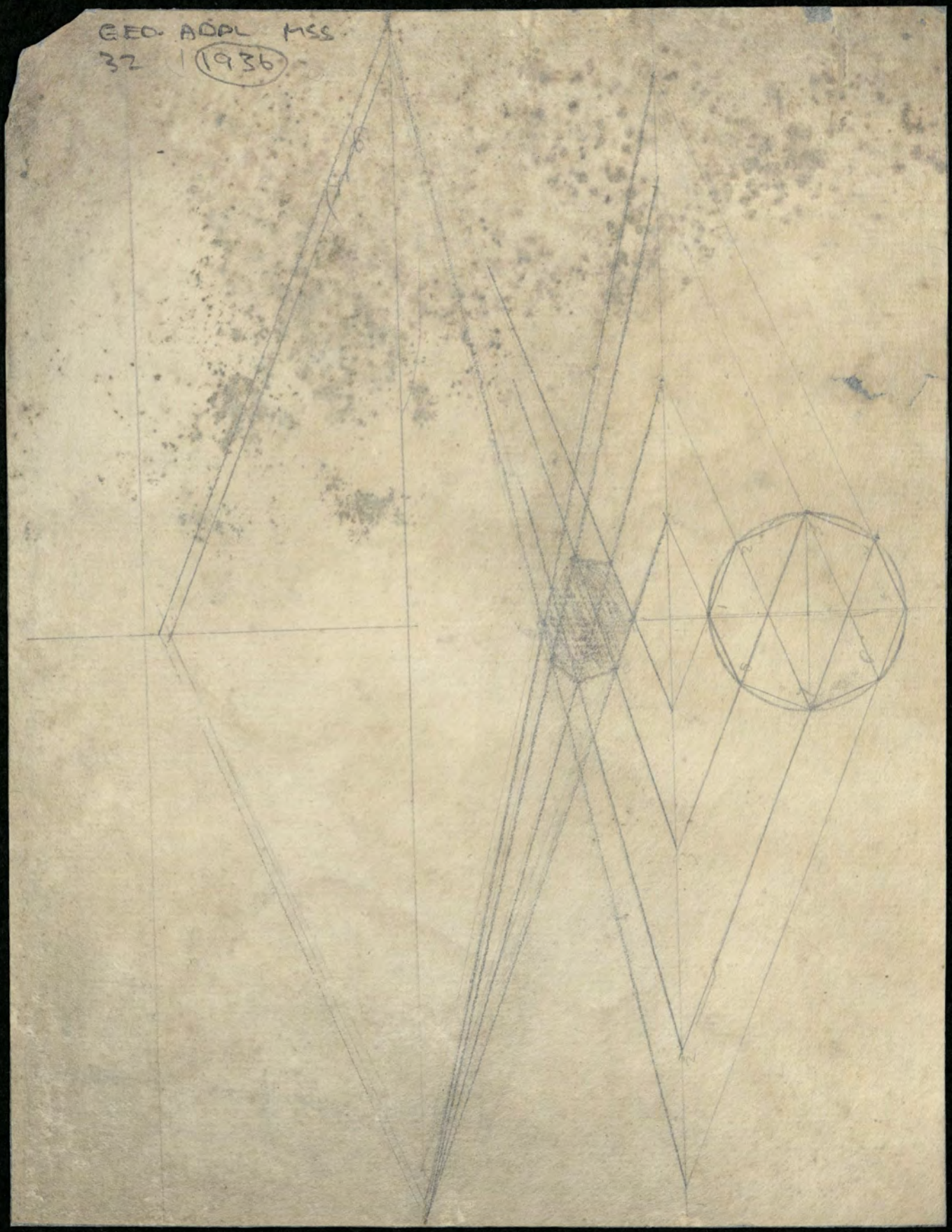
Fig 6

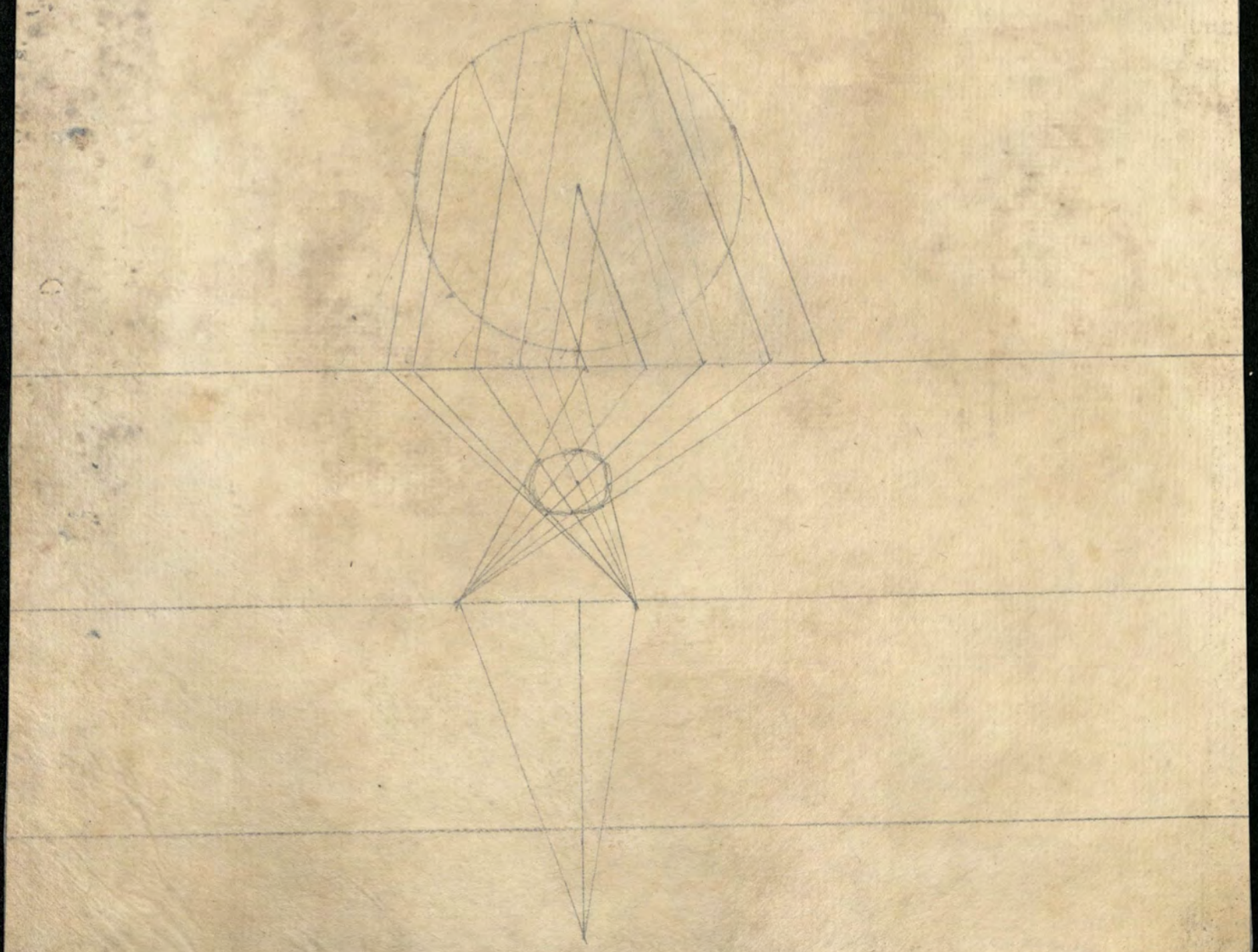


