The first Booke of Architecture, made by Sebastian Serly, entreating of Geometrie.

Translated out of Italian into Dutch, and out of Dutch into English.

LONDON
Printed for Robert Peake, and are to be sold at his shop neere Holborne conduit, next to the Sunne Tauerne.
ANNO DOM. 1611.

TO THE HIGH AND MIGHTIE PRINCE,

HENRY,

Prince of VVales.

SIR,

NO vaine ambition of mine owne Desire, much lesse presumption of my none Desert, incited me to present this Volume to your Princely view; but rather, the gracious Countenance, which (euen from your Childehood) you haue euer daigned to all good endeauours, invited Mee also (after so many others) to offer at the high-Altar of your Highnesse fauour, this new-Naturalized VVorke of a learned Stranger: Not with pretence of Profit to your Highnesse (who want not more exquisite Tutors in all excellent Sciences) but, vnder the Patronage of your powerfull Name, to benefite the Publicke; and conuay vnto my Countrymen (especially Architects and Artificers of all sorts) these Necessary, Certaine, and most ready Helps of *Geometrie:* The ignorance and want whereof, in times past (in most parts of this Kingdome) hath left vs many lame VVorkes, with shame of many VVorkemen; which, for the future, the Knowledge and vse of these Instructions shall happily preuent, if the euent but answere (in any measure) to that Hope of mine, which alone both induced this Desire and produced this Designe: VVherein I must confesse my part but small, sauing my great aduenture in the Charge, and my great Good-will to doe Good. All which, together with my best Seruices, I humbly prostrate at your Princely feete, as beseemes

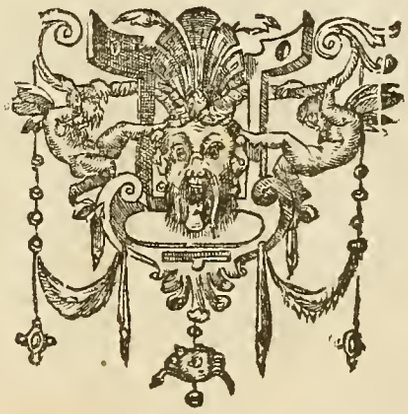
Your Highnesse

most humble Seruant

Robert Peake.

To the Louers of Architecture.

Vr learned Author Sebastian Serly, *hauing great foresight to shew and explaine the common rules of Architecture, did first publish his Fourth Booke, entreating of Architecture, and after his Third Booke, declaring excellent Antiquities. Fearing that if hee had begunne with* Geometrie *and Perspectiue, common workmen would haue thought (that the two former although small) had not beene so needefull to studie and practise as the other: Which friendly Reader, considered, hindered mee long either from Translating or Publishing the two former, being perswaded by sundry friends and workemen, to haue desisted my purpose, both from translating or publishing . The which I had surely effected, if I had beene ouer-ruled by their requests and perswasions; alleadging strong reasons, that the common Workemen of our time little regarded or esteemed to Worke with right Simmetrie : the which is confused and erronious, in the iudgement of the Learned Architect, if they will follow the Order of Antiquities hereafter ensuing. Wherefore least my good meaning, together with my Labour in Translating and Publishing , should not be regarded and esteemed (as worthie) considering it not onely tendeth to the great profit of the Architect or Workeman, but also generally to all other Artificers of our Nation : I aduise all generally, not to deceiue themselues , nor to be selfe-conceited in their owne workes, but well vnderstand this my labour (tending to common good) and be perswaded that who so shall follow these rules hereafter set downe, shall not onely haue his Worke well esteemed of the common people, but also generally commended and applauded of all workemen, and men of iudgement.* Vale.



The first Booke of Architecture,

made by Sebastian Serly, entreating of Geometrie.

¶ The first Chapter.

OW needfull and necessary the most secret Art of Geometrie is for euery Artificer and Workeman, as those that for a long time haue studied and wrought without the same can sufficiently witnesse, Who since that time haue attained vnto any knowledge of the said Arte, doe not onely laugh and smile at their owne former simplicities, but in trietly may very well acknowledge that all whatsoeuer had bene formerly done by them, was not worth the looking on.

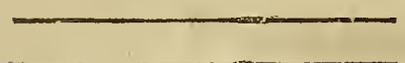
Seeing then the learning of Architecture comprehendeth in it many notable Artes, it is necessary that the Architector or Workeman, should first, or at the least (if he cannot attaine vnto any more) know so much thereof, as that hee may vnderstand the principles of Geometrie, that he may not be accompted amongst the number of Stone-spoilers, Who beare the name of Workmen, and scarce know how to make an answere What a Point, Line, Plaine, or Body is, and much lesse can tell What harmonie or correspondencie meaneth, but following after their owne minde, or other blinde conductors that haue vsed to Worke Without rule or reason, they make bad Worke, Which is the cause of much vncut or vneuen Workemanship Which is found in many places.

Therfore seeing that Geometrie is the first degree of all good Art, to the end I may shew the Architector so much thereof, as that he may thereby be able With good skill, to giue some reason of his Worke. Touching the speculations of Euclides and other Authors, that haue written of Geometrie, I Will leaue them, and onely take some flowers out of their Garden, that therewith by the shortest way that I can, I may entreat of diuers cutting through of Lines, With some demonstrations, meaning so plainely and openlly to set downe and declare the same, both in Writing and in figures, that euery man may both conceiue and vnderstand them, aduertizing the Reader not to proceed to know the second figure, before he hath well vnderstood and found out the first, and so still proceeding, hee shall at last attaine vnto his desire.

A Poynt.

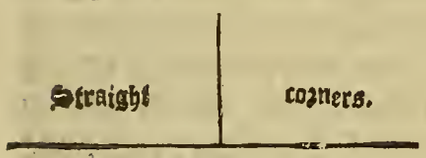
A Line.

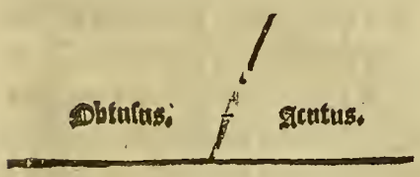
Parable.



Superficies.

Perpendicular.





FIRST, you must vnderstand that a poynt is a pricke made with a Pen or Compasse, which can not bee deuided into any parts, because it conteineth neither length nor breadth in it.

A Line is a right consecutiue imagination in length, beginning at a poynt, and endeth also at a point, but it hath no breadth.

When two Lines are set or placed of a little wydenesse one from the other, those two lines, according to the Latine phrase, are called Parable, and by some men they are named Equidistances.

When those two Equidistances aforesayd are at each end closed together by another Line, it is then called a Superficies: and in like sort all spaces in what manner soeuer they are closed, and shut vp, are called Superficies or plainnes.

When there is a straight vpright Line placed in the middle of a crosse straight line, then it is called a Perpendicular or Catheta Line: and the ends of the crosse or straight Line on both sides of the Perpendicular, are called Straight corners.

When a leaning or straight Line is placed vpon a straight Line without Compasse or equalitie, as much as the same Line bendeth, so much shall the corner of the straight Line be narrower below, and the other so much broader then a right or euen corner: and the straight corner in Latine is called Acutus, which signifieth sharpe, and the wider corner Obtusus, which signifieth dull.

A corner or point called Piramidal, and also Acutus in Latine, is, when two euen long straight lines meet or ioyne together at the vpper end, as the figure right against this declareth.

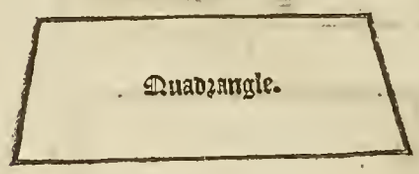
And when such a figure is closed together at the foote thereof, with a long straight line, it is then called a Triangle, because it hath three sharpe corners.

When a Triangle with two euen straight lines, is closed together with a longer line then these two are, it shall haue such a forme as here you see.

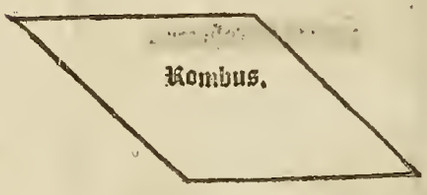
But

But a Triangle which is made of three vnlike lines, it shall also haue three vnlike corners.

When two long and two direct downe right lines are ioyned together at the foure corners, it is called Quadrangle with euen sides or corners, but when the foure lines are all of vnlike or contrary lengths, then it is a Quadrangle of vneuen sides, as this figure sheweth.

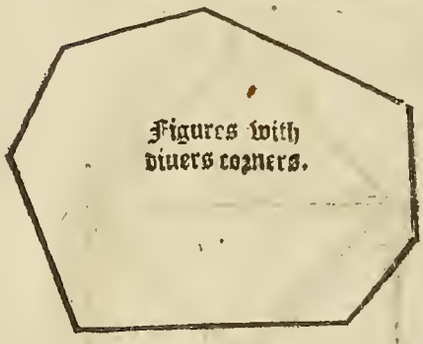


You must note that although all foure cornerd figures may be called Quadrangles: neuertheles, for that the direct foure cornerd figures are called Quadratus: for difference from them, I will name all figures which are like vnto a table, (that is longer then broad) Quadrangles.



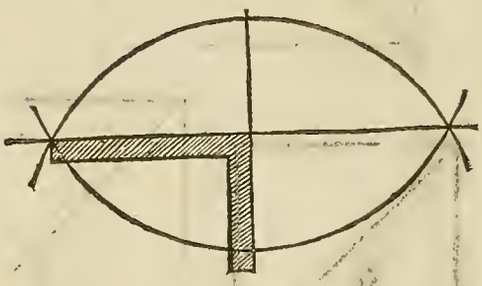
When foure euen long straight lines are ioyned together at the corners, they are called Quadratus, which are foure cornerd: when you make the two corners thereof sharpe, and the other two corners somewhat blunter, then it is called a Rombus.

Although you may turne and make all the figures aforesaid right foure square: Yet the workeman may finde other figures with diuers corners. The which (as I will hereafter shew) hee may make foure square.



Superficitie of a crooked Line.

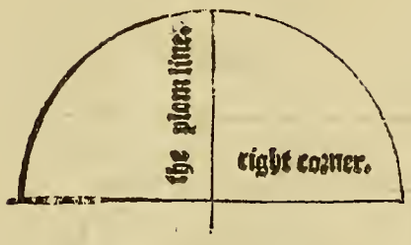
When a man with his Compasse draweth a bowe, and after that draweth an other bow right against it, that is called a Superfitie of crooked Lines, with two like corners: and then draweth a straight Line from the one corner to the other, and from one poynt or center where the Compasse stood to the other, another straight Line. Thereby you shall finde the right foure parts thereof.



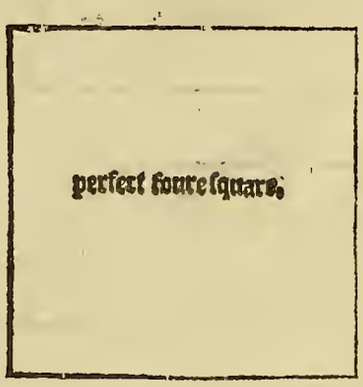
But if a man drawe a whole round Line with his Compasse, that is called a full Circle, or round Superficities, and the poynt in the middle is called the Centre. The vtmost line is called Circumferentie: and if you draw a straight line through the Center, it is called a Diameter: because it deuideth the Circle in two euen parts.

When

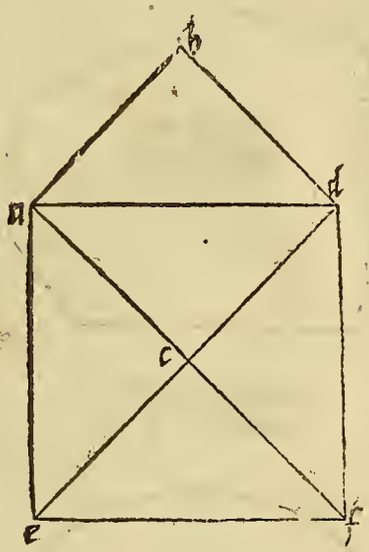
The halfe Circle.



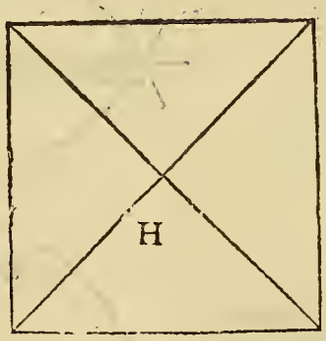
When the halfe Circumference is cut through the Center of the Diameter, then it is called halfe a Circle: and if you make a straight line vpright in the halfe Circle, then that line maketh two euen quarters of a Circle, and deuideth the Diameter also into two halfe Diameters.



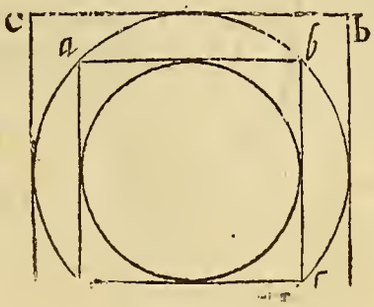
When a man draweth foure euen long lines, and ioyneth them together, they make a perfect cornerd Quadratus: then if you draw a straight line from the one corner to the other, it is called Diagonus: because it deuideth the foure corners into two euen parts.



Now when a workeman hath seene a forme of some of the most necessary Superficies, hee must proceed further, and learne to augment or diminish the same, and to turne them into other formes: but yet in such sort, that they may haue euen parts in them.

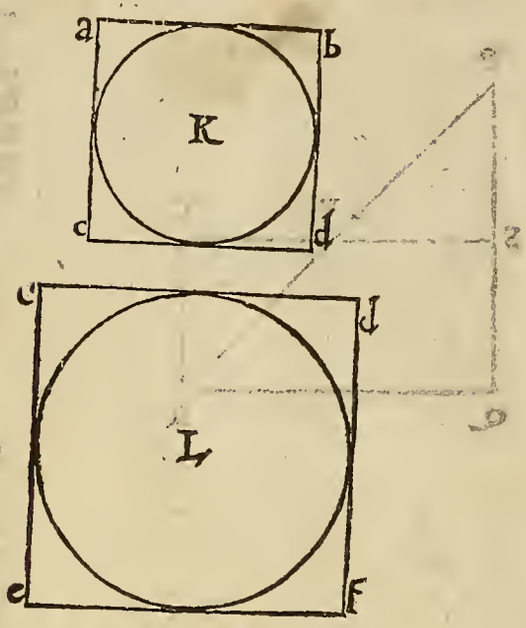


And first, if out of the length of the Diagonus aforesayd, by the adding of three other euen long lines, hee maketh another foure square: that foure square shal be once as great againe as the first, which is to bee vnderstood in this sort: That ẏ foure square of A. B. C. D. by the Diagonus is deuided into two Triangles, and the greater foure square A. D. F. E. containeth foure such Triangles: but for that the two first foure squares hang one within the other, therefore for the better shewing thereof, they are here once againe set downe seuerally: whereby you may see that the Quadrate G. (as I said before) cõtaineth two Triangles, and the Quadrate H. containeth foure such Triangles, so that the proofe thereof is clearely to be seene.

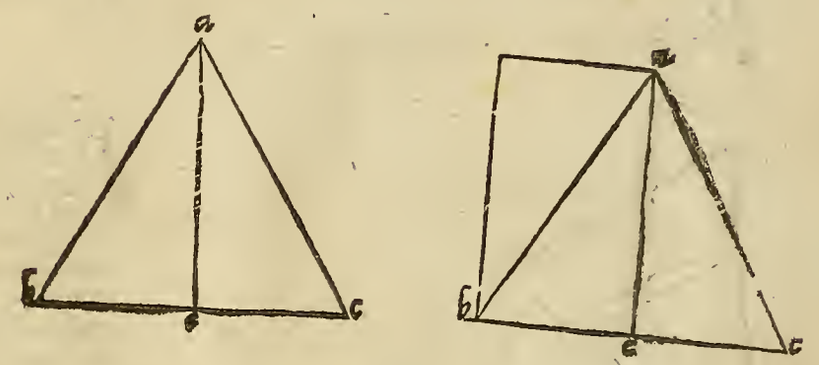


If within a foure square you make a Circle which toucheth the foure sides of the said foure square, and without the said foure square an other Circle which toucheth the corners marked A.B. C.D. Then the outmost Circle must bee once as great againe as the innermost: and then if about the greatest Circle you make another foure square as C. D. E. F. then the two foure squares must in like sort be once as great againe as the other. The proofe whereof standeth hereby marked with the letters K.L. for clearer vn[illegible]

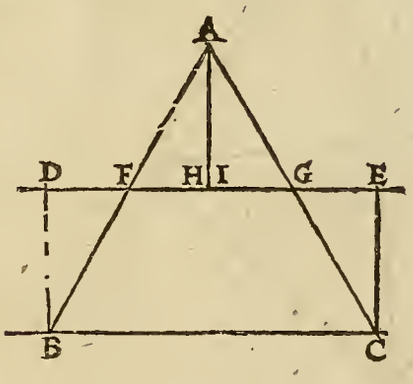
By this also, the proiecture or the foote of the Bases of the Thuscane Columnes or Pillars, and also the breadth of the fundation of them vnderneath by Vertruuius declared, is set foorth.



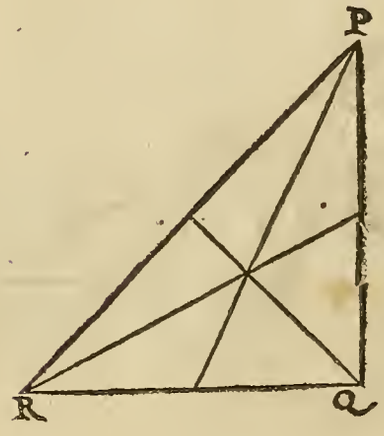
The workeman must yet proceed further, and learne to know how to change a Triangle into a Quadrangle, and also at last bring it to a right Quadrate, to the which I will set downe diuers formes. First, take a Triangle with euen corners, as A. B. C. and deuide the Base (which is the name of all lower lines) B. C. in two euen parts, and there place the letter E. Then from the point E. to A. drawe a line, which will deuide the Triangle into two euen parts. Then if you take that part which is marked A. E. C. and ioyne it to the other part, marked A. E. B. it will make a Quadrangle, as A. D. B. E. made of a Triangle.