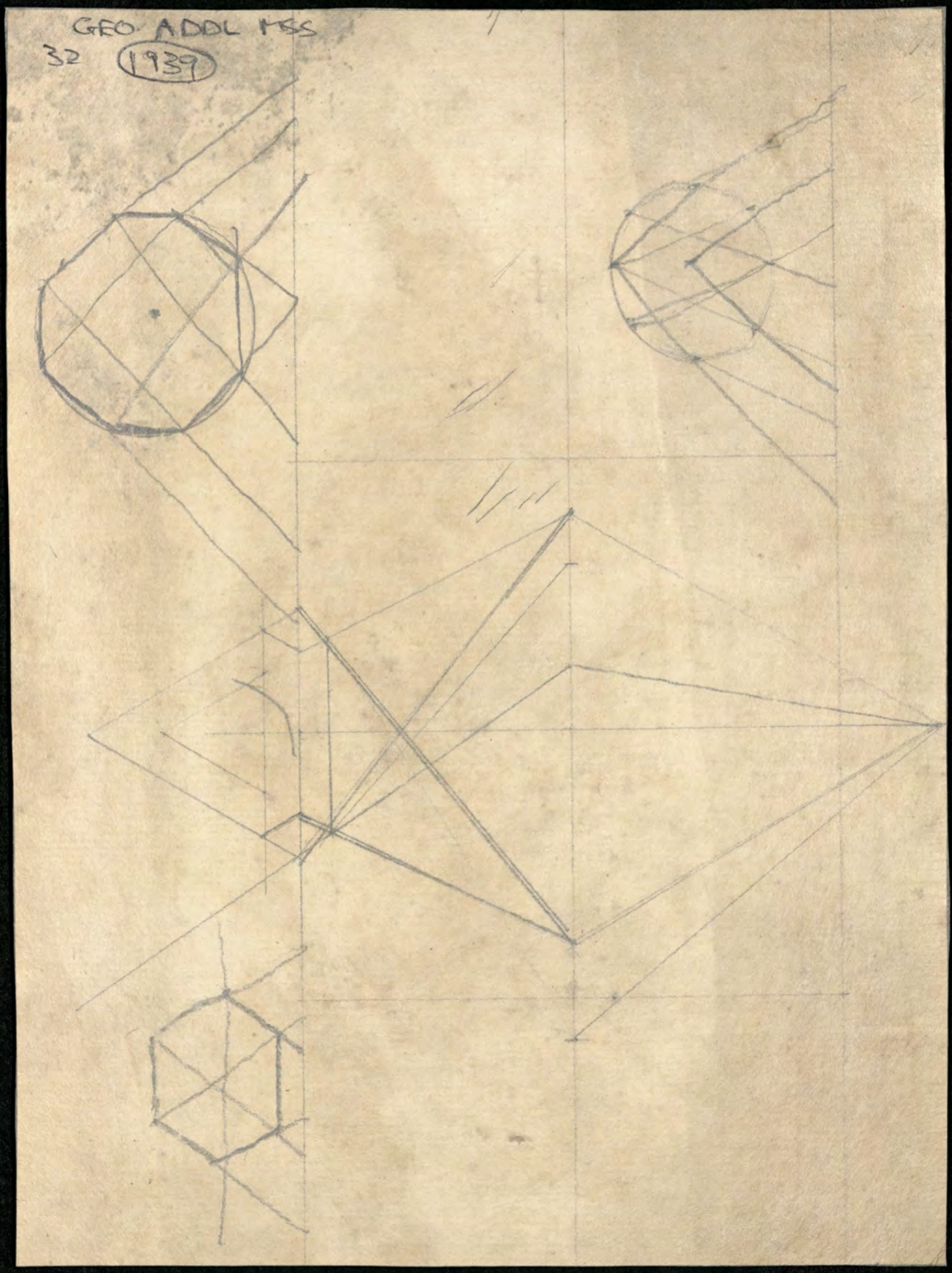


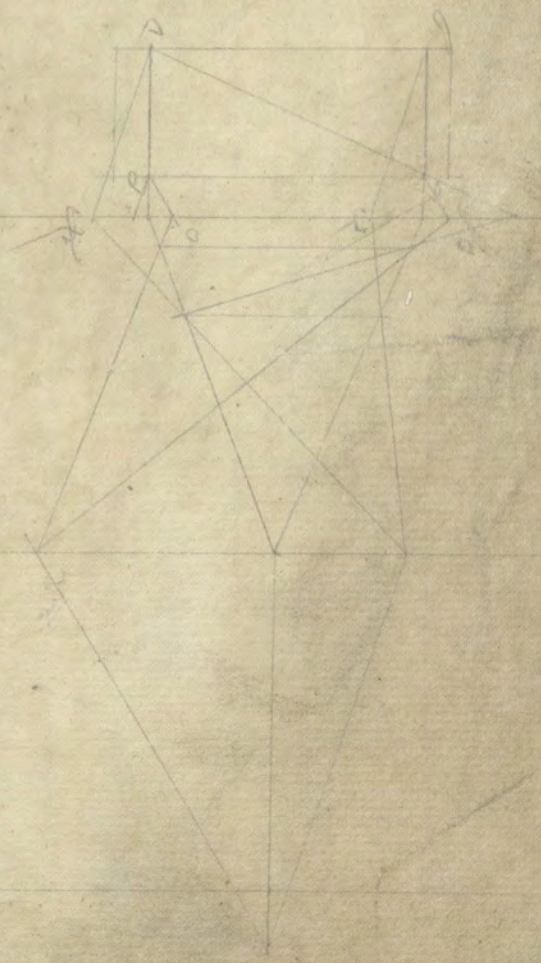


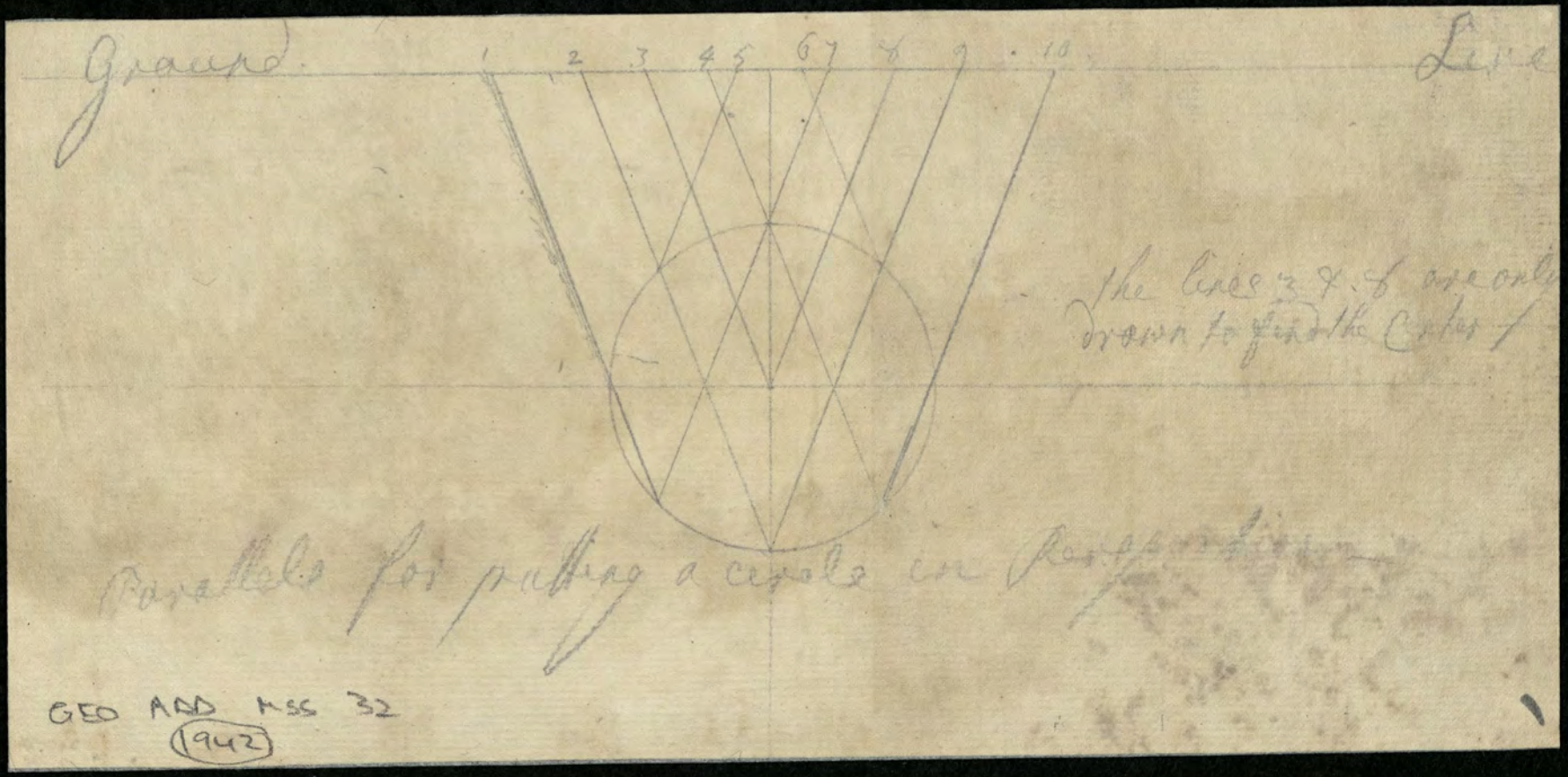