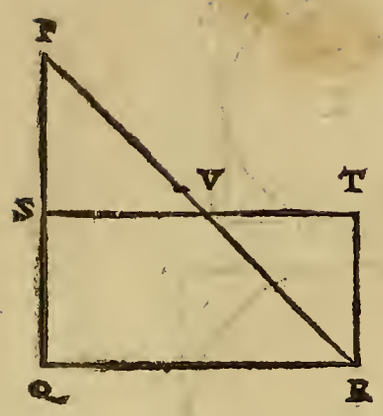


You may also change this Triangle in other manner, deuiding the lines A. B. and A. C. each in two like parts as F. and G. Then drawe a line through D. E. as long as the Base B. C. Then shut vp the two Equidistances, corner wise: and then the Quadrangle B. C. D. E. containeth so much in it as the Triangle A. B. C. and the proofe thereof is, that the two Triangles B. C. F. and G. E. C. containe so much in them, as the two other Triangles A. F. H. and A. I. G.

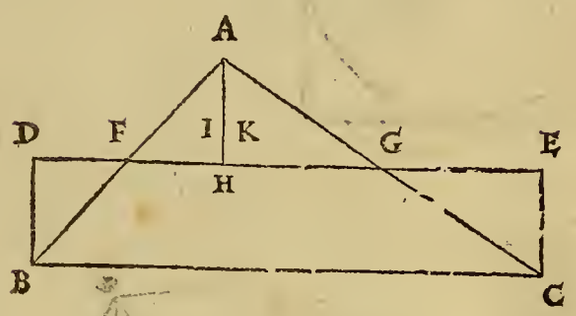


A Triangle with euen points, may be deuided thrice into two equall parts, deuiding each side in two parts, as in the figure P. Q. R it is seene through the three lines, which on either side make two great Triangles.

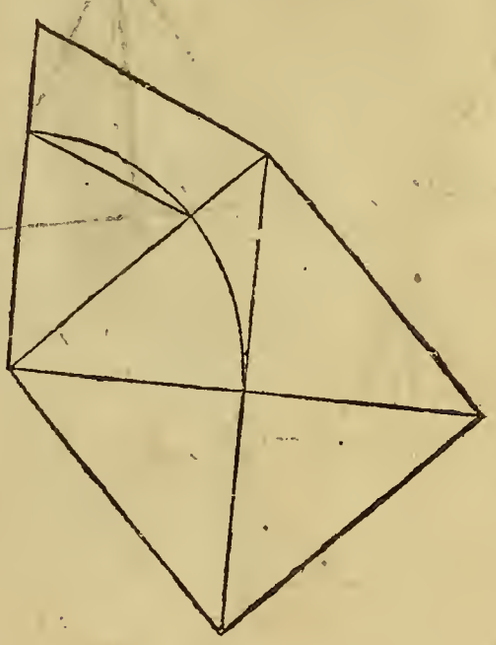




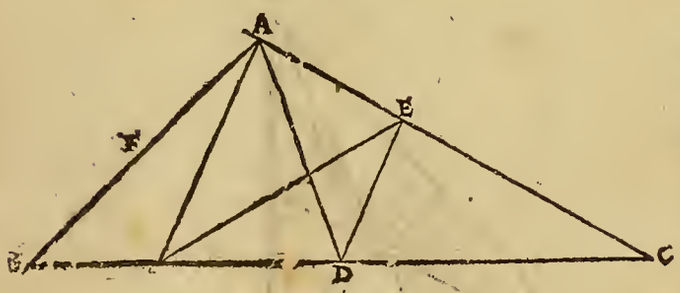
THE same Triangle P.Q.R. may thus be changed into a Quadrangle: deuide the side P.Q. and the side P.R. each in two equall parts, then draw a line S.T. as long as Q. and R. and then draw a line direct downeward from T.R. to close it vp: and then that Quadrangle containes as much space within it as the Triangle aforesayd, because that the Triangle which is cut off P.S.V. is of the like greatnesse with the other Triangle marked V.R.T.



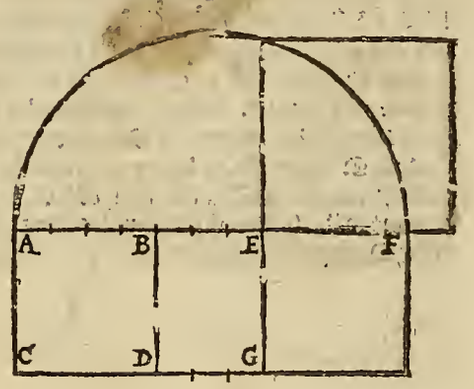
AND although there is a Triangle of vnequall sides, yet a man may make it a Quadrangle, in such sort as I sayd before of the right Triangle: for although the two Triangles that are cut off, and those two that are added vnto it, are not of one greatnesse, yet the Triangles A.F.I. and B.D.F. are one as great as the other, and againe, the Triangles A.G.K. & G.C.E. are also of one greatnes: so that those that are cut off, and those that are added thereunto, are of one quantitie. By these alterations aforesayd, a man may easily measure how many fete, elles or rodes foursquare, are contained in a three cornerd Superficies.



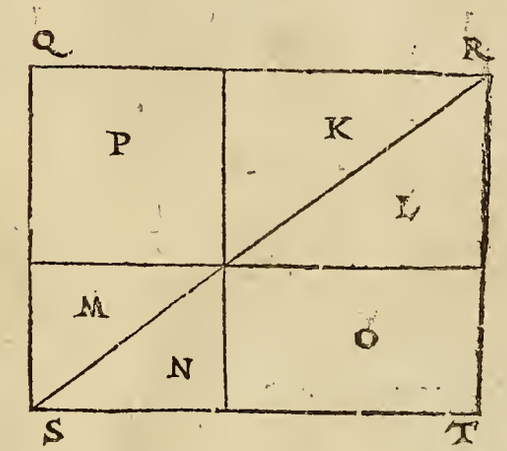
BVT it falleth out, that a Triangle (which is three cornerd) superficie or plaine, must be parted crosse wise in two equal parts: then out of one of the sides that you will cut through, you must make a right foure square, as from the side A.B. and draw therein two Diagonus from corner to corner, which will shew you the Center C. and draw one Circle through that three cornerd part which you will deuide, and so you shall find the two points, where you shall drawe your deuiding line. He that desireth any proofe hereof, may take each piece and alter it into a Quadrangle, and after into a Quadrate, as hereafter shall be shewed, and he shall find it true.



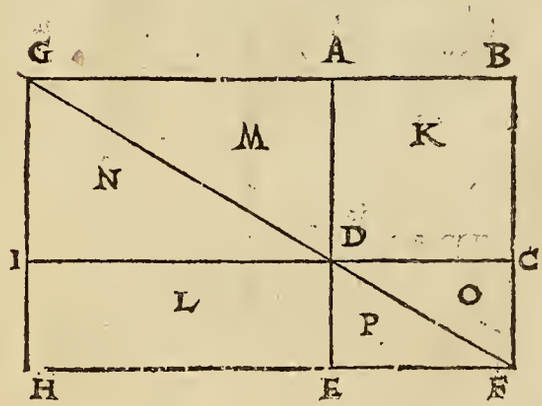
AN Architector must also vndergoe other burthens, for that hee must know how to deuide a piece of ground, that no man may be hindred thereby. As for example, if there were a piece of ground that lay three cornerd wise, with vnequall parts, hauing on the one side thereof a Well, but not in the middle: and this ground, or three cornerd piece of Land is to bee deuided into two equal parts, in such sort, that each of them may haue the vse of the Well: it must bee done in this manner. I make a Triangle marked A.B.C. and the Well is marked with G. Now deuide the line B.C. with a darke line in the two equall parts as the letter D. sheweth, and then drawing a line from D. to A. then the Triangle is deuided into two equal parts: but both of them can not yet come to the Well: then drawe another line from the Well G. to A. and from the poynt D. you must set an Equidistancie against G.A. marked with E. & drawing from G. which is the Well: the blacke line to the letter E. it will deuide the ground in two euen seuerall parts, and each of them shall haue the Well at the end of his ground, for that part A.B.G.E. containeth in it iust as many fete or rods, as that part which is marked G.E.C.



I Shewed before, how a man should make a four square Superficies once as great again as it is, but it may fall out, that a man is to make it but halfe as great again, or more or lesse, as he thinketh good, or as occasion seruetth, which the Architector is also to learne of necessitie. Which to shew, I set downe a right foursquare thing marked A. B. C. D. which I will haue three quarters greater: the same three quarters I set by the side thereof, so that the same with the Quadrate together make a Quadrangle A. E. C. G. To bring this Quadrangle into a right Quadrate, you must lengthen the line A. E. yet a quarter longer, or from the side of the Quadrangle E. G. and place F. there: then vpon the line A. F. make halfe a Circle: which line will shew you the one side of the Quadrate which you seeke for: which Quadrate being made, will containe as much in it, as the Quadrangle already made. And in this maner you may change all Quadrangles which are long foure cornerd pieces of worke, into a iust and true Quadrate.



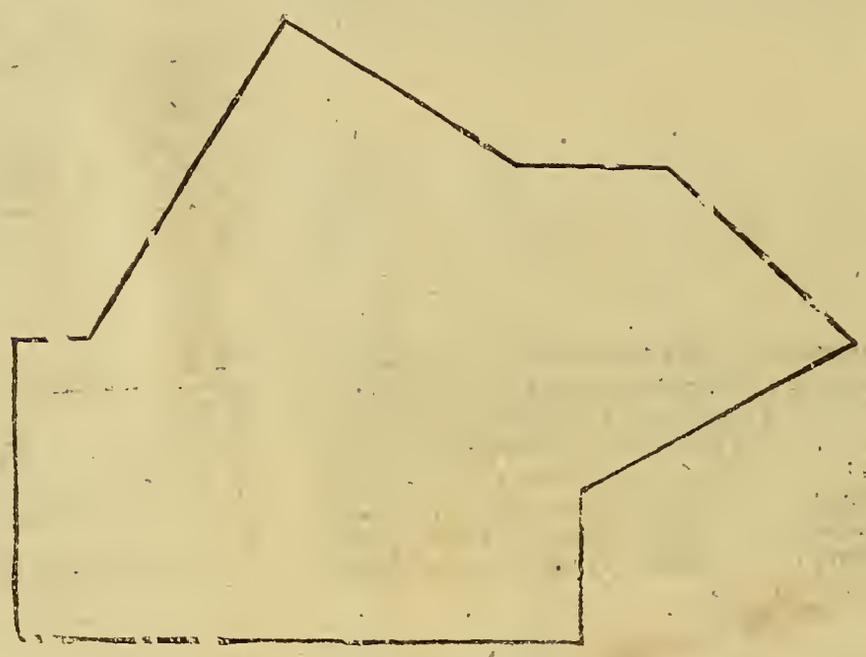
NOw to proue that, which I sayd before, you must coyne the Quadrangle with the Quadrate together, in one foure square superficie as Q. R. S. T. and from the corner R. to the corner S. draw a Diagonus, and it is certaine that that Diagonus will make two euen parts. Now Euclides saith, that when a man taketh any euen parts from euen parts, the rest of the parts also remaine alike: then take the Triangle K. L. and the Triangle M. N. which are both alike: the right foure cornerd superficie P. is of the same greatnesse, that the longer superficie O is.



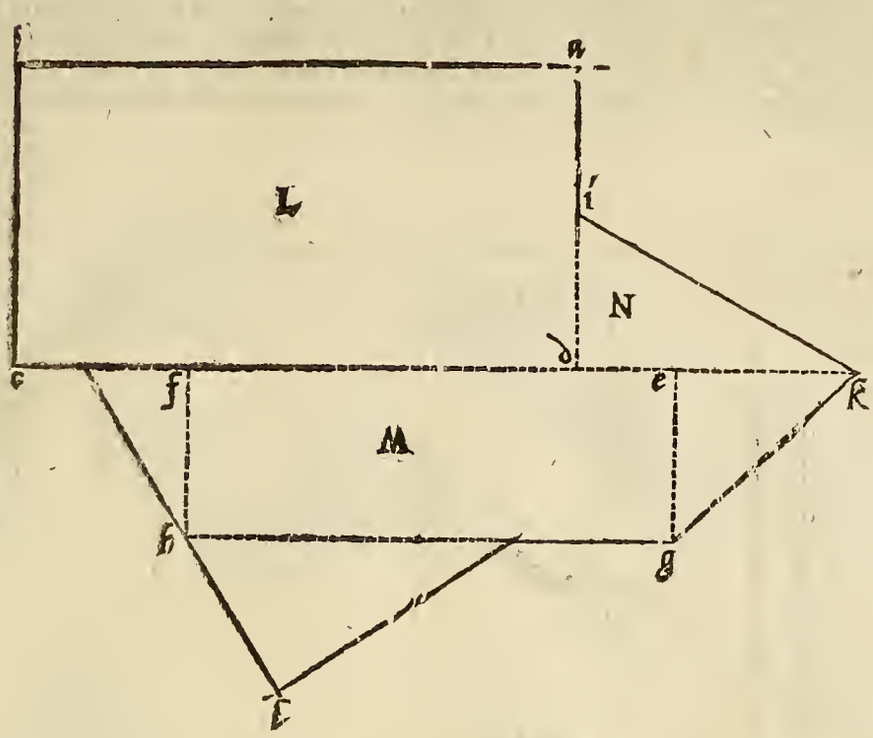
AGaine, you may easily change a Quadrate into a Quadrangle, as long or as narrow as you desire to haue it, doing thus: Make your Quadrate A. B. C. D. and lengthen your line A. B. and the line B. C. Which done, then set the length of the Quadrangle, which you desire to haue vpon the line A. G. Then from the point G. draw a line along by the corner of the Quadrate D. to the line C. F. and there you find the shortest line of the Quadrangle: and so to the contrary you shall by the least side of the Quadrangle finde the longest also, as you may also proue by the foresayd Figure: for when you take away the Triangles M. N. and O. P. which are both alike, then the two parts which are K. L. are also alike.

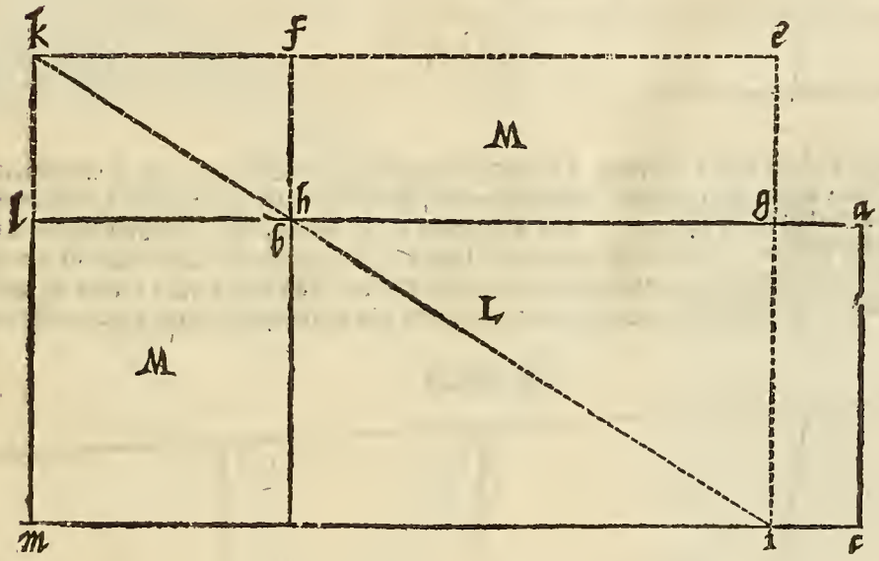
An

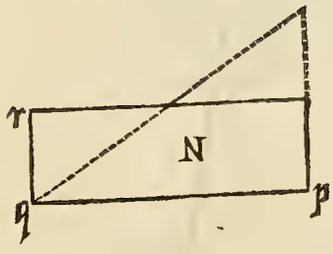
An Architector may by chance haue a piece of worke of diuers vnequall sides come to his hands, which he is to put into a Quadrangular or Quadrate forme, to know what it containeth, and specially when it belongeth to more then one man, whether it bee Land or any other thing. For although the Architector or Surueyor of Land could not skill of Arithmatiske or Ciphering: yet this rule cannot faile him, nor any other man that desireth to find out the deceite of a Taylor. Thus, I say then, let it bee what forme soeuer it will, I set downe this hereafter following. First then, seeke the greatest Quadrate or Quadrangle, that you can take out of it: that done, seeke yet another Quadrate or Quadrangle, as big as you can take out of it, out of the rest of the said worke: and if you can after that make more Quadrates or Quadrangles out of it, I meane all with right corners, take them out also: but if you can find no more in it, then make Triangles also as big as you can, of which Triangles (as you are taught before) you may make Quadrangles, and let euery piece seuerally be marked with Caracters, as in the figure following may be seene.

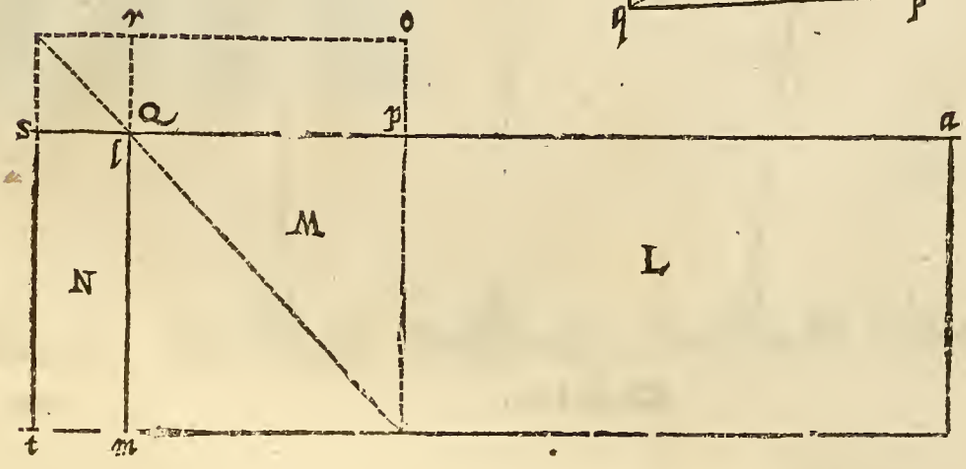


Let by example your many cornerd figures first bee marked with the great Quadrangle with these letters A. B. C. D. and then with a lesse Quadrangle, as E. F. G. H. the rest are all Tryangles. Now set the greatest Quadrangle L. in a place by it selfe, and then the other marked with M. which set vpon it, that the two corners or sides may be alike: which done, lengthen the line E. F. and the line E. G. and where they stay or touch vnder the great Quadrangle L. there set an I. from this I. a Diagonall line, being drawen through the corners B. H. the same line shall be drawen to the point: that, by the shutting of the Caracters B. M. L. D. will shew you another Quadrangle, of the like quantitie that the Quadrangle M. is: so that the whole Quadrangle D. C. L. M. containeth the two aforesayd Quadrangles. Touching the Triangles, when you haue changed the same (according to your former instruction) into Quadrangles, as you may see by the Triangle N. so may you put that Quadrangle also in the greatest Quadrangles (for lesse trouble.) The great Quadrangle A. L. M. C. is once againe placed aboue with the small Quadrangle O. P. Q. R. set vpon it, and the Diagonall line is placed behind the greater (which is L. M. T. S. both marked with N. so that the Quadrangle A. C. S. T. containeth three Quadrangles L. M. N. and as many more as there are: you may in this sort bring them all in one Quadrangle: if there falleth out any cracked lines, the skilfull Architector or workeman may almost bring them into a square, and those Quadrangles, if need be, may also be reduced into perfect foure squares, as aforesayd.

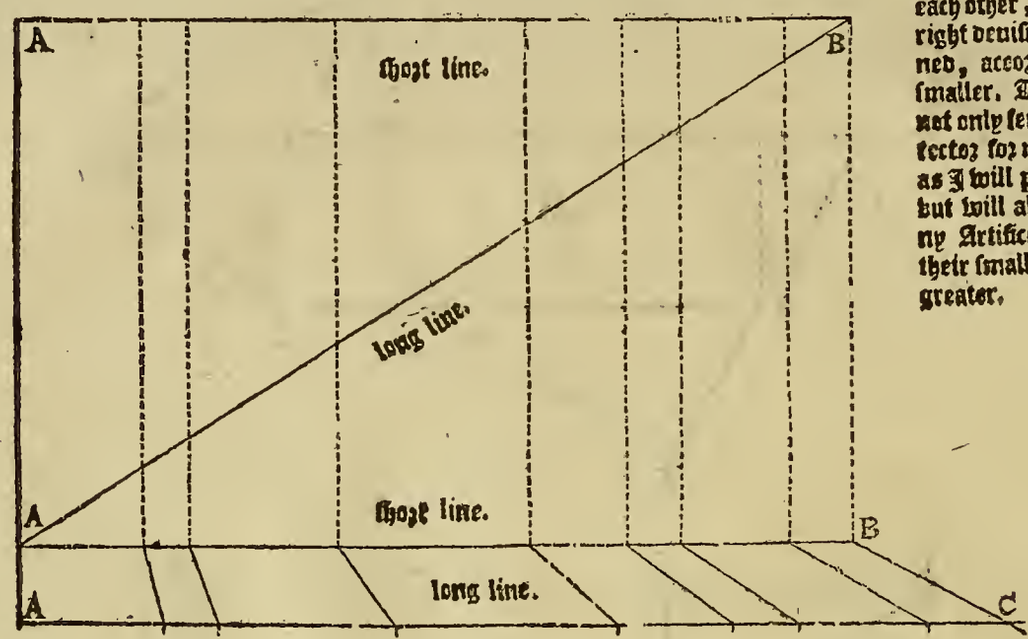

a
L
i
N
c
d
f
e
k
M
h
g
l


k
f
e
M
l
h
g
a
b
L
M
m
i
c

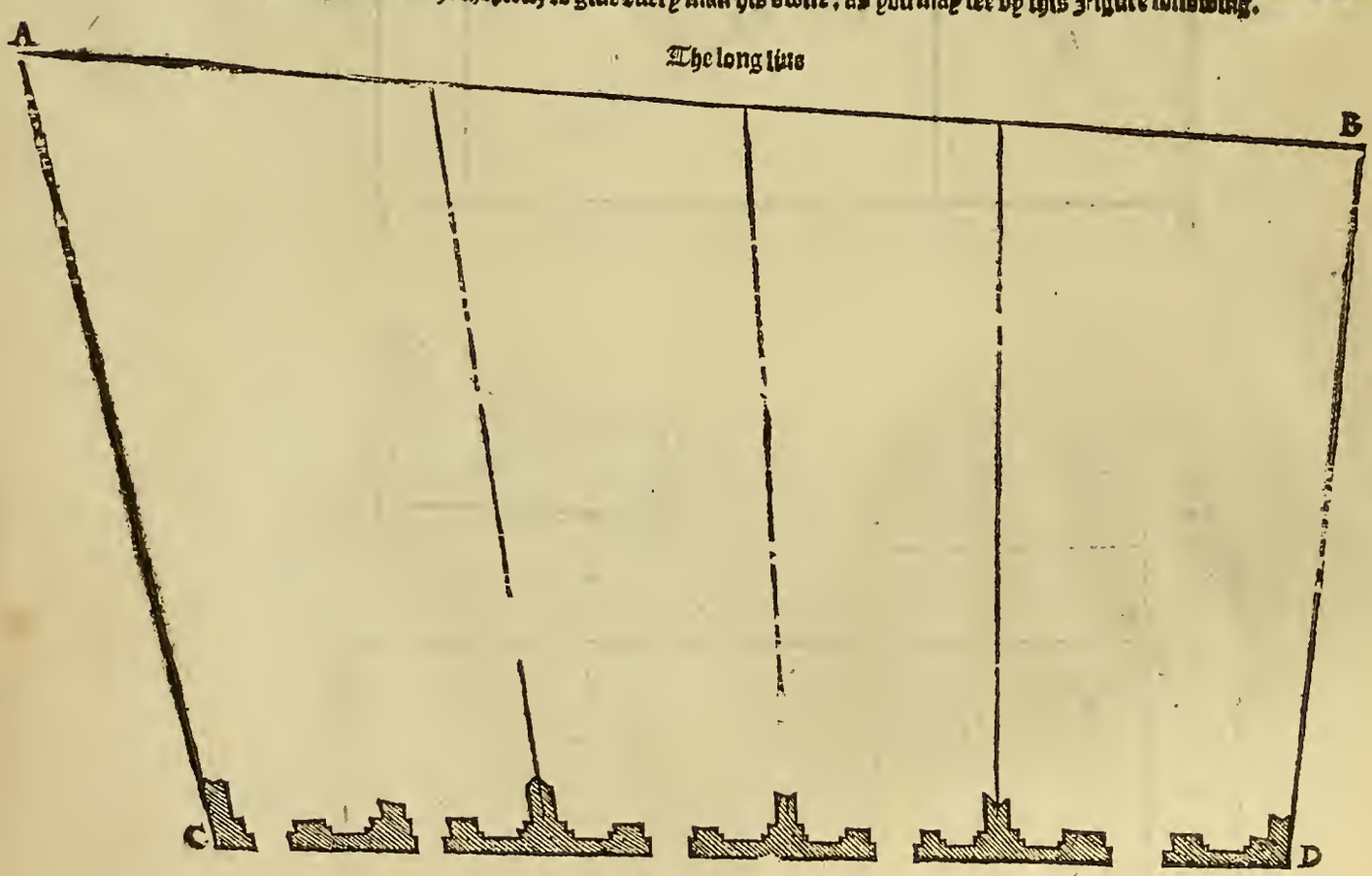

r
N
q
p


r
o
s
a
p
a
l
M
L
N
t
m

When a man hath a line or other things of vnequall parts, and there is also another longer line, or some other thing, which a man would also deuide into vnequall parts, according to the proportion of the shorter line, then let the shortest line be A. B. and the greatest line A. C. now it is necessary that from the vppermost poynt A. you should make a corner as A. B. and A. A. Then take your longer line, and set it with the end C. vpon B. and let the other end rest at the hanging line A. A. then from euery poynt of the vppermost line A. B. let a hanging line fall vpon the line A. C. so that they may be equidistant with the line A. A. & where ye said lines cut through each other, there is the right deuision proportioned, according to the smaller. This rule shal not only serue the Architector for many things, as I will partly shewe: but will also serue many Artificers to reduce their small workes into greater.



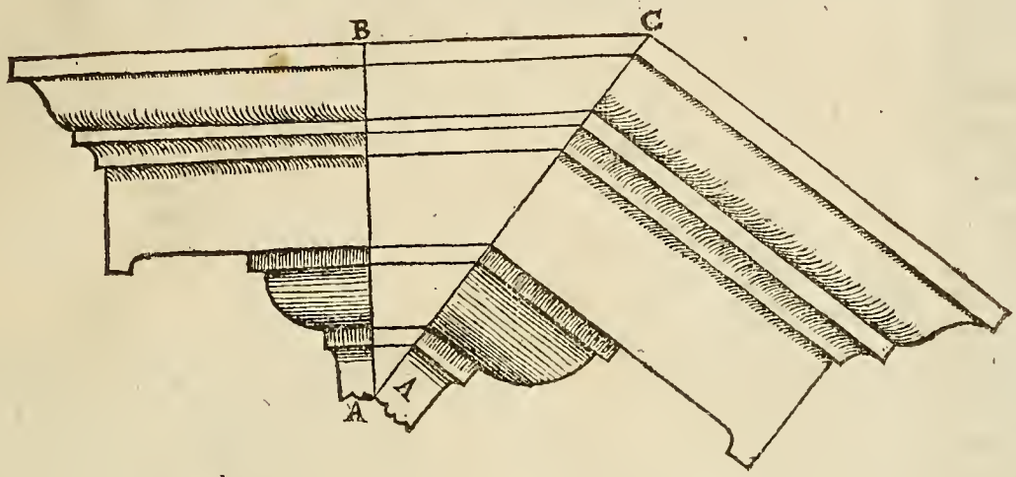
For example of the figure aforesaid, I suppose, Houses or pieces of Land to be of diuers widenesse, which should be narrower before then behinde. Which Houses, by fire or warre are so decayed, that in the forepart betweene C.D. there were but some signes of diuision to bee seene of the houses, and behind the houses betweene A. and B. no signes at all to be seene. Now as the missortune was past, and that euery man desired to haue his part of his inheritance, then the Architector, as an vmpire, according to the rule aforesaid, should deuide the longest line according to the proportion of the shortest, to giue euery man his owne: as you may see by this Figure following.

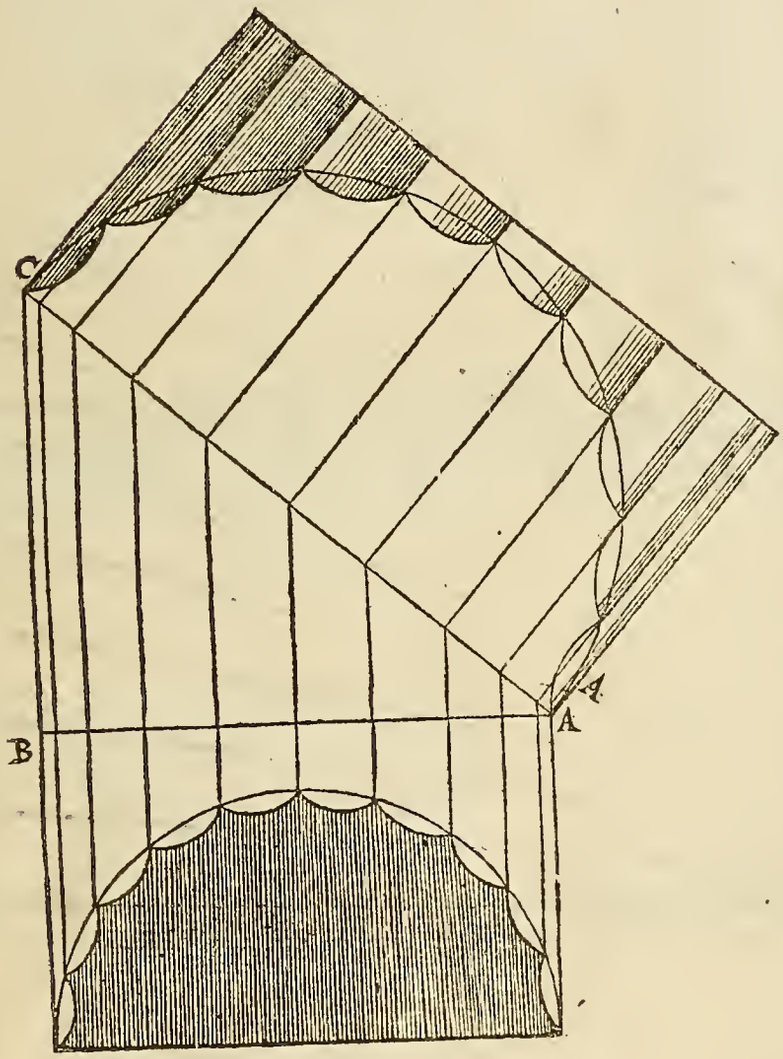


The short line.

The

The Architector must haue a well proportioned Cornice, which if he would make greater, keeping the same proportion, hee may doe it as he is formerly taught, as in this Figure following is shewed by the short line marked A.B. and the longer line marked A.C.

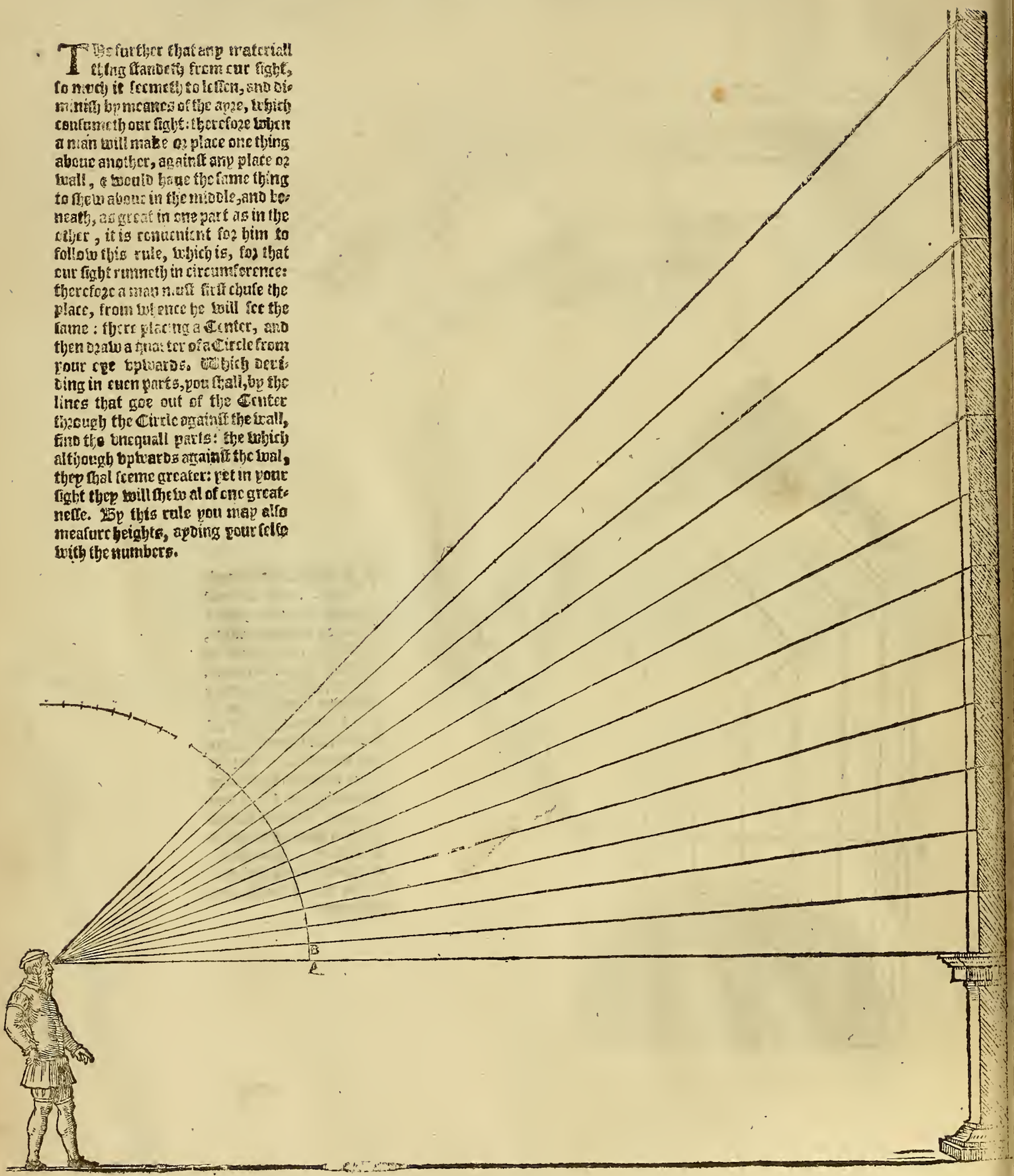




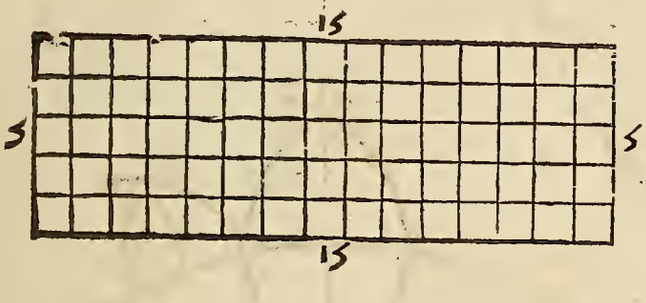
An Architector or workman, must likewise learne to augment & make greater a holowed colũne, which hee may also doe by the two lines aforesayde, and although the Columne should be a Dorica (yet it is to bee vnderstood of all kinds of Columnes. This rule wil also serue (not only for the three figures set downe) but also for as many, as if I should shewe them, it would containe a whole booke of them alone, and therefore this shall suffice at this time for the workeman.

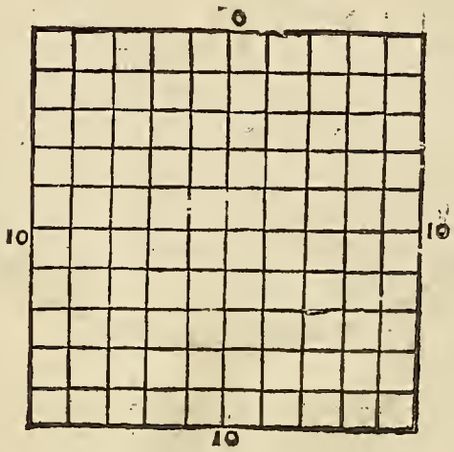
The

The further that any materiall thing standeth from our sight, so much it seemeth to lessen, and diminish by meanes of the aye, which consumeth our sight: therefore when a man will make or place one thing above another, against any place or wall, & would have the same thing to shew above in the middle, and beneath, as great in one part as in the other, it is conuenient for him to follow this rule, which is, for that our sight runneth in circumference: therefore a man must first chuse the place, from whence he will see the same: there placing a Center, and then draw a quarter of a Circle from your eye vpwards. Which deriding in euen parts, you shall, by the lines that goe out of the Center through the Circle against the wall, find the vnequall parts: the which although vpwards against the wal, they shal seeme greater: yet in your sight they will shew al of one greatnesse. By this rule you may also measure heights, ayding your selfe with the numbers.