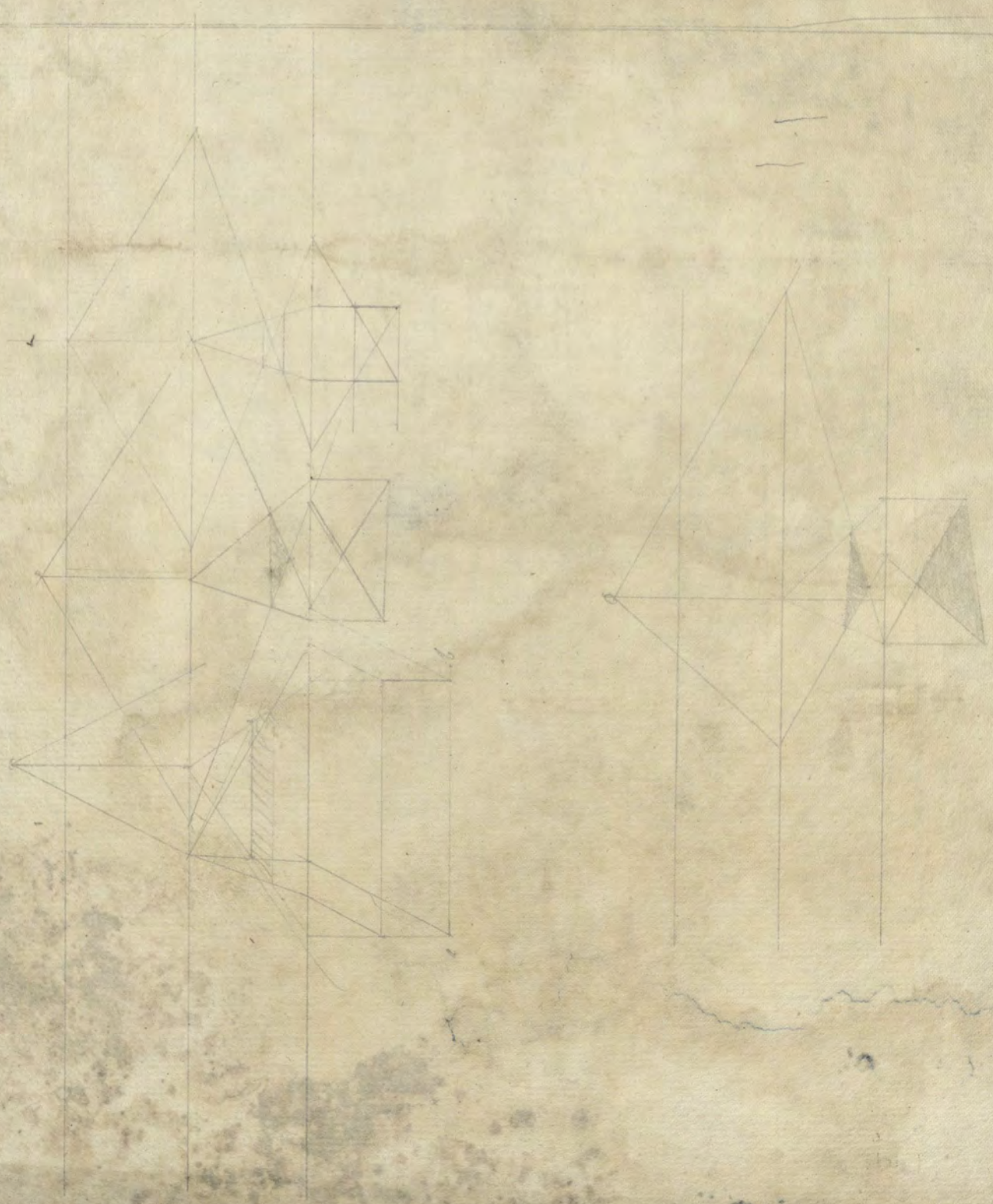


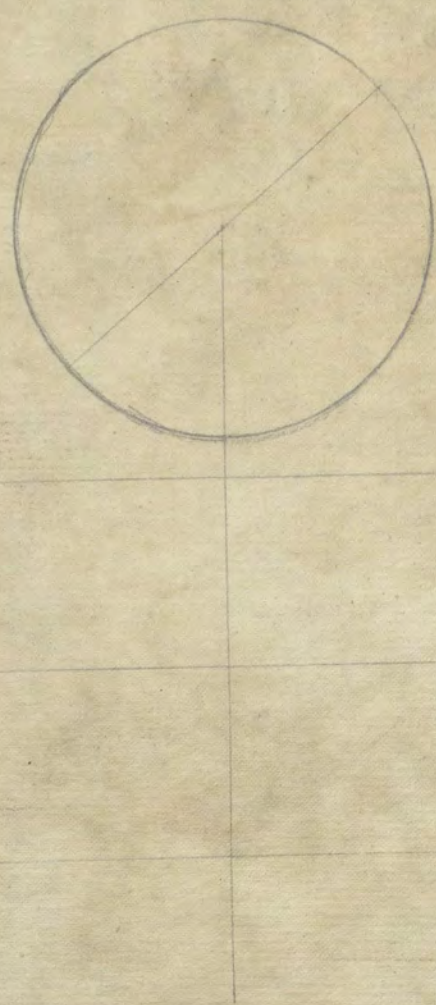