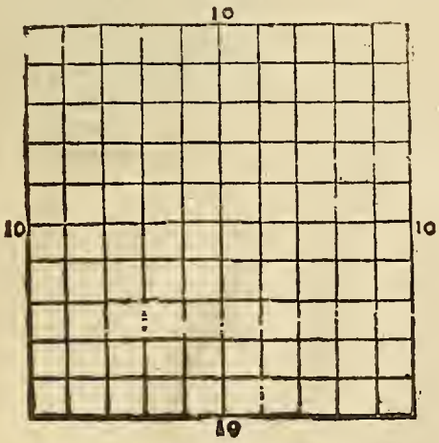


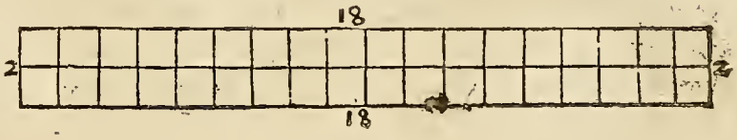
MAny men are of opinion, that straight lines, in what maner soeuer they are closed, contayne as many spaces one way as another, (that is to say) if a man had a cord of forty foote long, and should lay it diuersly in a round, long, thrée cornerd, foure square, or fiue cornerd forme: but the superficies are not of one selfe same space, which may be séene by these foure square figures following; for the first line holdeth on either side ten, which is forty: and the space contaynes ten times ten, which is an hundred. The other line vpon the two longest sides contaynes fiftéene spaces, and on the shortest sides fiue, making forty also: but fiue times fiftéene make but seuentie and fiue.

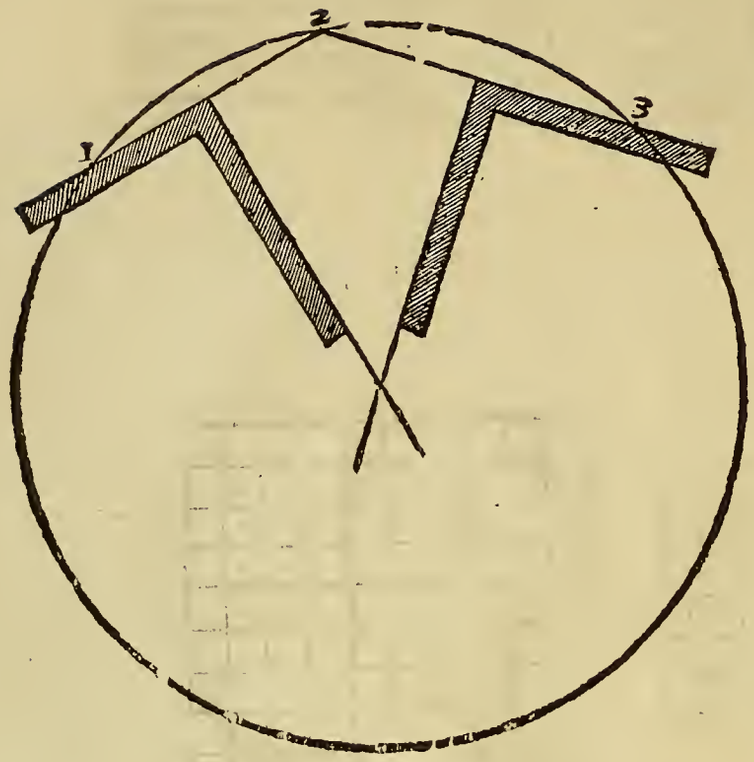




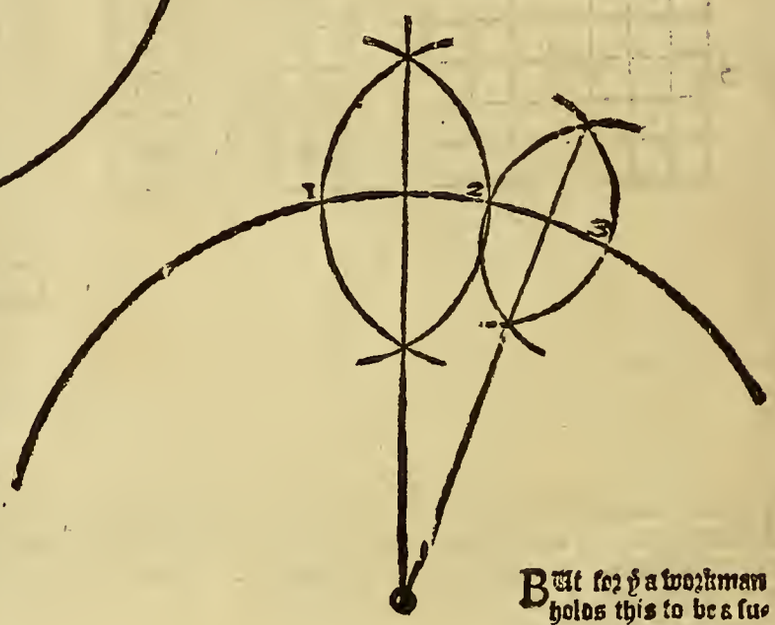
IF the Quadrate stretcheth further out, so that the two longer sides were eyghtéene a peece, then the shortest sides must each haue three to haue forty vpon the line, but the space should contayne but fiue and thirty. And hereby you sée what a perfect forme may doe against an imperfect. And this rule the workeman shall vse, that he may not be deceiued when he will change one forme into another.





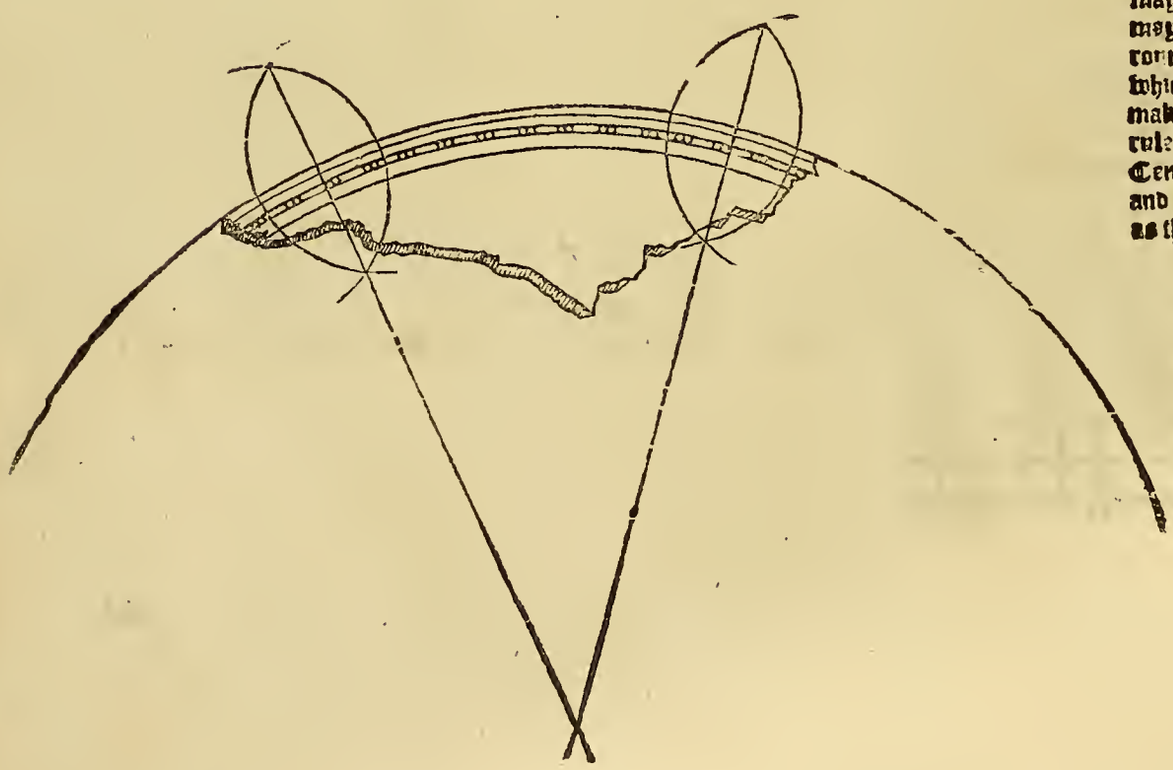


IF a man should make three points (which should not stand vpon a right line) and desiring to haue a circumference made, the compasse must passe along vpō each of these poynts. To doe it from the poynt one, to the poynt two, hee must draw a line, and from the poynt two, to the poynt three another: which two lines shall each of them be deuided into two equall parts, and setting the squiers halfe way in th m, as you see it in the figure, by that crosse it will shew you the Center, wherein you must set one fote of the Compasse, and with the other draw the Circle through all the sayd three poynts.



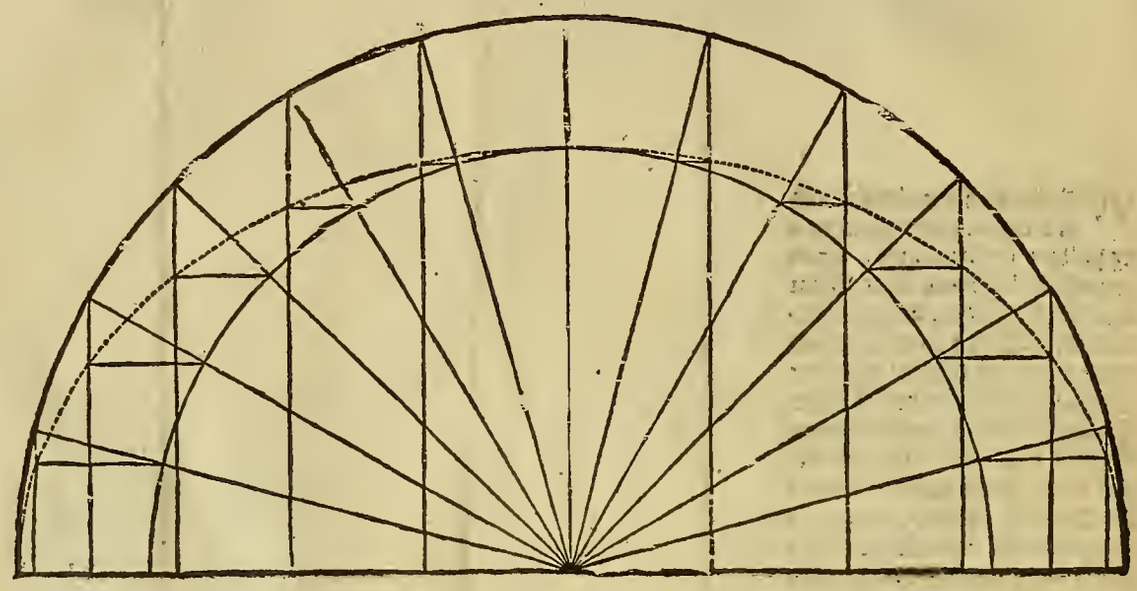
YOu may find the Center of three poynts another way, without your Compasse, making a two cornerd superficie from the one poynt to the other, through the which Corners two straight lines being drawne long enough downwards where they crosse one ouer the other, they will shew you the Center of the three poynts.

BUt for ý a workman holds this to be a superfluous speche, and a thing of no moment, it may be that a workman may haue a peece of a round worke to doe, which he is to perfit and make full round, by this rule hee may finde the Center, Circumferēce, and Diameter thereof, as the figure sheweth.

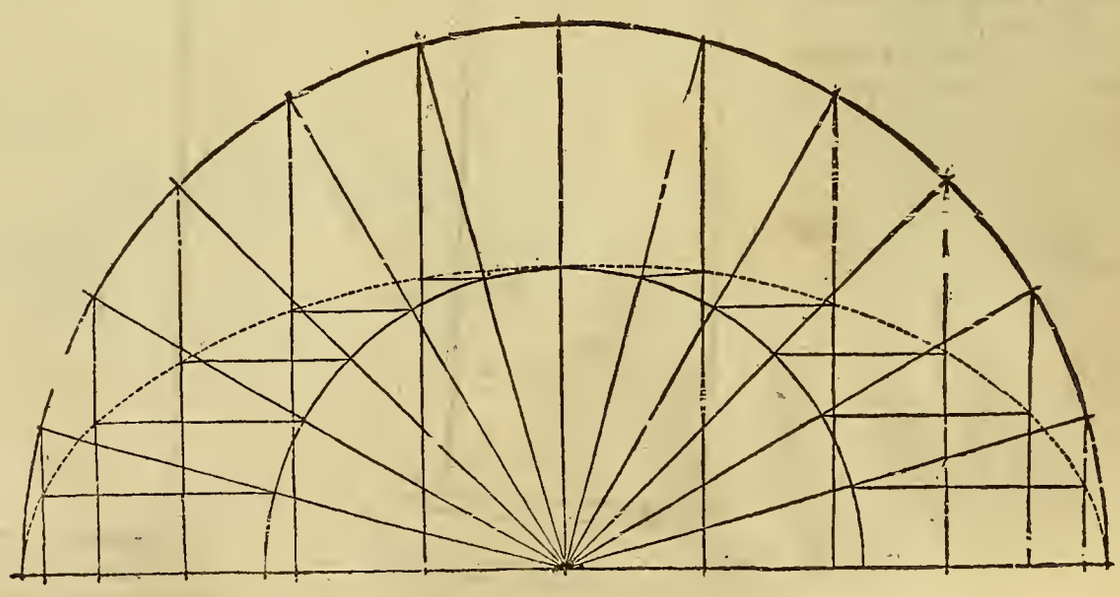


WE find in Antiquities, and also in moderne works, many Pillars or Columnes, which beneath in the ioynts of the Bases are broken asunder, which is, because their Bases were not well made according to their corners: or else, because they are not rightly placed: so that they haue more weights vpon them on the one side, then on the other, whereby the Cantons breake, which the workeman by knowledge of the lines, and helpe of Geometry, may preuent in this maner: That is, Hee must make the Pillar round vnderneath, and his Base hollow inward: so that when you place the Pillar by the Lead, it may presently settle it selfe without any hurt. To finde this roundnes, you must set the one poynt of the Compasse vpon the highest part of the Pillar that is vnder the A. and the other poynt thereof vpon B. and then drawe, or winde it about to C. and that shall bee the roundnesse, making the hollowing of the Base, according to the same measure: you may doe the like with the Capitall, as you see in the Pillar by it.

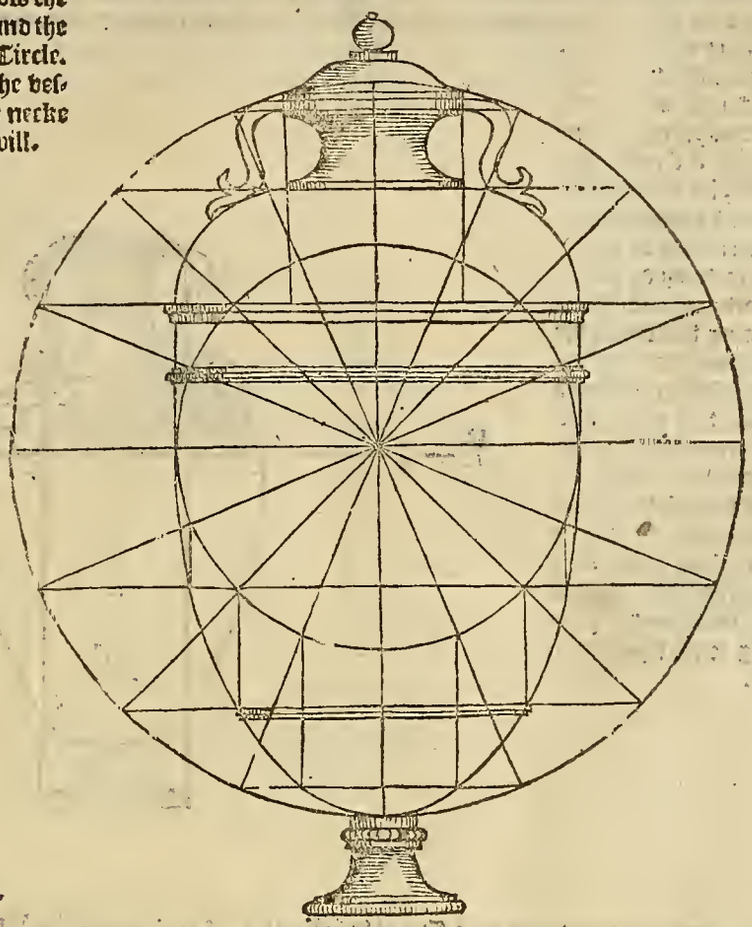
IF a workeman will make a Bridge, Bowe, or any other round Arched piece of worke, which is wyder then a halfe Circle, although Masons practise this with their lines, whereby they make such kinde of workes, which shew well to mens sight, yet if the workeman will follow the right Theoricke and reason thereof, hee must obserue the order heretofore shewed. When he hath the wydenesse of the height, then he must make halfe a Circle out of the middle: after that, vpon the same Centre, hee must make another lesser Circle, which must be no greater then he will make the height of the Bow or Arche: then he must deuide the greatest Circle in equal parts, which must al be drawen with lines to the Centre: then you must hang out other Perpendiculars vpon your Lead: and where the lines that go to the Centre cut through the lesser Circle, from thence you must draw the crosse lines toward the Perpendicular, and where they close together, there the Bowe or Arche which is made, shall be closed: as by the points or prickes hereunder is shewed.

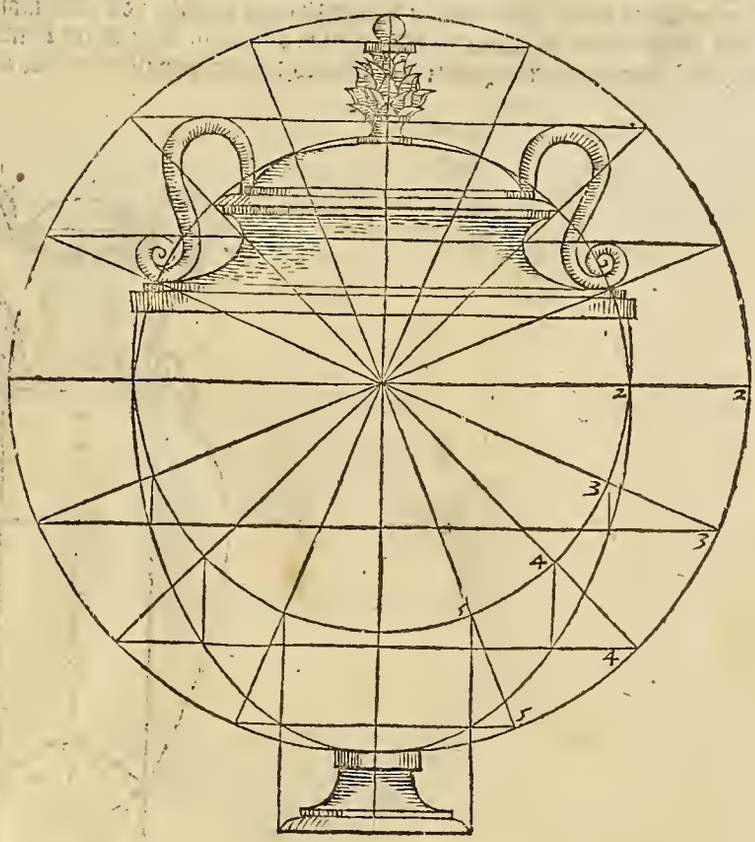


BUT if you desire to make the Bow or Arche lower, then you must follow the rule aforesayd, and make the innermost Circle so much lesse, which is to bee vnderstood, that the more parts that you make of the greater Circle, so much the easlier you shall drawe the crooked lines which you would haue: from this rule there are many others obserued, as hereafter you shall see.



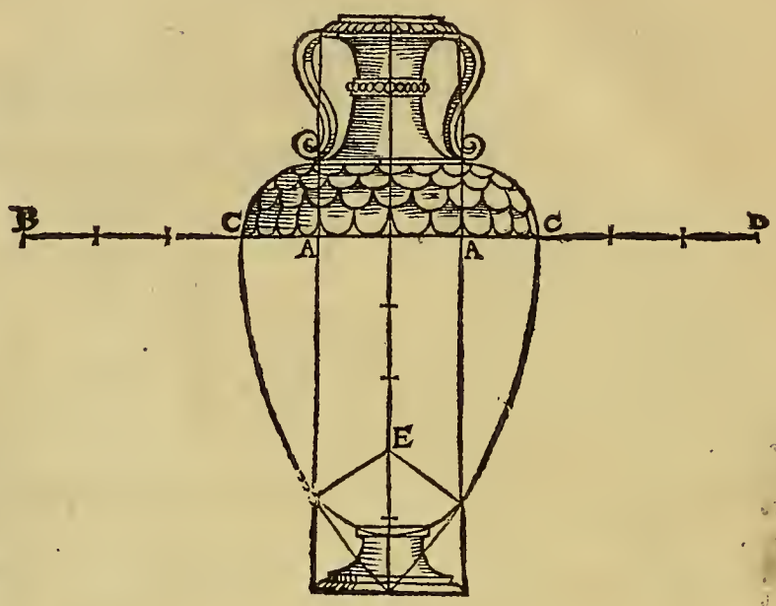
CAlling the former rule to minde, I deuised the manner how to forme and fashion diuers kindes of vessels by the same, and I thinke it not amisse to set downe some of them: This onely is to bee marked, that as wide as you will make the vessels within, so great you must make the innermost Circle. The rest, the skilfull workeman may marke by the figures, that is, how the lines are drawne to the Center, and the Parables, and out of the small Circle. The Perpendiculars hanging, the vessels are formed: the foote and the necke may be made as the workeman will.



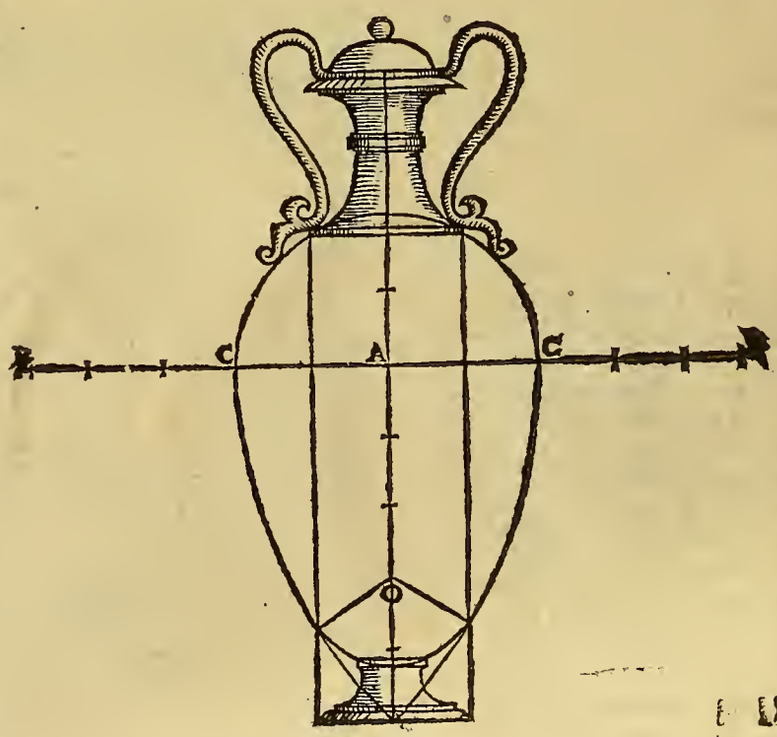


BVT if you will make the body of the vessell thicker, then you must make the halfe Circle so much the greater, and make the belly hanging downe vnder it, to touch the great Circle, by the falling of the Perpendiculars vpō the crosse line, as by these Figures 3.4.5. it is shewed: whereby a man by this meanes may make diuers vessels, differing from mine. The necks and couers of these vessels are within the small Circles: the other members and Ornaments are alwayes to bee made, according to the wil of the ingenious workman.

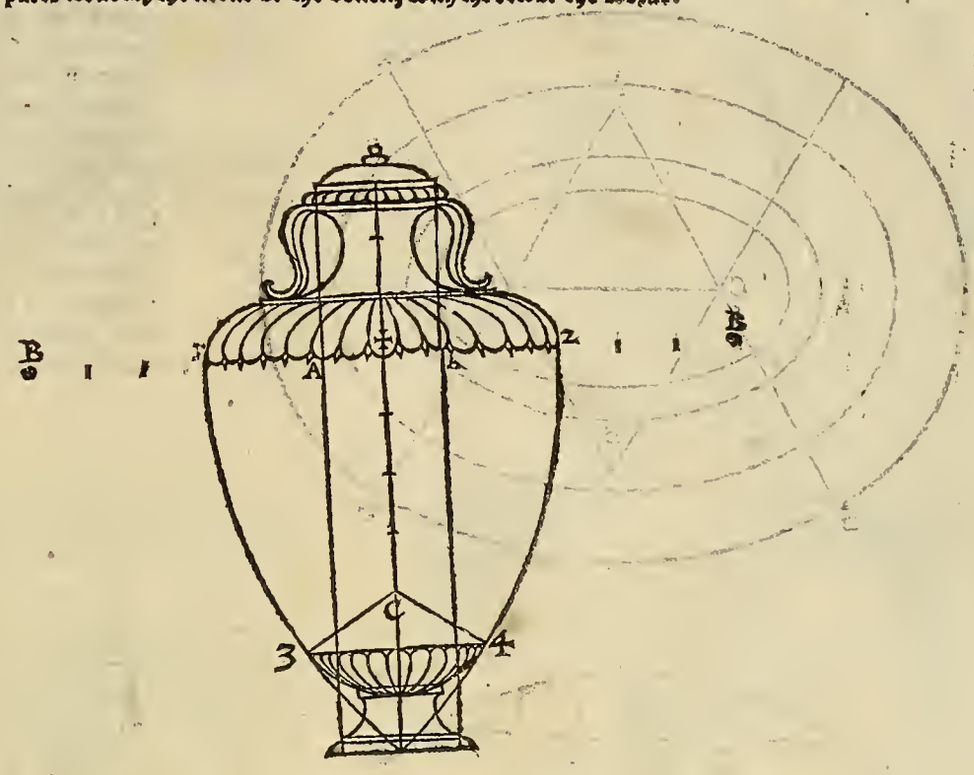
IT is an excellent thing for a man to study or practise to do any thing with the Compasse, whereby in time men may find out that which they never imagined: as this night it happened vnto me, for that seeking to find a nerer rule, to make ye forme of an Egge, then Albertus Durens hath set downe: I found this way to make an Anticke vessell, placing the foote beneath at the foot of an Egge, and the necke with the handles aboue vpon the thickest part of the Egge. But first, you must frame the Egge in this manner: Make a straight crosse of two lines, and deuide your crosse line in ten equall parts: that is, on each side fiue. Then, set the Compasse vpon the Center A. and with the other foote thereof, draw in two parts, that is, to C. making halfe a Circle vpwards. That done, set one foote of the Compasse vpon ye poynt marked B. and with the other draw in the vtermost poynt C. drawing a peece of a Circle down-wards toward ye Perpendicular, and doing the like on the other side, you must make a point below. Then take the halfe of the halfe Circle aboue that two parts, and place it at the vndermost point of the Perpendicular vpwards aboue O. where the Centre to close the Egge, shal stand: the rest vnder ye, be for ye foote: the nerke, without doubt, may be made two parts high, and the rest according to the workemans pleasure, or according to the figure hereunder set downe.



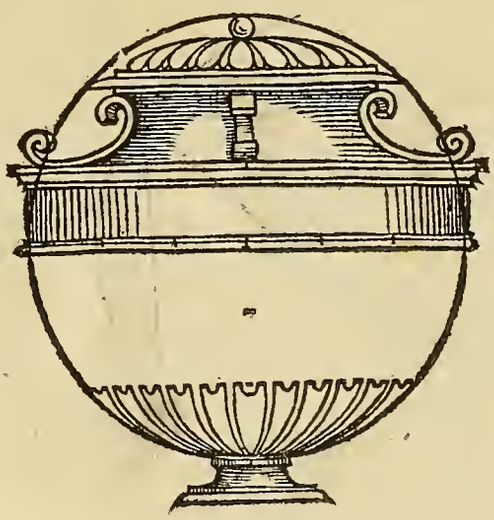
YOu may also make another forme of a Cup or vessell, after the rule aforesayd. But from the poynt A. (which doeth shew the breedth of the foote, and the widenesse of the mouth) you must make your Circle vpwards, from C. vnto the two Perpendiculars, where the body shall be closed vp. The necke standing aboue it, shall be two parts high: but the rest of the workemanship shall be made according to the will and deuice of the workeman.



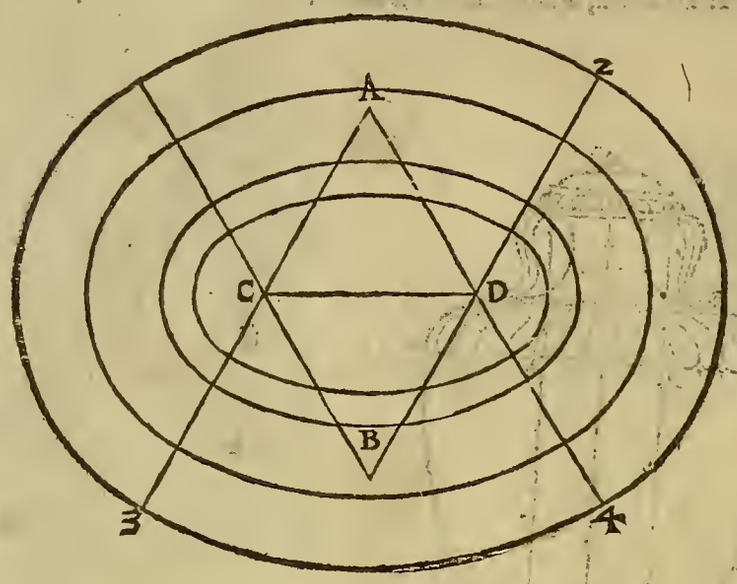
By this meanes you may make other different kindes of Cups or vessels: but these that follow, you must make in this sort: you must deuide your crosse line in twelue parts through the poynt A. making two Perpendiculars to shew the foote and the necke: then setting one foote of the Compasse vpon B. and the other foote vpon I. drawing a piece of a Circle downe-wards, towards the Perpendicular: and the like being done on the other side to the Figure of 2. then place your Compasse vpon the poynt C. and touching the sides 3. and 4. then the bottom of the vessell will be closed vp: then place the Compasse vpon the poynt betweene I. and A. and it will bee the roundnesse of the vessell aboue: the other foure parts serue for the necke of the vessell, with the rest of the worke.



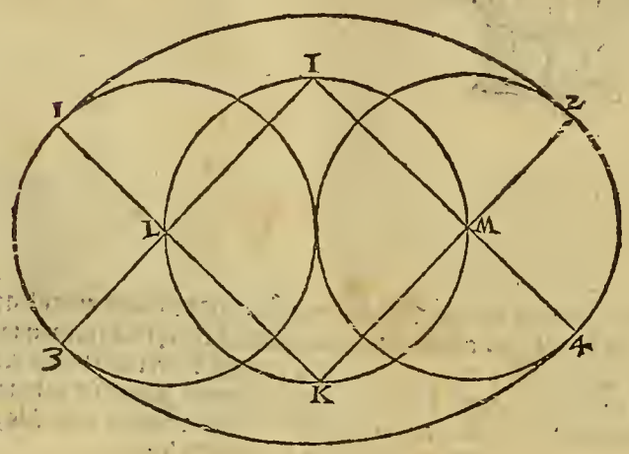
A man may make a vessell onely by a Circular forme, making therein a Circular crosse, and deuiding euery line into fiue parts: the halfe circle shall be the belly of the vessell, and a first part vpward for a Frée, that there may bee more place to beautifie it: an other part shall be the height of the necke, and another part the couer: and for the foote, although it be but a halfe part high, it may well goe a first part without the round: and although I haue set downe but fiue maner of cups or vessels, yet according to the rule aforesayd, a man may make an infinite number of vessels, and a man may alter them by their Ornaments, whereof I say nothing, that you may see the line the better.



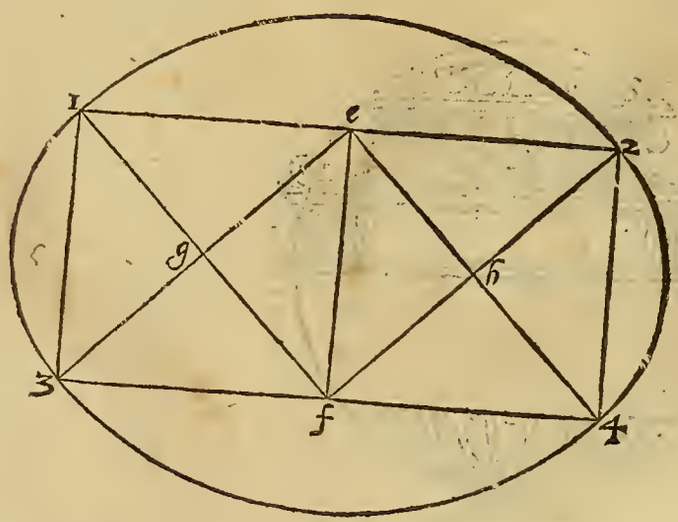
A Man may make Duale formes in diuers fashions, but I will onely set downe foure. To make this first figure, you must set two perfect Triangles one aboue the other, like a Rombus, and at the ioyning of them together, you must draw the lines through to 1.2.3.4. and the corners A. B. C. D. shall be the foure Centers, then set one foote of the Compasse vpon B. and the other vpon 1. and draw a line from thence to the figure 2. After that, from the poynt A. and 3. to 4. you must also draw a line: which being done, set the one ende of the Compasse in the poynt C. and then draw a piece of a Circle from 1. to 3. and againe, the Compasse being in the Center D. draw a piece of a Circle from 2. to 4. and then the forme is made. You must also vnderstand, that the nearer that the figures come to their Centers, so much the longer they are: and to the contrary, the further that they are from their Centers, the rounder they are: yet they are no perfect Circles, because they haue more then one Center.



FOR the making of the second Duale, you must first make three Circles, as you sée héere drawing, where ye foure straight lines stand: the foure Centers shalbe I.K.L.M. Then placing one point of the Compasse in K. you must drawe a line with the other point from the figure of 1. to 2. Againe, without altering the Compasse, you shal set the one foote of the Compasse in I. and so drawe a piece of a Circle from the figure 3. to the figure 4. and that maketh the Compasse of the Circle. This Figure is very like the forme of an Egge.

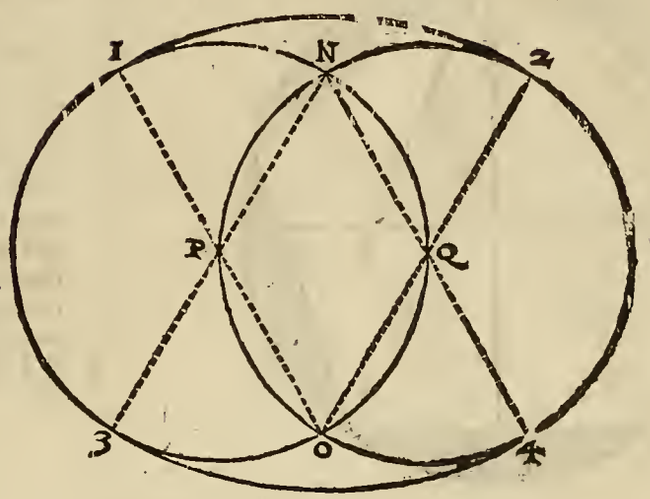


THE third forme is made by two foure cornerd squares, drawing Diagonen lines in them, which shal shew the two Centers G. H. and the other two the corners E. & F. Then draw a piece of a Circle frõ F. to the figure 1. and so to 2. Do the like from E. to 3. and 4. which done, from the points G. and H. make the two sides from 1. to 3. and from 2. to 4. and so shut vp the Duale.