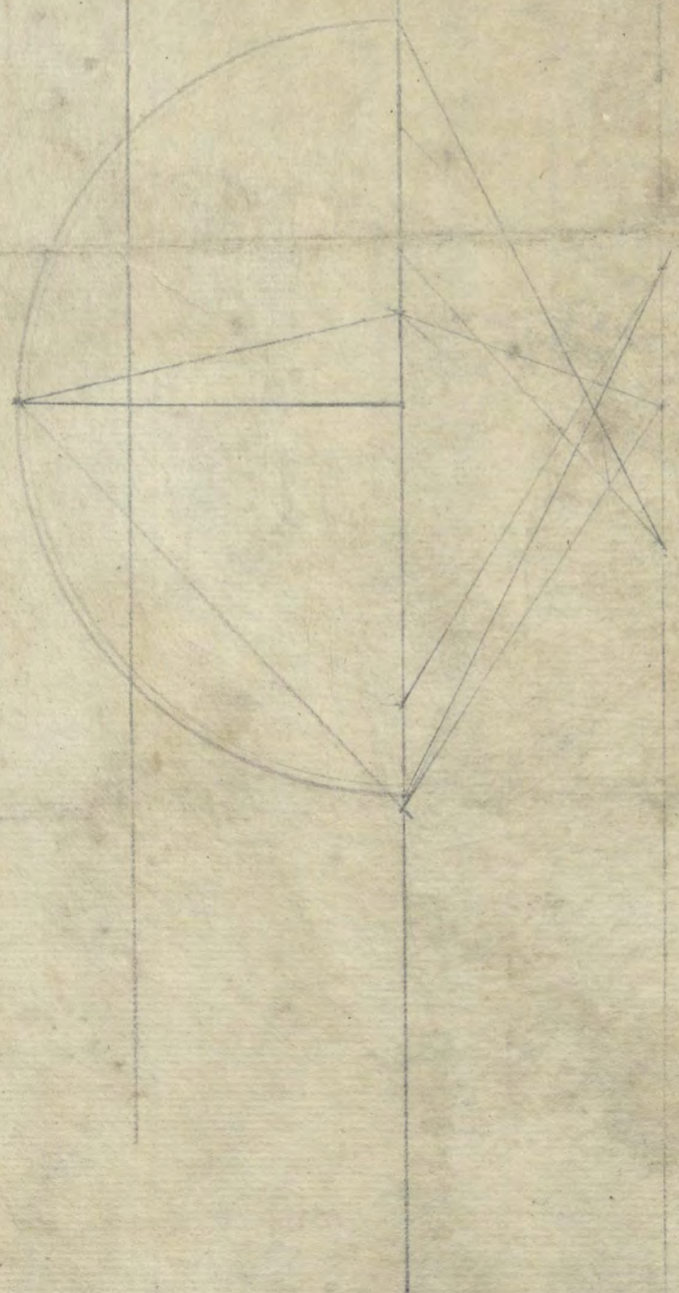












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