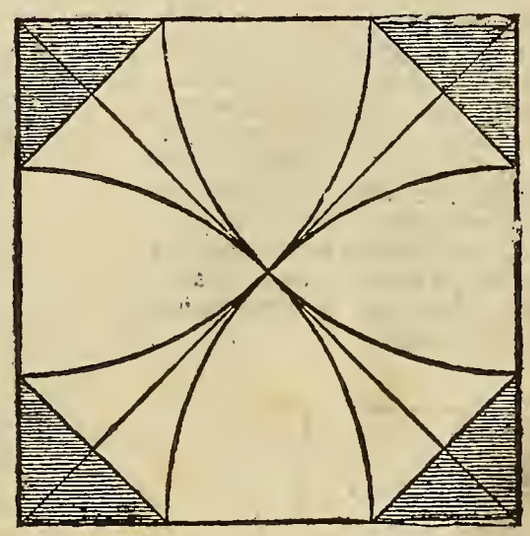
IF you will make this fourth Duale, then make two Circles that may cut through each others Center, & the other two Centers for the closing of the Circle be N.O. after that, whether you draw the right lines or not from the poynts O.N. you shall shut vp the sides from 1. and 2. and from 3. to 4.

And although our Authour sayth, there are foure formes of Duales: yet this last figure is of the same forme as the first, onely this is easier to make.

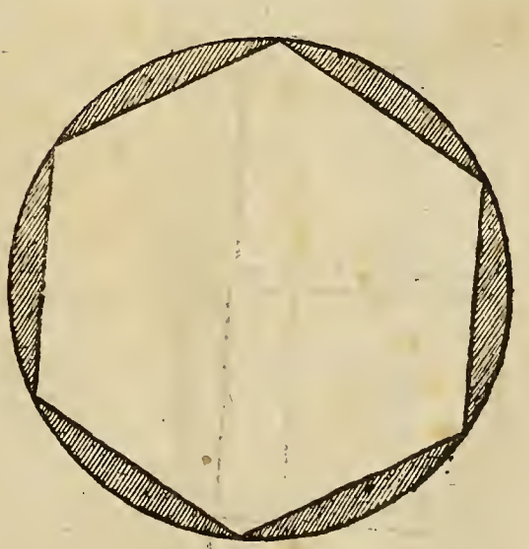


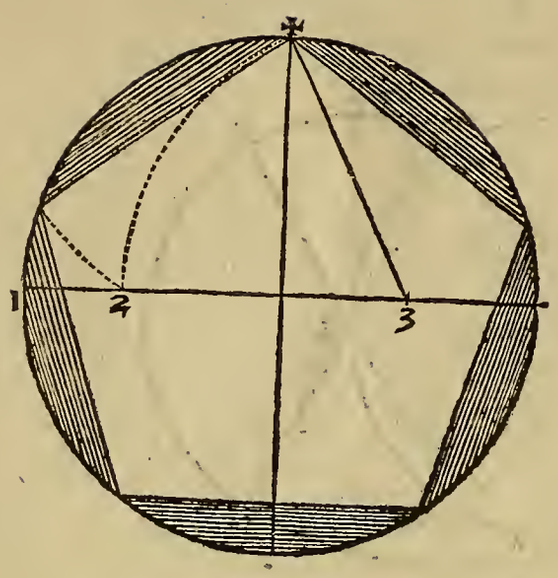
TOuching the Circles, there are many figures which are round, and yet some haue 5.6.7.8.9. and 10. corners, &c. But at this time, I will speake onely of these three principally: because they are most common.

THis Octogonus, or eight points, is drawen out of a right foure cornerd square, drawing the Diagonus which will shewe you the Center: then set one foote of your Compas vpon the corners of the Quadrate, and leading the other foote through the Center, directing your Circle toward the side of the Quadrate, there your right poynts shall stand to make it eyght cornerd: and although a man might only doe it by the Circle, making a crosse therein, and deuiding each quarter in two, yet it will not be so well, and therefore this is a surer and more perfect way.



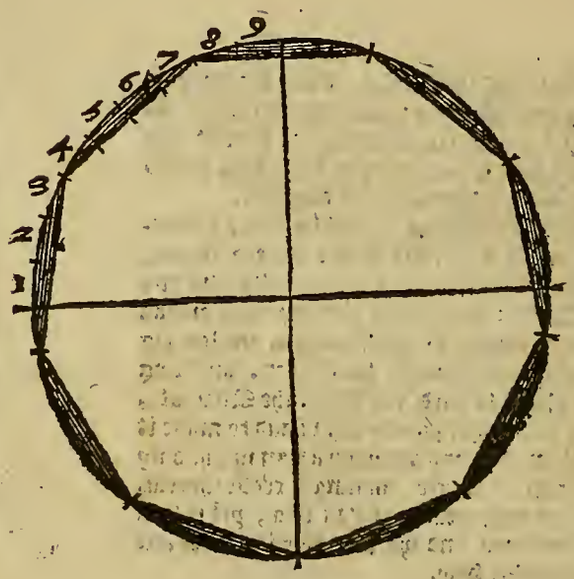
THE Hexagonus, that is, the six cornerd Circle, is easiest made in a Circle: for when the Circle is made, you may deuide the Circumference in six parts equally, without stirring the Compasse, and drawing the line from one poynt to another, the six corners are made.





BUT the Pentagonus that is fiue cornerd, is not so easily to be made as the others are, because it is of an vneuen number of corners, notwithstanding you may make it in this manner: when the Circle is made, then make a straight crosse therin: then deuide the one halfe of the crosse line in two parts, which is marked with the figure 3. then place the one foote of the Compasse vpon 3. and with the other, placing it vnder the crosse, drawe downe-ward to the crosse line marked 2. from thence also from vnder the crosse, you shall finde the length of euery side of the Pentagonus. In this figure also you shall finde the Decagonus, that is, ten corners: for, from the Center to the figure 2. that shall be one side thereof, you may also make a sixteene cornerd figure out of this widenesse 1. 2. and place a Particular line vpon the poynt 3. And Albertus Durens saith, that the same also will serue to make a seuen cornerd figure.

THis figure will serue such men as are to part a Circumference into vnequall parts, how many soeuer they be: but not to bring the Reader into confusednesse, with making of many formes, I will onely set downe this deuided into nine corners, which shall serue for an example of all the rest, which is thus: Take the quarter of the Circle, and deuide it into nine parts, and foure of these parts will bee the ninth part of the whole Circumference: you must also vnderstand the same so, if you deuide a Quadrate into eleuen, twelue, or thirteene parts, &c. for that alwayes foure of these parts bee the iust wydenesse of your parts required.



THere are many Quadrangle proportions, but I will here set down but seuen of the principallest of them, which shal best serue for the vse of the workeman.

FIrst, this forme is called a right foure cornerd Quadrate.

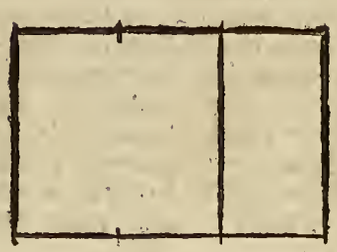
THe second forme or figure in Latine, is called Sesquiquarta, that is, which is made of a foure cornerd Quadrate, and an eyght part thereof ioyned vnto it.

THe third figure in Latine, is called a Sesquitertia, that is, made of a foure squared Quadrate, and a third part therof ioyned vnto it.

THe fourth, is called Diagonea, of the line Diagonus: which line deuideth the foure square Quadrate crosse through the middle, which Diagonall line being taught from vnder to the end thereof ouwards with the Compasse, and so drawen, will shew you the length of the Digonall Quadrangle: but from this proportion there can bee no rule in number well set downe.

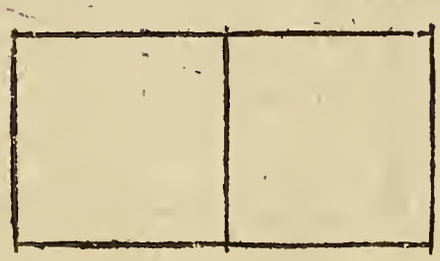
The

THe first figure is called a Sesquialtera, that is, a foure square, and halfe of one of the foure squares added vnto it.

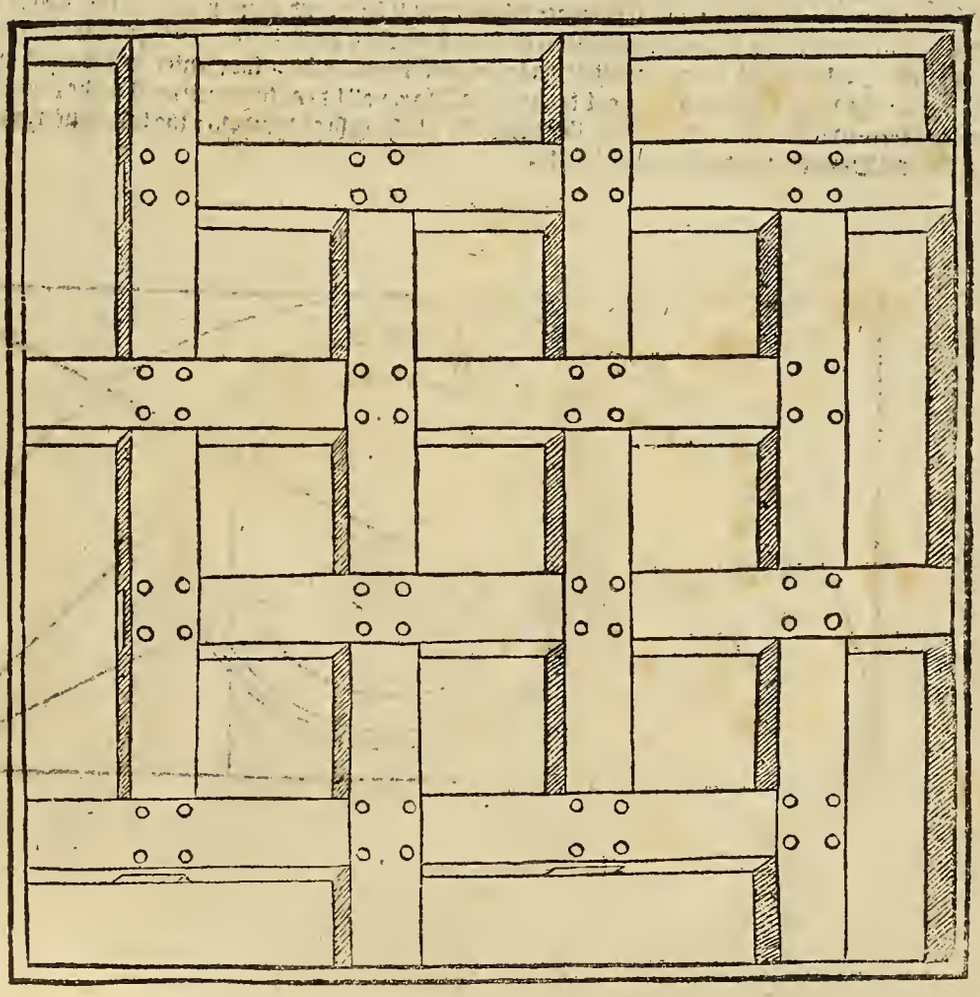


THe first is called Superbitiertertias, that is, a foure square, and two third parts of one of the foure squares added thereunto.

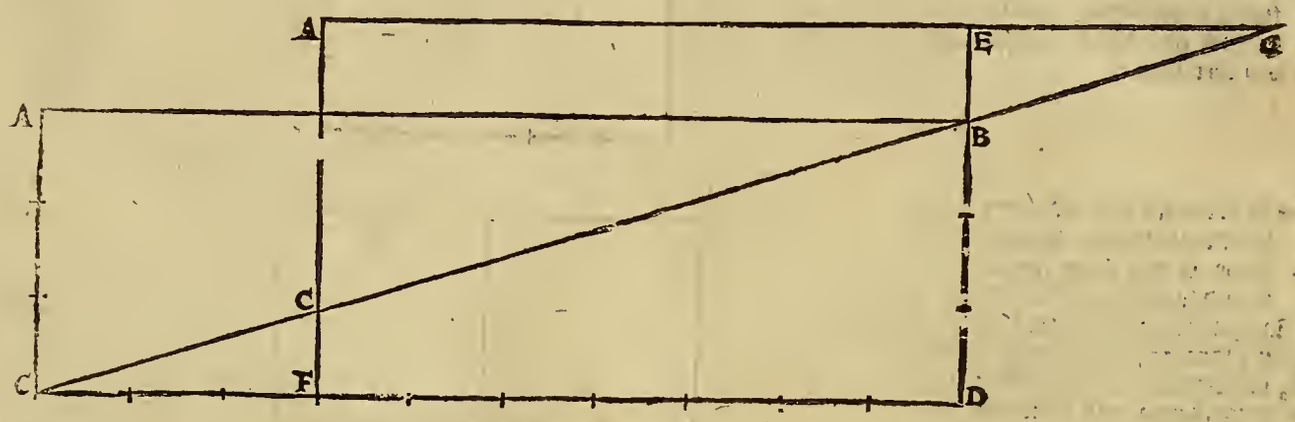
THe seuenth and last figure, is called Dupla, that is, double: for it is made of two foure square formes ioyned together: and we finde not in any Antiquities, any forme that passeth the two foure squares, vnlesse it bee in Galleries, Entries and other to walke in: and some gates, doores, and windowes haue stood in their heights: but such as are wise will not passe such lengths in Chambers or Halles.



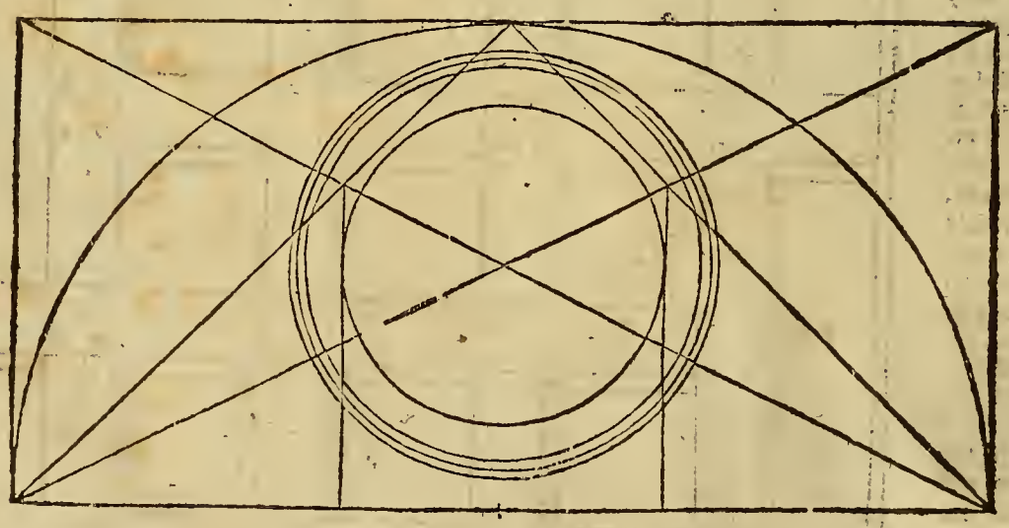
MAny accidents like vnto this, may fall into ye workmans hand, which is, that a man should lay a seeling of a house in a place which is fifteene foote long, and as many foote broad, & the rafters should be but fouretéene foote long, and no more wood to be had: then in such case, the binding thereof must be made in such sort as you sée it héere set downe, that the rafters may serue, and this will also bee strong enough.



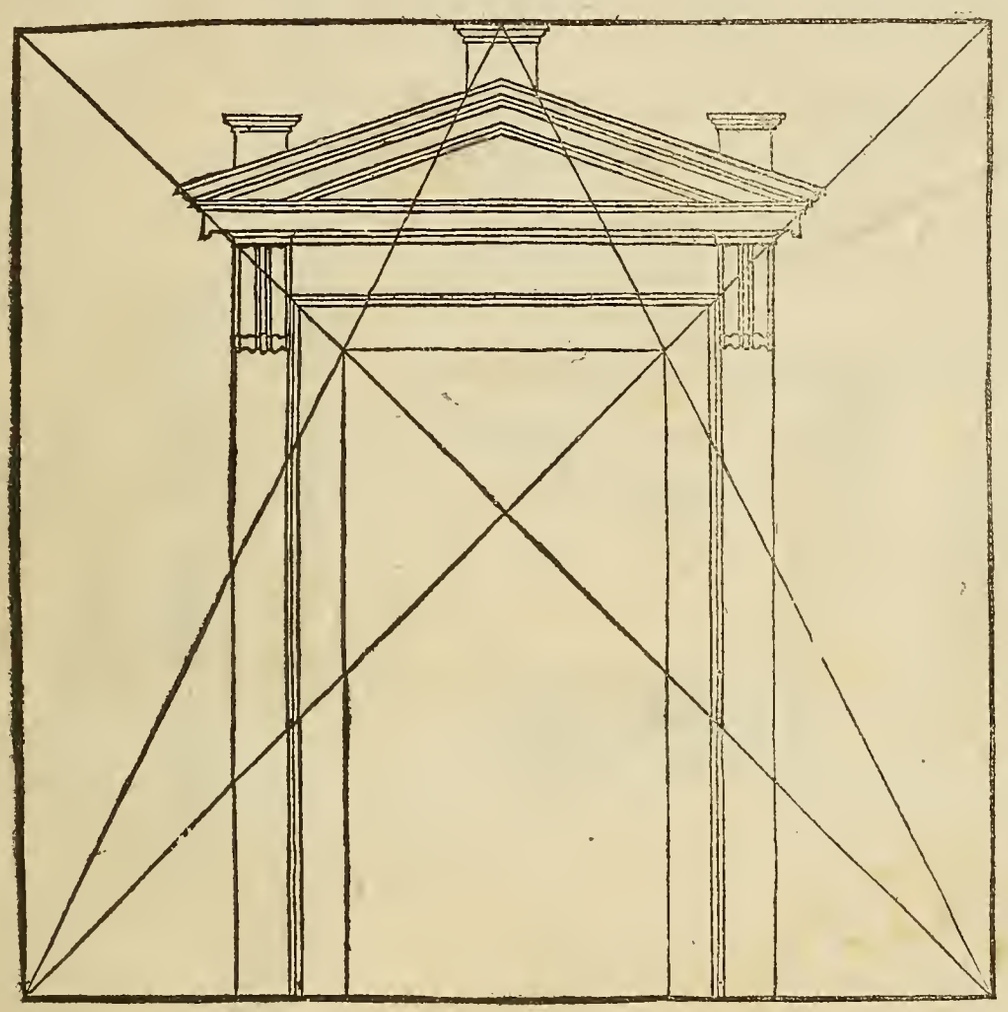
IT may also fall out, that a man should finde a Table of ten foote long, and three foote broade: with this Table a man would make a doore of seuen foote high, and foure foote wyde. Now to doe it, a man would saw the Table long wise in two parts, and setting them one vnder another, and so they would be but fire foote high, and it should bee seuen: and againe, if they would cut it three foote shorter, and so make it foure foote broade, then the one side shall be too much peece. Therefore he must doe it in this sort: Take the Table of ten foote long, and three foot broad, & marke it with A. B. C. D. then saue it Diagonall wise, that is, from the corner C. to B. with two equall parts, then draw the one peece thereof three foote backwards towards the corner B. then the line A. F. shall be foure foote broad, and so shall the line E. D. also hold foure foote broad: by this meanes you shall haue your doore A. E. F. D. seuen foote long, and foure foote broade, and you shall yet haue the three corner pieces marked E, B, G. and C. F. and C. left for some other vse.



IT happeneth many times, that a workman hath an eye or round window to make in a Church, as in ancient times they vsed to make them, and he doubted of the greatnesse thereof, which if he will make after the rules of Geometry, hee must first measure the breeth of the place where he will set it, and thereon he must make a halfe Circle: which halfe Circle being inclosed in a Quadrangle, then he shall finde the Center by the Diagonall lines: then he must draw two lines more, which shall reach from the two lowermost corners aboue the Center, and touch the iust halfe of the Circle aboue: and where the sayd lines cut through the Diagonall lines, there you must make two Perpendicular lines, which Perpendicular lines shall shew the widenesse of the desired window: the iust about it, may bee made the first part of the Diameter, being round in breeth.



IF a workeman will make a Gate or a Doore in a Temple or a Church, which is to be proportioned according to the place, then he must take the widenesse within the Church, or else the bredth of the wall without: if the Church bee small, and haue Pilasters or Pillars within it: then he may take the widenesse betweene them, & set the same bredth in a foure square, that is, as high as broad, in which foure square, the Diagonall lines, and the other two crosse cutting lines will not onely shew you the widenes of the doore, but also the places and poynts of the ornaments of the same Doore, as you see here in this Figure. And although it should fall out, that you haue three doores to make in a Church, and to that ende cut three holes, yet you may obserue this proportion for the smallest of them. And although (gentle Reader) the crosse cutting thorow or deuiding is innumerable, yet for this time, lest I should be too tedious, I here end my Geometry.



Here endeth the first Booke of Architecture, treating of Geometry, translated out of Italian into Dutch: And now out of Dutch, into English, for the benefit of our English Nation, at the charges of Robert Peake. 1611.

The ſecond Booke of Architecture, made by *Sebaſtian Serly*, entreating of Perſpectiue, *which is, Inſpection, or looking into,* by ſhortening of the ſight.

Tranſlated out of Italian into Dutch, and out of Dutch into Engliſh.

LONDON

Printed for Robert Peake, and are to be ſold at his ſhop neere Holborne conduit, next to the Sunne Tauerne.

ANNO DOM. 1611.

The ſecond Booke.

A Treatiſe of Perſpectiues, touching the Superficies.

The ſecond Chapter.

ALthough the ſubtill and ingenious Arte of Perſpectiue is very difficult and troubleſome to ſet downe in writing, and ſpecially the body, or modell of things, which are drawen out of the ground: for it is an Arte which cannot be ſo well expreſſed by figures or writings, as by an vnderſhewing, which is done ſeuerally: Notwithſtanding, ſeeing that in my firſt Booke I haue ſpoken of Geometry, without the which Perſpectiue Arte is nothing: I will labour in the brieſeſt manner that I can in this my ſecond Booke, to ſhewe the workeman ſo much thereof, that hee ſhall bee able to aide and helpe himſelfe therewith.

In this worke I will not troublemy ſelfe to diſpute Philoſophically what Perſpectiue is, or from whence it hath the originall: for learned *Euclides* writeth darkely of the ſpeculation thereof.

But to proceede to the matter, touching that the workeman ſhall haue cauſe to vſe, you muſt vnderſtand, that Perſpectiue is that, which *Vitruuius* calleth Scenographie, that is, the vpright part and ſides of any building or of any Superficies or bodies.

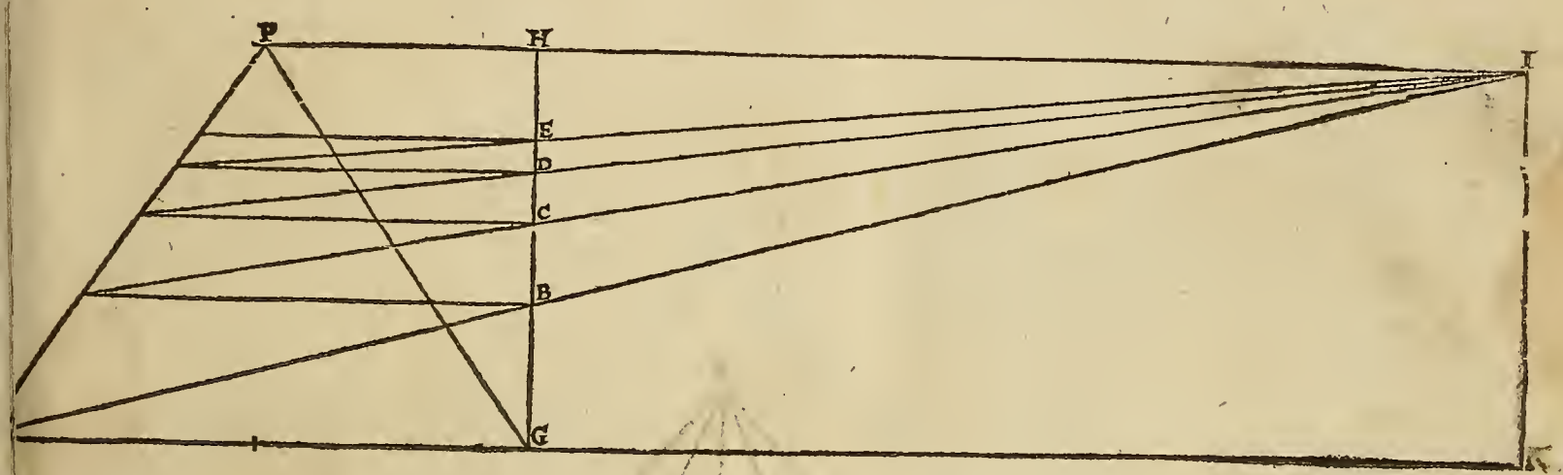
This Perſpectiue then, conſiſteth principally in three lines: The firſt line is the Baſe below, from whence all things haue their beginning. The ſecond line is that, which goeth or reacheth to the point, which ſome call ſight, others, the horiſon: But the horiſon is the right name thereof, for the horiſon is in euery place wherſoeuer ſight endeth. The third line, is the line of the diſtances, which ought alwayes to ſtand ſo high as the horiſon is farre or neere, according to the ſituation, as when time ſerueth, I will declare.

This Horiſon is to be vnderſtood to ſtand at the corners of our ſight, as if the workeman would ſhew a piece of worke againſt a flat wall, taking his beginning from the ground, where the feete of the beholders ſhould ſtand. In ſuch caſe it is requiſite, that the Horiſon ſhould bee as high as our eye, and the diſtance to ſee or behold that worke, ſhall be ſet or placed in the fitteſt place thereabouts, as if it were in a Hall, or a Chamber, then the diſtance ſhall be taken at the entry thereof: but if it bee within, or at the end of a Gallery or Court, then the diſtance ſhall be ſet at the entry of the ſame place, and if it bee in a Streete againſt a wall or an houſe, then you muſt ſet your diſtance on the other ſide, right ouer againſt it. But if in ſuch a caſe the ſtreete is very narrow, then it were good to imagine a broad diſtance, leſt the ſhortening fall out to be ouertedious or vnpleaſant vnto you: for the longer or the wyder the diſtance is, the worke will ſhew ſo much the better and pleaſanter.

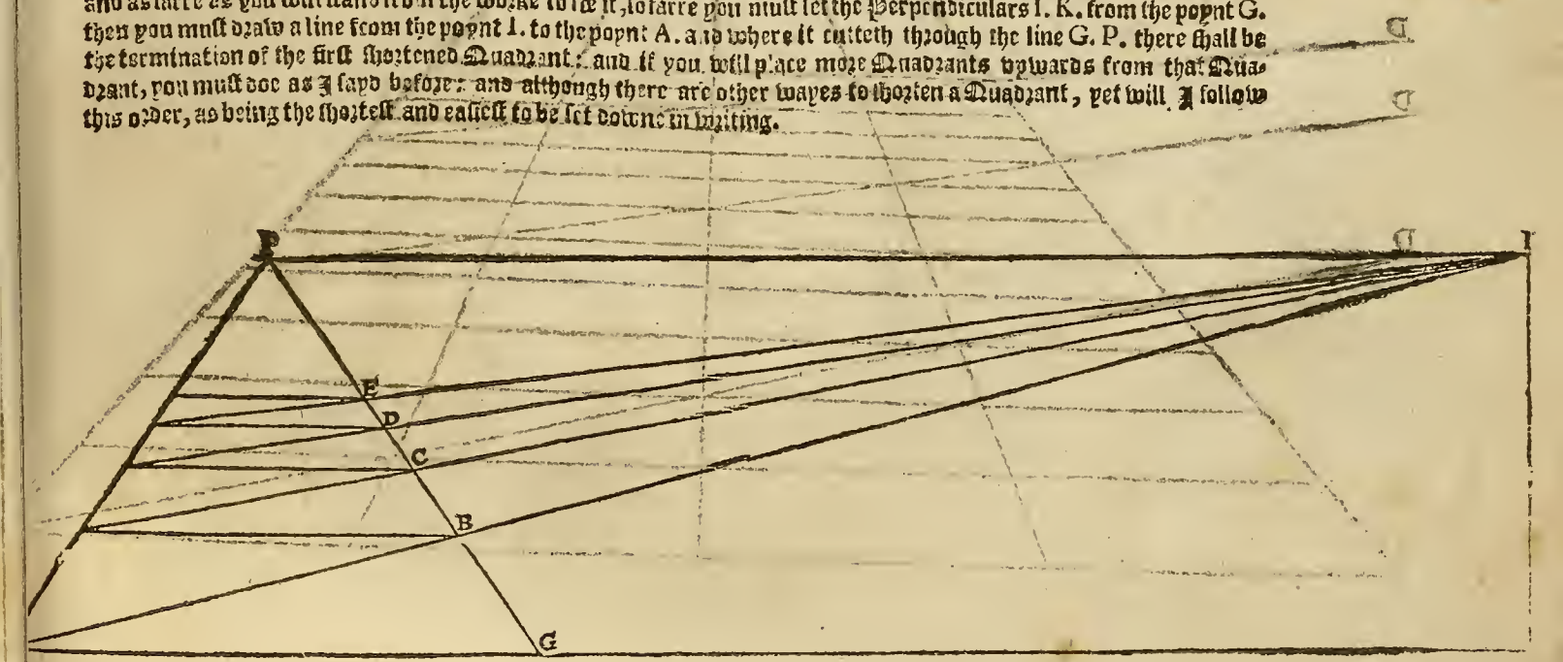
But if you will begin a piece of worke of fiue or ſixe foote high from the ground whereon you ſtand, then it is requiſite that the Horiſon ſhould ſtand euen with your eyes (as I ſayd before) but if a man ſhould ſee no ground of the worke, whereon the vppermoſt part doeth ſtand (and a man would worke very high) it would not be correſpondent with the eyes: In ſuch a caſe a man muſt take vpon him to place the Horiſon ſomewhat higher, by the aduice of ſome ſkilfull workman, which maketh hiſtories or other things vpon Houſes, thirtie or fortie foote high aboue a mans ſight, which is vnfittingly. But cunning workmen fall into no ſuch errors; for where they haue made any thing aboue our ſight, there you could ſee no ground of the ſame worke, for that the notable Perſpectiue Art hath bridled them: and therefore (as I ſayd before) Perſpectiue Art is very neceſſary for a workeman: And no Perſpectiue workeman can make any worke without Architecture, nor the Architecture without Perſpectiue.

To proue this; it appeareth by the Architectures in our dayes, wherein good Architecture hath begun to appeare and ſhew it ſelfe: For, was not *Bramant* an excellent Architector, and was he not firſt a Painter, and had great skill in Perſpectiue Art, before he applyed himſelfe to the Art of Architecture? and *Raphael Durbin*, was not he a moſt cunning Paynter, and an excellent Perſpectiue Artiſt, before he became an Architector? And *Balthazar Perruzzie* of *Sienna*, was alſo a Paynter, and ſo well ſeene in Perſpectiue Art, that he ſeeking to place certaine Pillars and other Antike works perſpectiuely, tocke ſuch a pleaſure in the proportions and meaſures thereof, that he alſo became an Architector: wherein he ſo much excelled, that his like was almoſt not to be found. Was not learned *Ieronimus Genga* alſo an excellent Paynter, and moſt cunning in Perſpectiue Arte, as the faire works, which he made for the pleaſure of his Lord *Franciſco Maria*, Duke of *Vrbin*, can teſtifie; vnder whom he became a moſt excellent Architector? *Iulius Romanus*, a ſcholler of *Raphael Durbin*; who, by Perſpectiue Arte and Paynting, became an excellent Architector, witneſſeth the ſame. Then to come to my purpoſe, I ſay, that a man muſt be diligent and vigilant in this Arte, wherein I will begin with ſmall things, and then proceed to greater; vntill I haue ſhewed you the full Arte and manner thereof, as I deſire.

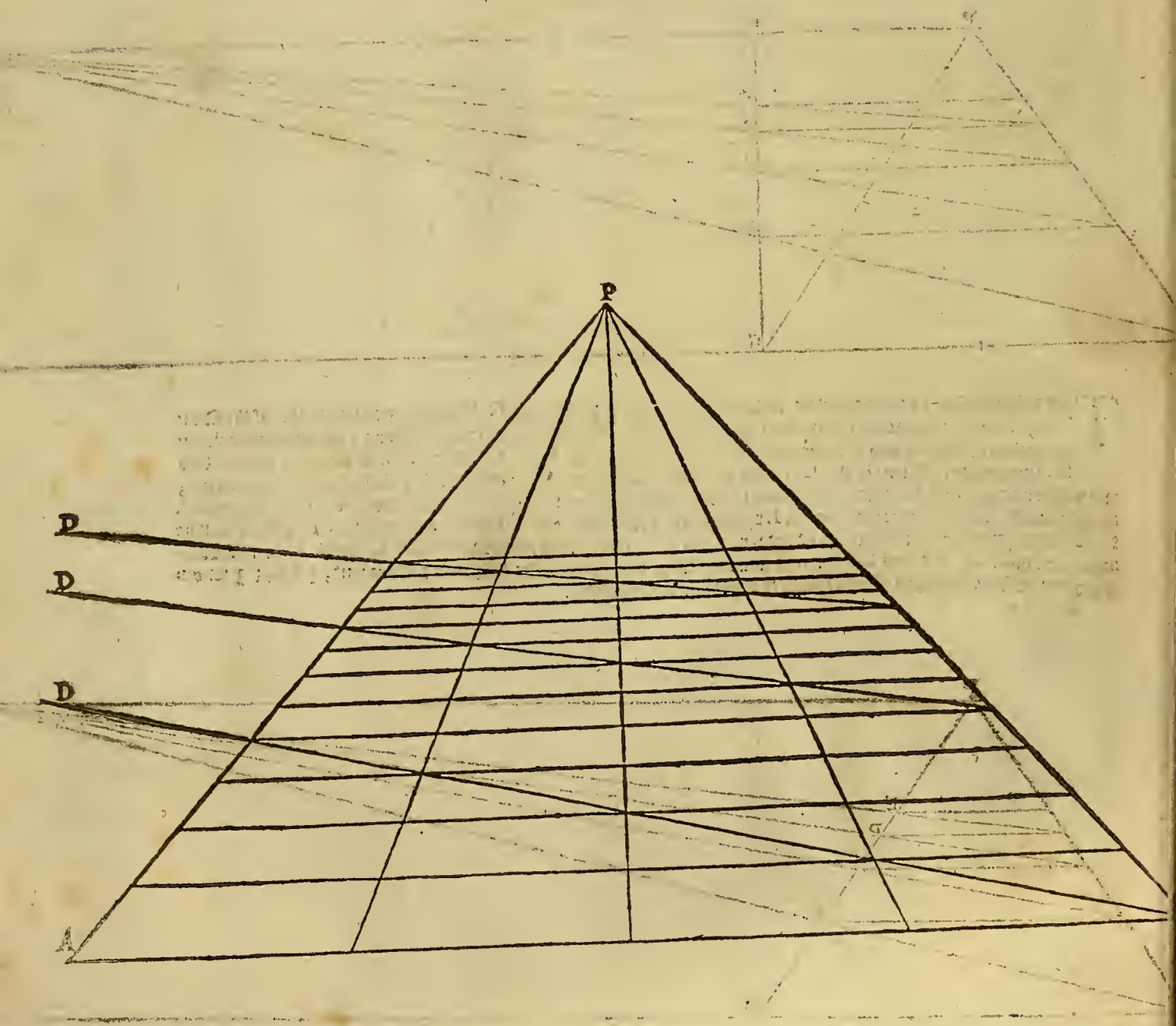
TO the ende that men by small matters may attaine to greater, therefore I will begin to shew how to shorten a foure cornered thing, from whence all the rest shall bee deriued. Then the Base of this foure square thing, shall be A. G. and the height of the Horison (as I sayd before) shall bee imagined according to the sight, and that shall be P. whereunto all the lines doe runne, as the lines of the sides A. P. and G. P. then at the one ende of the Quadrante you must set a Perpendicular line, which is G. H. which done, then drawe the Base A. G. K. long inough, and then out of the Horison draw a Paralell or an Equidistant line from the Base, as far as you will that the eye or sight shall stand from that which you will looke on; for how much the more you will haue the foure square thing to seeme shorter, so much further you must goe with your sight I. from H. to behold the foure square thing. And then, taking H. I. for the distance from the point I. to the corner A. draw a line, and where the line cutteth through the Perpendicular line H. G. that is on B. there the termination of the shortening of the foure square thing shall bee, as you may see in the figure following. But if you will make more foure squares one aboue the other, vpon the same Horison or poynt: then you must draw another line from the shortening poynt of the foure square or Quadrant, to the letter I. and where it cutteth through the Perpendicular line aforesaid, that is at C, there the second Quadrant shalbe cut off, and in like sort you must draw another line to the poynt of the distance: and where it toucheth the Lead, or Perpendicular line that is on D. you shall make the third Quadrante, the same may be done with E. and so you must goe, vntill you come inst vnder the Horison.