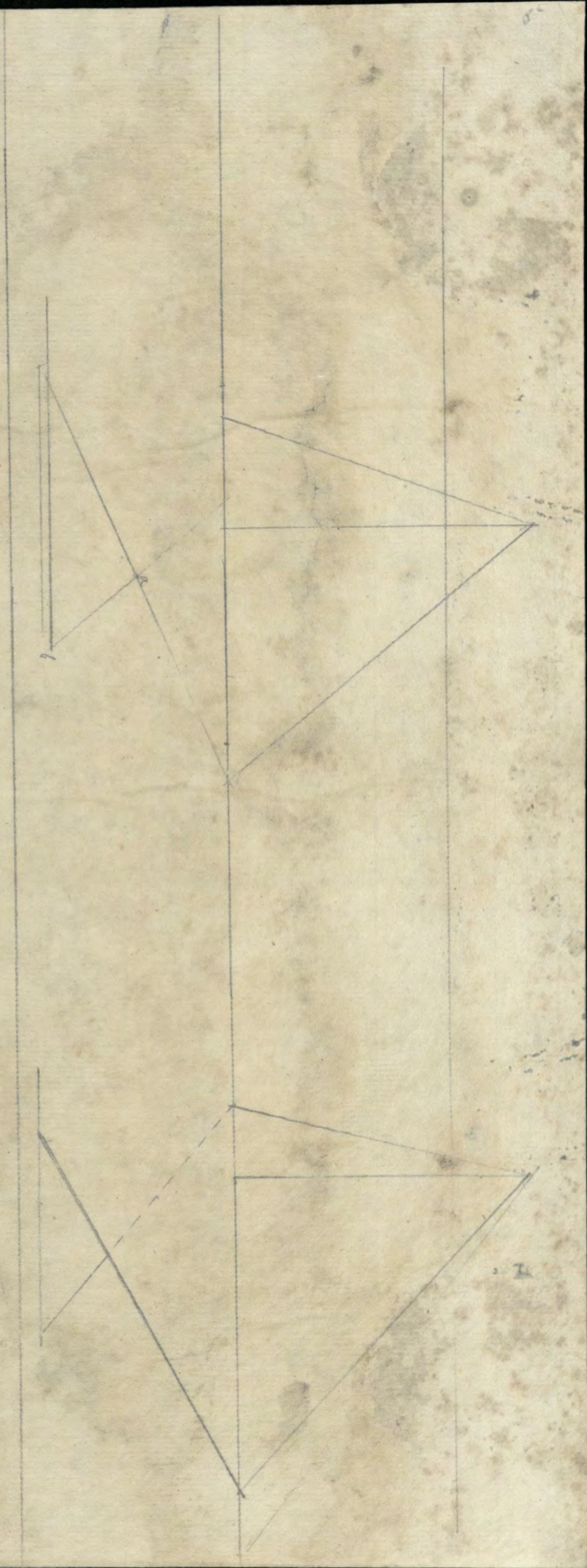
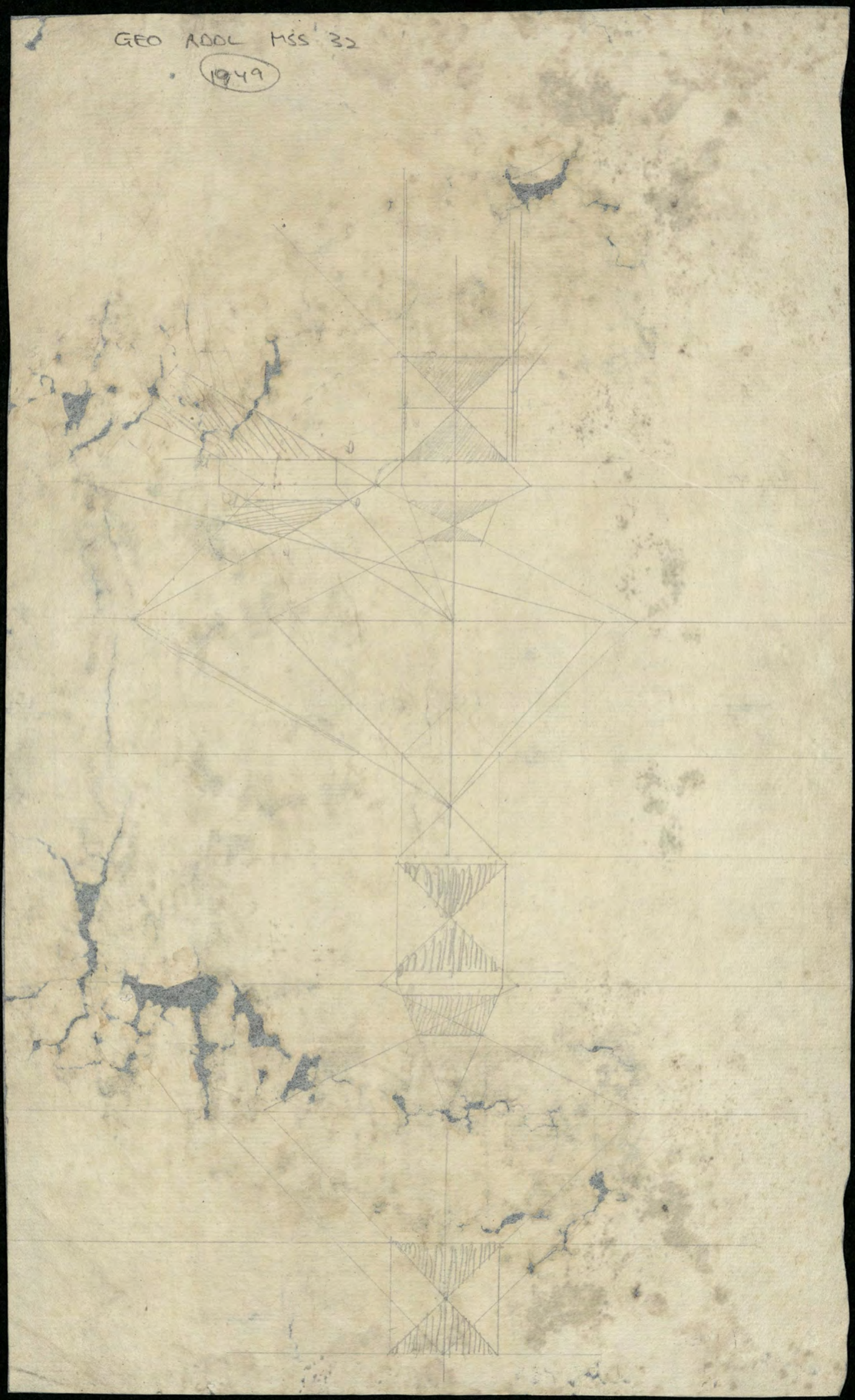
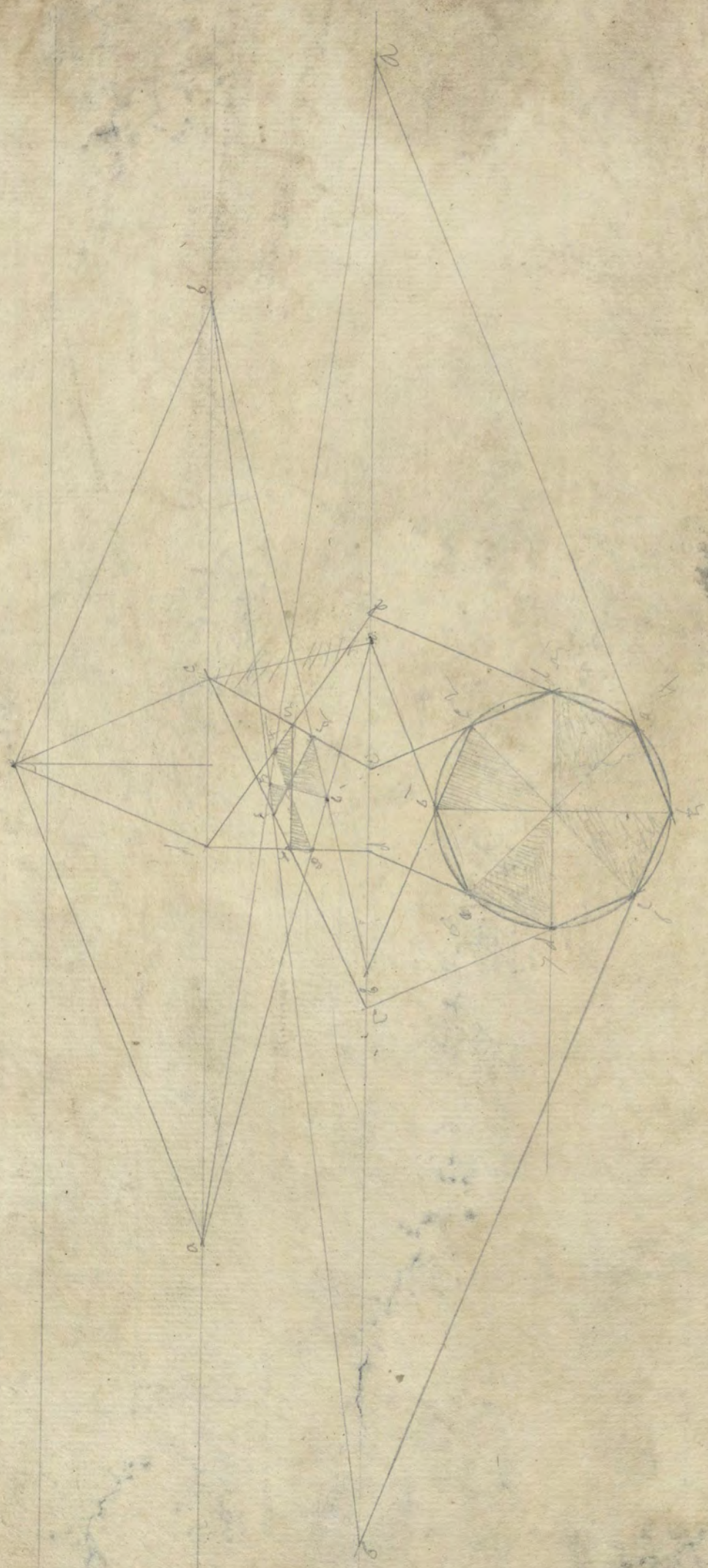




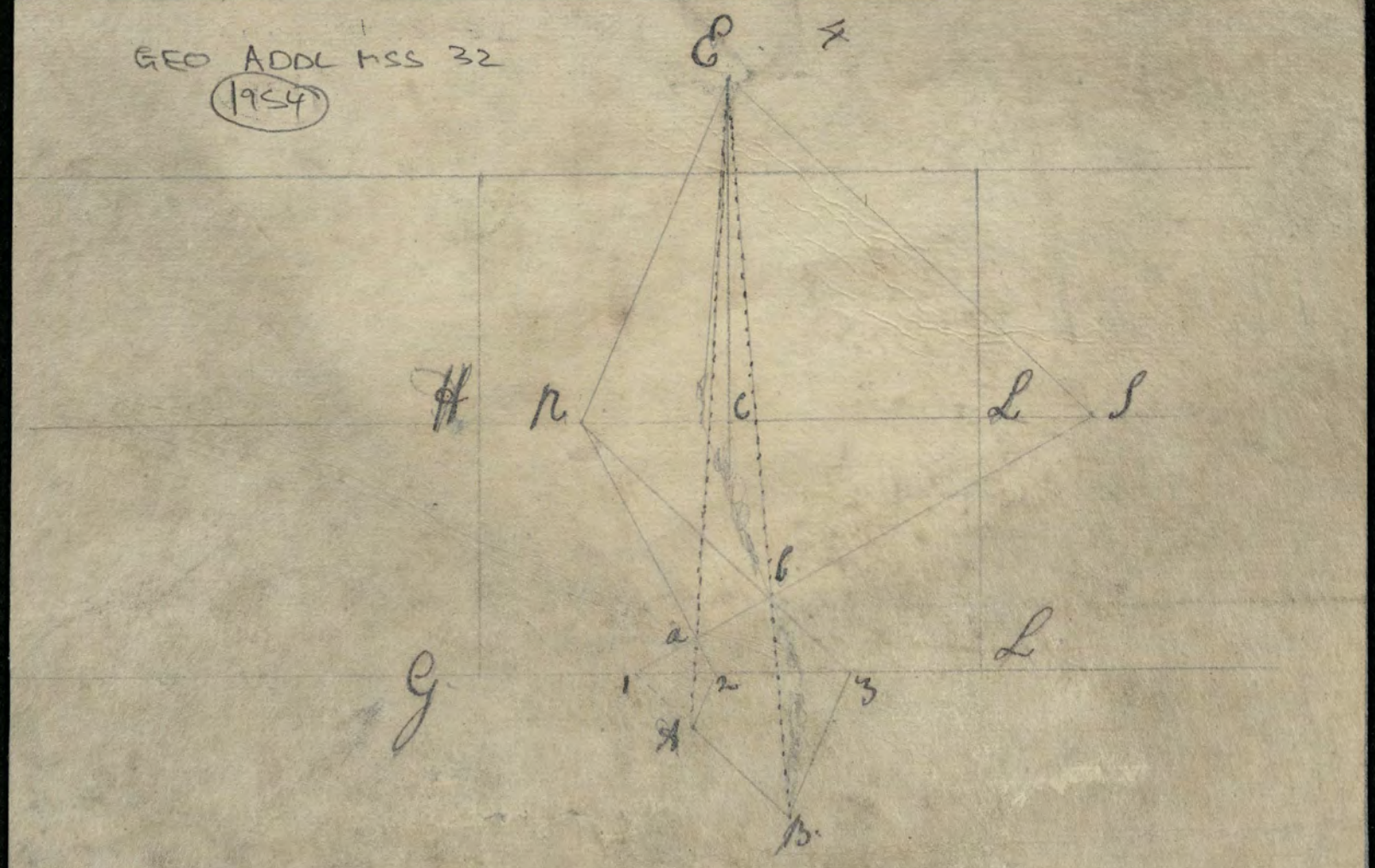


The manner of finding Pollygons, Chords, & the Line of Lines on the Sector

Set off the radius of the Circle upon the 6 degree of the line of Pollygons, then by putting the compasses to any degree, (as for instance) on 12. & you will have a Dodecagon.

By putting the radius of the Circle on the 60 degree of the line of Chords, & then by placing the compasses on any number (as for example) on 30. & by dividing 360 by that 12 will be the quotient; which is a Dodecagon.

To divide a Line into any given number of parts (as for ex:) 6. set ~~your compasses~~ the length of your line on 6. & by placing your compasses on 1. you will have the 6th part of the line.



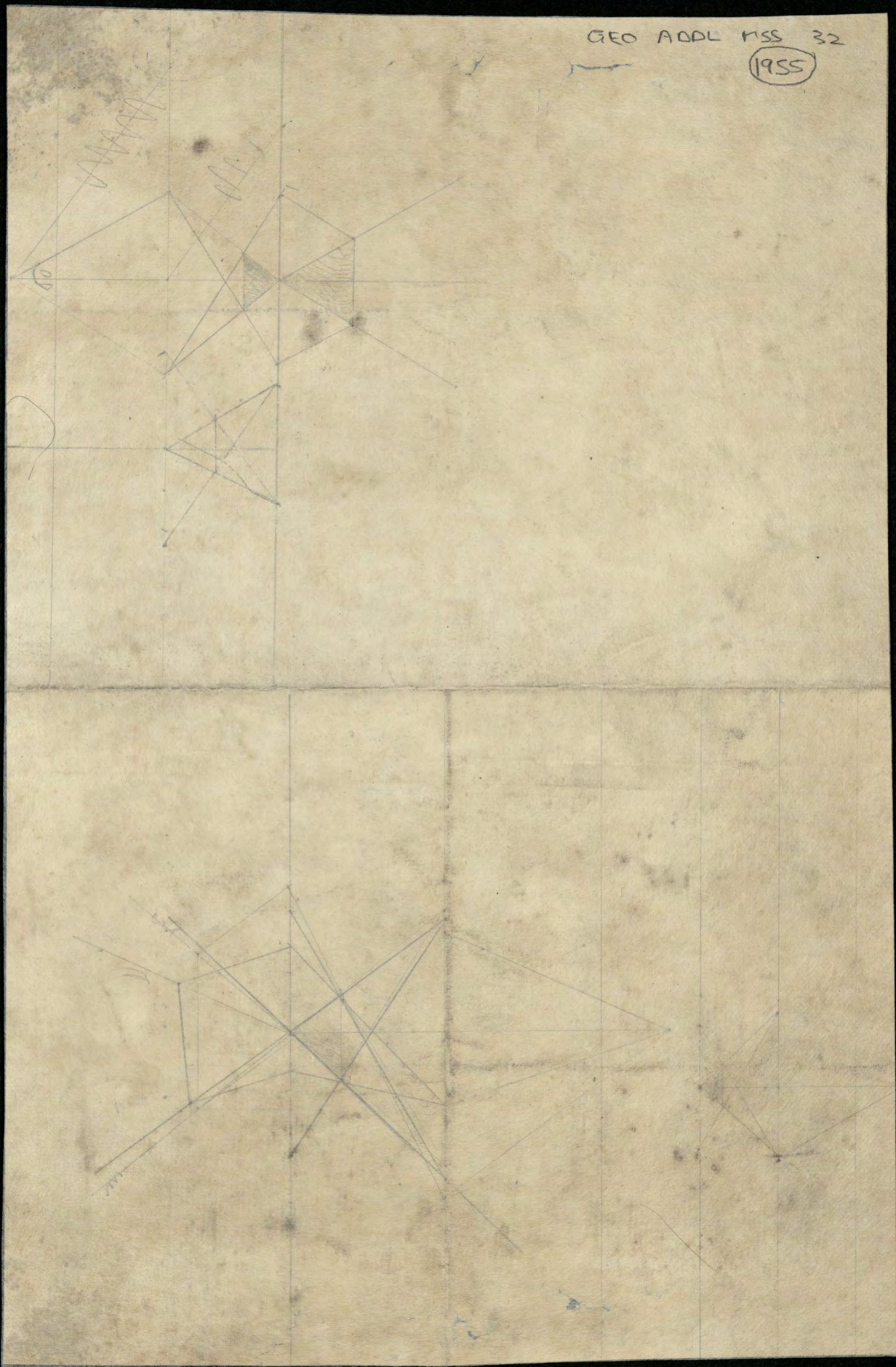
To put a line oblique to y^e Groundline in perspective.

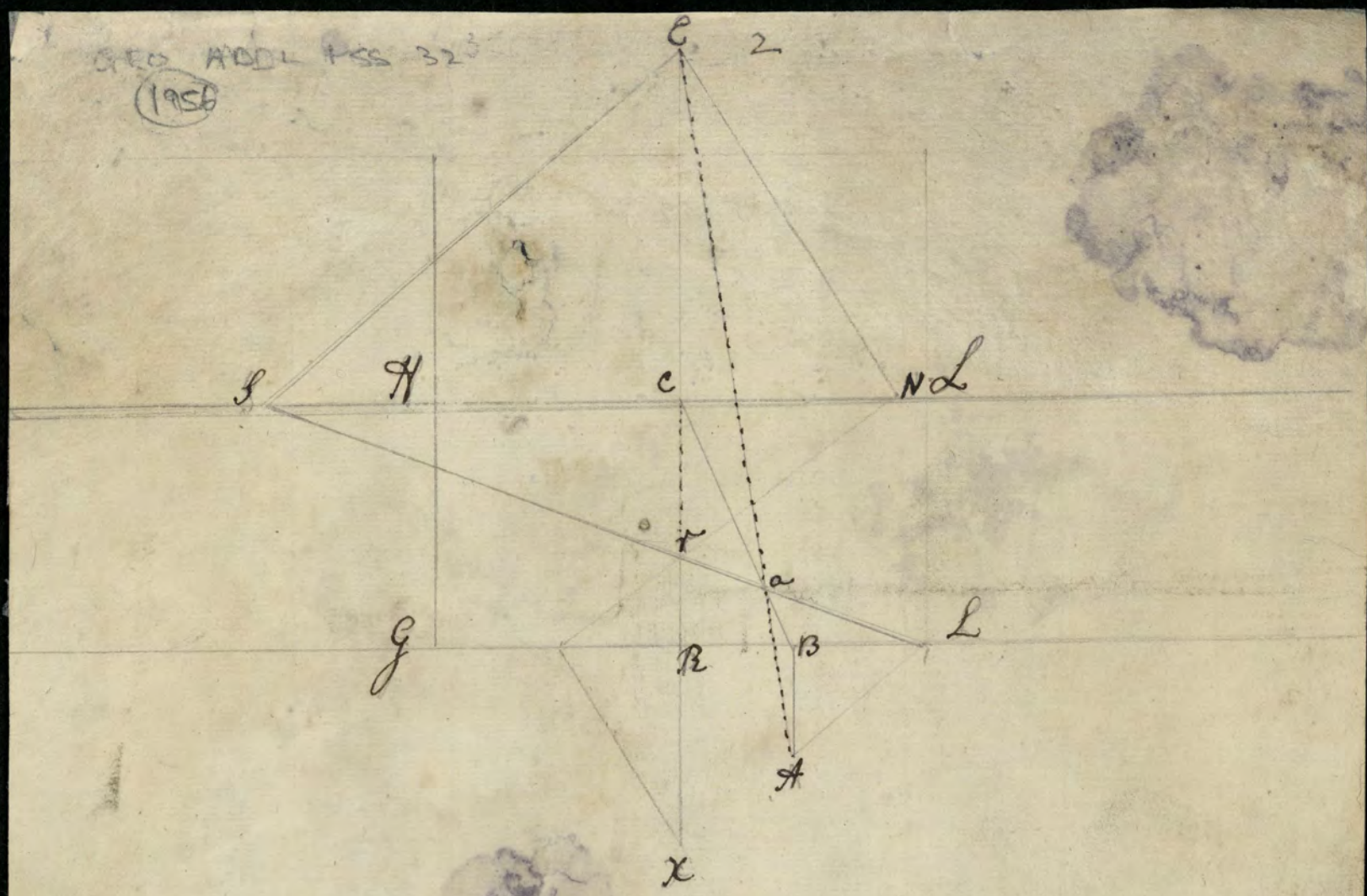
With one Point.

Suppose A.B. y^e line continue A.B. to y^e Ground at I & from ye Eye E. draw ye Parallel E.S. from S. draw S.I. & from ye Eye E. draw ye lines E.A. E.B. & where they will be intersected by ye line S.I. in ye points a.b. which will give ye line a.b. ye representative of ye Oblique line A.B. as we desir'd.

With two Points

From ye points A.B. draw at pleasure y^e lines A.2. B.3. & from y^e Eye E. y^e Parallel to them E.N. from N. draw N.2. N.3. & they will be intersected in like manner by y^e line S.I. in y^e points a.b. so y^e a.b. will be y^e representation of A.B. as before.





To put a Line Perpendicular to y^e Ground line in Perspective

With one Vanishing Point

Let A. B. be y^e line which being perpendicular to ye Ground line will have ye Center of ye Picture C. of course for its vanishing Point. therefore draw ye line C. B. & from ye Eye E. draw ye line E. A. which intersecting C. B. in a. will give ye line ~~C B~~ a. B. ye perspective of A. B.

With two points.

From ye point A. of ye line A. B. draw at pleasure a line cutting ye Ground line as A. 1; then draw from ye Eye to ye Horizon its Parallel E. S. & draw ye line from S. to 1. which will intersect ye line C B. in a. & give ye Perspective A. B. as before.

In ye same manner ye line R. r. is ye Perspective of X R which by being directly in ye Center of ye Picture becomes part of ye line E. C. continued to ye Ground. so y^t it appears ye farther a line is carried from ye Center as A. B. its appearance will be ye more oblique.

To put a Line Parallel to y.e Ground line in perspective.

With one Vanishing Point.

Let A. B. be y.e given line; from y.e points A. & B. draw at pleasure A. 1. B. 2. to y.e Ground. & from y.e eye E. draw y.e Parallel to them E. S. till it meet y.e Horizon, then from S. draw S. 1. S. 2. & from y.e eye E. draw E. A. E. B. & from y.e points of intersection a. b. draw y.e line a b. which will be y.e Perspective appearance of A. B. & like it Parallel to y.e Ground.

With two Points.

After having drawn y.e lines A. 1. B. 2. & their Parallel E. S. &c. as before; draw A. 3. B. 4 at pleasure to y.e Ground. & from y.e Eye E. draw y.e Parallel E. N. & from N. draw N. 3. N. 4. then S. 1. will be cut by N. 3. in a. & S. 2. by N. 4 in b. So y.e line drawn from a. to b. is again y.e representation of A. B.

Q. E. D.

N°. 25. A Cube ~~[illegible]~~ one of whose Vanishing Points is V, the Vanishing Line V L, & its Distance G I E.

N°. 26. For the Roof of an House whose Vanishing Lines V L, V I L are both above & below the Horizontal Line. At the transposed place E of the Eye, is made the angle d of the Roof which gives the Vanishing Points G I, P, & G I E, gives I L.

N°. 27. ~~For~~ a Buttress, the whole Figure Sides have the same Inclination, the E a, d, are parallel to the Sides d e & therefore vanish into the same point G I. N.B. ~~also~~ The angle which the Buttress makes with the Horizontal Plane, must in other Examples be set from E above the Horizontal Line.

N°. 28. — A Cube reposing on one Edge G f, equally inclined to the Ground, & whose Side c b f e, vanishes into G I P — At the Eye E make angles of 45° which gives the Vanishing Lines V L, V I L, & G I E transposed gives I, V, for the Diagonals &c.

N°. 29. — An Object situated as the former, whose angles b, d, are 63 Degrees each, & whose Sides a b e g, b f e are Squares.

For the five Regular Solids.

N°. 30. A Cube perpendicularly on one Corner — If a Cube is so placed as to have ~~[illegible]~~ the Corner it rests on & the upper Corner in a line perpendicular to the Ground, then the angles of Inclination will be 54 Degrees above the Horizontal Line, & 36 Deg. below it.

(2), which angles being set from E1, will give ye Vanishing Points ~~of ye Square~~ G1, P of ye Rectangular Plane abcd (Example 2) & G1, transfrd. to L1, V will give ye Vanishing Points of ye square abcd (Example 3). Then having drawn ~~Diagonals~~ VP, L1P they will be ye Vanishing Lines of ~~ye~~ two other Lozenges efgh, fhik; & because ye perspective of abcd (Examp. 3) is determined by ye point G1, therefore ye Vanishing Point H, I1, of ye ~~other~~ Diagonals of ye other Squares must be found; wch in this case is in those Points where VP, L1P cut ye Horizontal Line. No. 30 Example 4 is ye Cube Compleated, by means of ye Points obtained in Example 1.

No. 31. — A Cube when all its faces are equally inclined to ye Ground. — Angles of 45 Deg. at E1, E1, give ye Vanishing Points G1, P, & G1 E1 transformed gives V, I1: G2 E2 is ye Distance of ye Vanishing Line I1P & D is ye Vanishing Point of ye Diagonal cb, as G2, is of ce. — Example 2. is ye same Figure situated as ye former, produced in a more simple manner; thus draw ye Horizontal Line & ye proposed G1P, make G1 at pleasure & CP equal to it; do ye same from G1 & ye Length of CG will give ye Points V I1; Draw VP, I1P & from P describe ye Arc GD, which gives ye Vanishing Point of ye Diag. cb. — Or it may be done by making a Parallelogram VI1MN with ye side & Diagonal of Square.

(3)

No. 32. — The Tetrahedron, standing on one Face abc — The Face abc vanishes into ye Horizon Line; the Inclination of ye Edge ae is 55 Degs; & of ye Face ebe, 75 Degrees, which being set from E1 will give ye Vanishing Points V1 — From a draw a G which gives ye middle of cb, from V, Va from I1; I1 de which gives a perpendl Plane a d e' that divides ye Body into two equal Parts; ~~then~~ draw ee, ed which completes ye Representation. —

NB The Figure B is produced by draw Lines ~~and~~ parallel to A &c. In the 2d Example the whole Figure is produced to its Vanishing Points, having obtained V & I1 as ~~before~~ above, & also ye Points H I1, draw ye Parallel V1, V2 & from V ye Lines VV1, VV2 through ye Points H. I1, & then are VV1, V1V2, V2V, ye Vanishing Lines of ye sides, & V, V1, V2 their Vanishing Points.

No. 33. The Tetrahedron on one Corner, ~~[illegible]~~ ~~Figure [illegible] ye [illegible]~~ The same operation, or ye same Rules are inserted.

No. 34. The same Figure ~~[illegible]~~ with every Line of its under Face ~~[illegible]~~ a c d oblique with ye H. I1 — Find ye Vanishing Points of ye under by No. 16. of Horizontal Planes, & bisect ye Angle H E I1 &c. will give M for a b; through M draw P1 P2 set off ye Distance E M to E1, Make ye angles of Inclination, which gives P1. P2 for ye Plane a b e &c.

(4)

The Octahedron on one Face

N.° 35. The Inclinations of the Planes are 70, ~~[illegible]~~ & 55 Degs; wch being set from E1 give the vanishing Points G, M, the upper Lander Face abc, def (Examp. 2) vanish into the Horizontal Line VL, VM, LM are the vanishing Lines of the inclined Faces. & V, H, M, L1, L1 the Vanishing Points. And for the Points VL1 having obtained M from hence draw through H & L1, which will cut VL1 & thereby give those Points — or they may be determined by the transposed Distance at E2, & the angles 60, 60.° (Examp. 1).

N.° 36. The Dodecahedron on one Face.