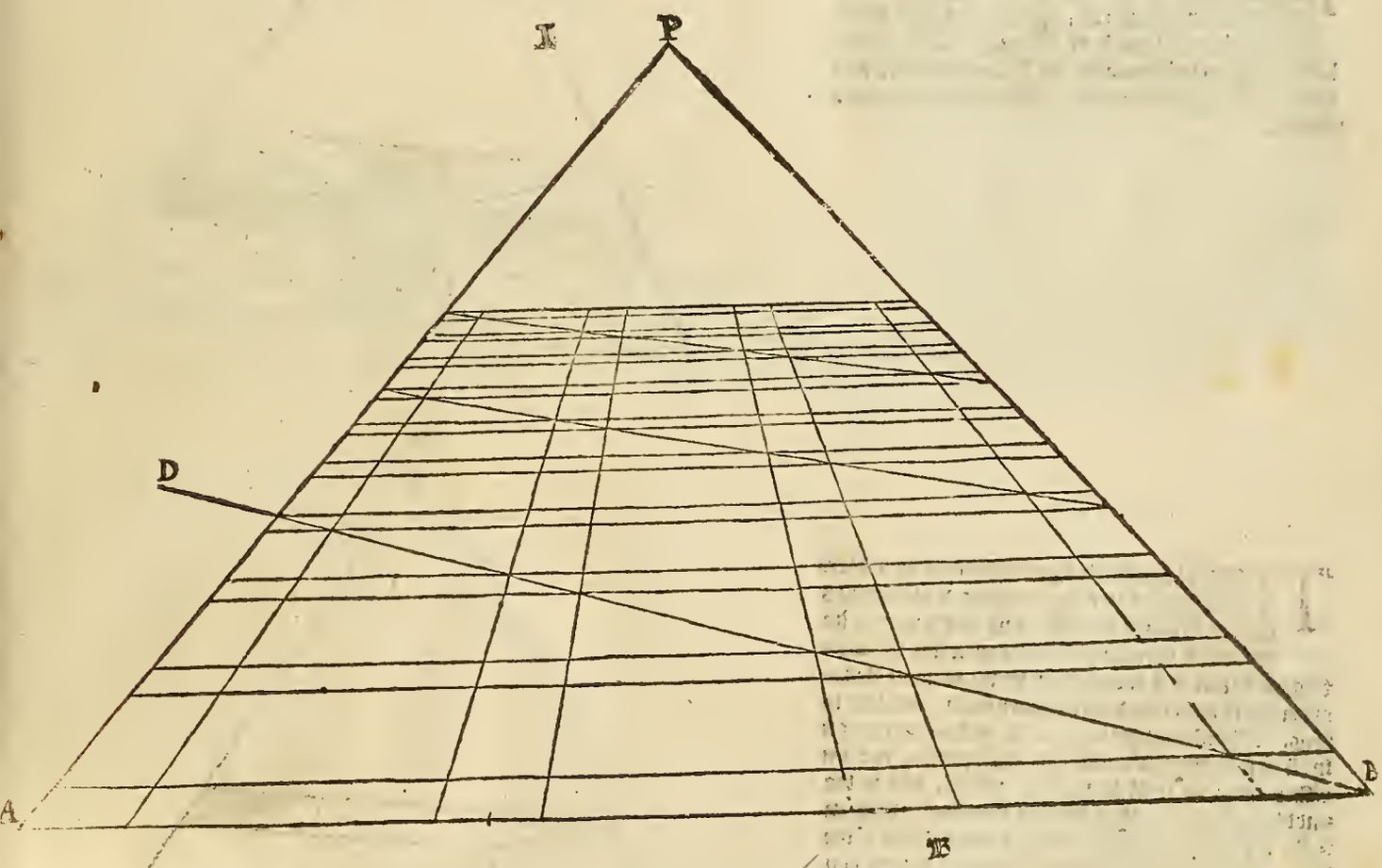
THe rule aforesaid is the perfectest, and you may proue it by the line G. H. which is called the line of the Quadrants: but because it is cumbred with a greater number of lines, and so more tedious: therefore the rule ensuing shall be shorter, and easilyer to be done then the other: for when the Base A. G. is drawne, and the two side lines make a Triangle A. P. G. then you must draw the Paralels of the Base & of the Horison long inough; and as farre as you will stand from the worke to see it, so farre you must set the Perpendiculars I. K. from the poynt G. then you must draw a line from the poynt I. to the poynt A. and where it cutteth through the line G. P. there shall be the termination of the first shortened Quadrant: and if you will place more Quadrants vpwards from that Quadrant, you must doe as I sayd before: and although there are other wayes to shorten a Quadrant, yet will I follow this order, as being the shortest and easiest to be set downe in writing.



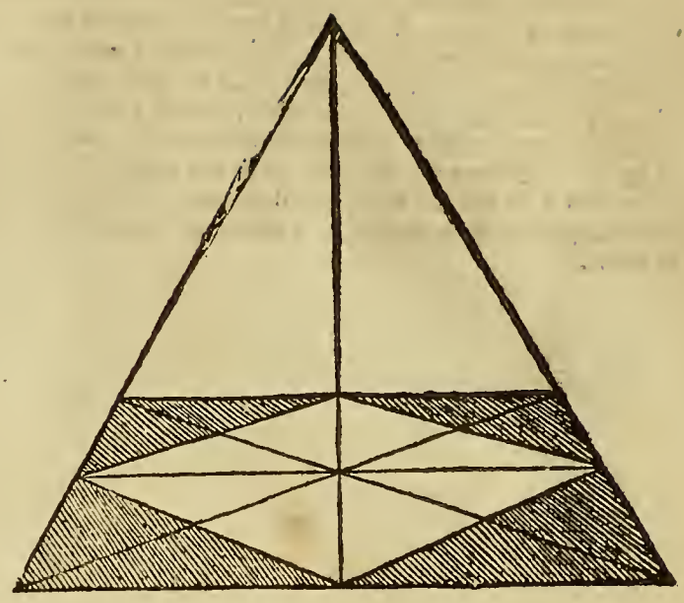
A Man must also die himselfe vnto diuers distances and grounds, and therefore you must make the ground following, which is of three Quadrantes high, in this manner. First, you must draw the line A.B. as long as the breath of the worke shall be: which line or Base, must bee deuided into so many equall parts as are needfull, which being all drawne to the Horison or point, then you must place the distances as farre as you desire, according to the rule aforesayd; for here is no place to set it in, although it is a length and a halfe from the Base, as you see it marked with $1\frac{1}{2}$. Which Base, because it is of foure parts, therefore the first Quadrant containeth sixteene small Quadrantes, which are found by the line B. D. for where that line cutteth through the foure lines, which goe to the poynt; there you must drawe the Paralel ouer, that thereby the sixteene Quadrantes may be formed: But if you will set other Quadrantes vpon it, then (as aforesayd) you must draw another line to the distance D. and where that cutteth through the other lines that reach to the poynt, that shall bee the termination of the second Quadrant, containing in it also foure times foure Quadrantes: The like must bee vnderstood of the third Quadrant, (and more besides if need bee.) But you must also vnderstand, that the lines marked D. runne all the distances, as it is taught before.



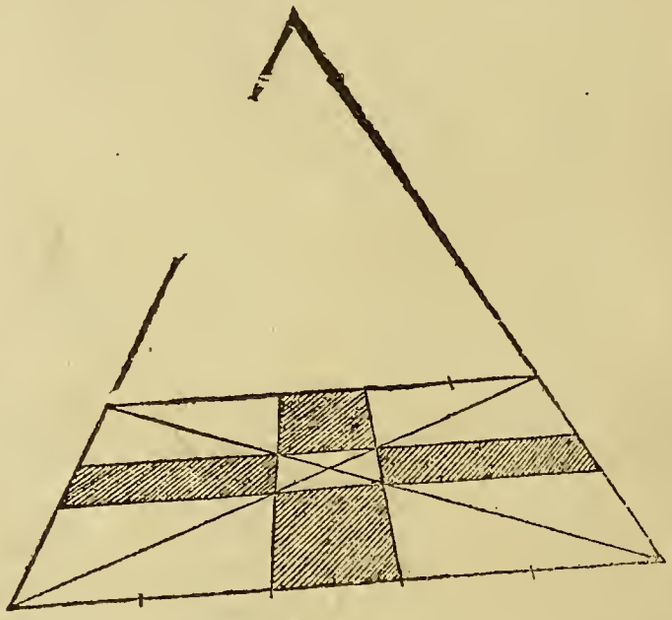
If you will make a pauement with great Quadrantes to be cut or Compassed with fascien, fasen or lists, as you will terme them, then vpon A. B. you must deuide the fasen or Quadrantes, and draw them all to the Horison; then you must imagine the distances as you are taught before: and the line D.B. being drawne from the poynt B. to the point of the distances; then by cutting through of the Horisentall lines, it will shew the terminations of the Quadrants, Fasen, or Borders. To draw the Paralels, then if you will make the like Quadrantes somewhat higher, then you must draw another line to the distances: and where it toucheth the Horisentall or Radiall lines, there also you must draw the Paralels through; so you must also doe with the third, and the poynt of the distances of these figures stand as farre from A. as the line or Base A.B. is long: If you will make diuers formes in these Quadrants, as Rotes, Crosses, fire poynts, or eyght poynts, I will shew the manner of them particularly, because I will bee as briefe heere in as I may.



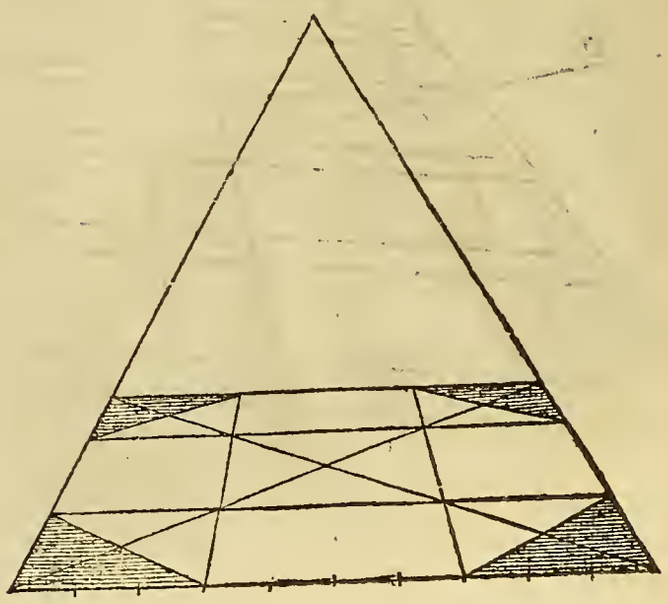
THis figure is a Quadrant, containing in it a Rute or an other Quadrant, which with the poynts thereof toucheth the sides of the vttermoſt Quadrant; whereby it is but halfe ſo great as the vttermoſt Quadrant, as I haue taught you in the firſt Booke of Geometrie, and the maner to make this, is thus. Firſt, you muſt make a Quadrant (as you are taught before) with his diſtances; and in this Quadrant you muſt draw two Diagonall lines, and alſo the right croſſe lines, whereby you may eaſily finde the Rute, as you ſée it in the figure directly againſt this. In this ſort you may make the Rutes in the other Quadrantes before ſet downe, that is, to draw Diagonall and croſſe lines in them without ſéeking other diſtances.

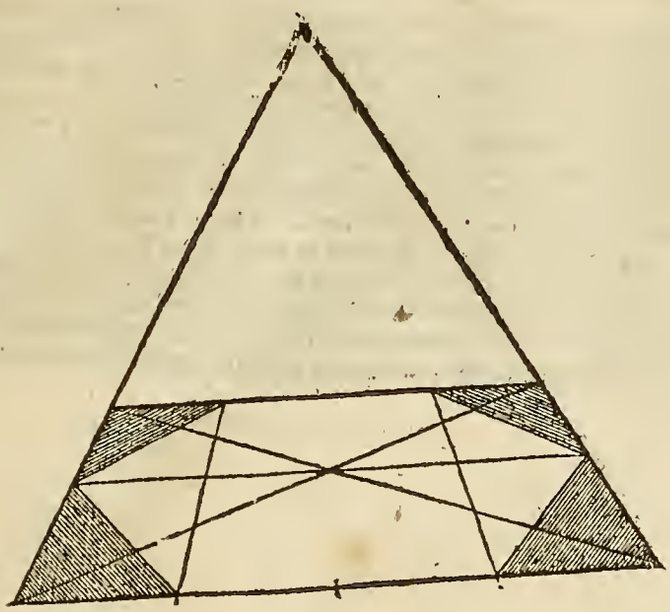


IN this figure there is a croſſe ſhewed (to make it) you muſt deuide the lowerſt line or Baſe of the Quadrant in fiue parts; of the which fiue parts, one parte is the breadth of the croſſe: which breadth being drawen to the points, the Diagonall lines will ſhew you the Paralel lines of the croſſe, to vſe where néede is.

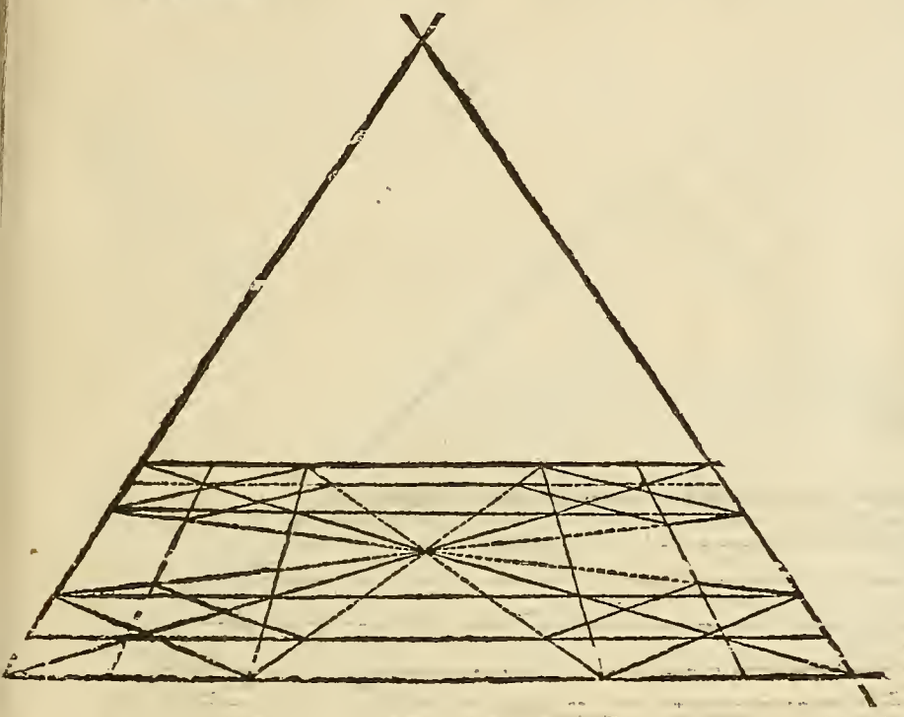


THE eyght poynted figure you may ſée in Perſpective works in diuers formes, which formes are all difficult inough: but that I may ſéeke the eaſieſt way ſo nere as I can in this my writing: Therefore I haue ſet downe the manner thereof hereunto annexed, which is very eaſily; and that is thus. The Quadrant being made in ſhortening, you muſt deuide the Baſe into ten equall parts, and on either ſide you ſhall leaue three parts, and in the middle foure parts, then the two lines being drawen to the Horizon, you ſhall find the terminations of the Paralel lines, by the Diagonall lines, whereby you may cloſe vp the eyght corners, as you may ſée it in the Figure.

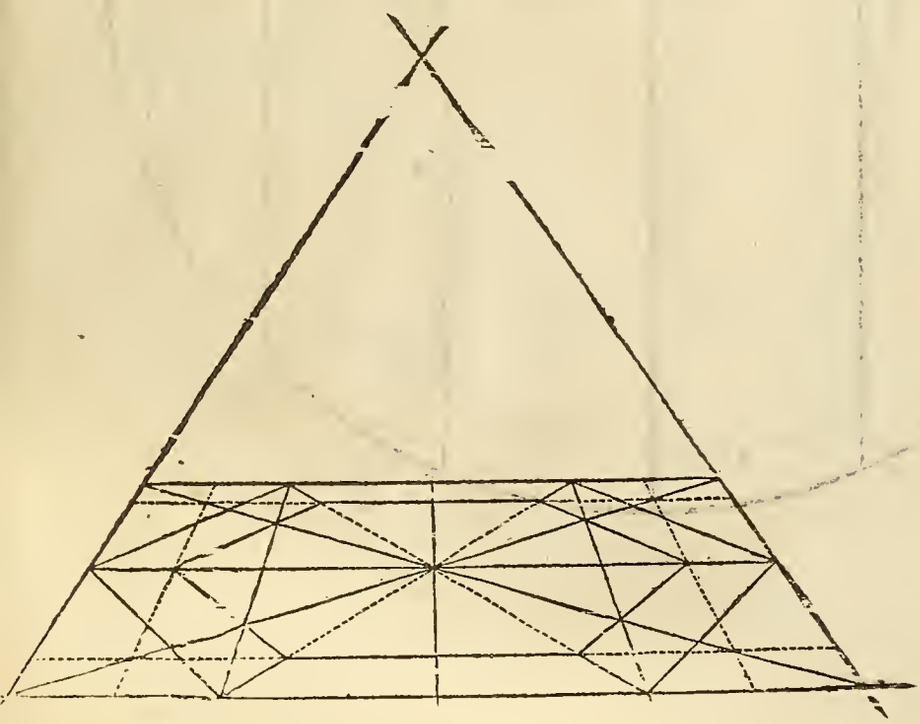




THE shortest way to place this fire cornerd Quadrant, in Perspective workes, is thus; When the Quadrant according to the rule aforesaid, is placed in shortening, then you must make foure equall parts of the Bases, whereof two shall be in the middle, and on each side you must leaue one, and then draw the lines vpwards to the Horison or poynts: then you must draw the Diagonall lines; and in the middle where they meet together, you must draw a Paralel line cleane through, by the which you shall finde all the points to make this fire cornerd Figure.

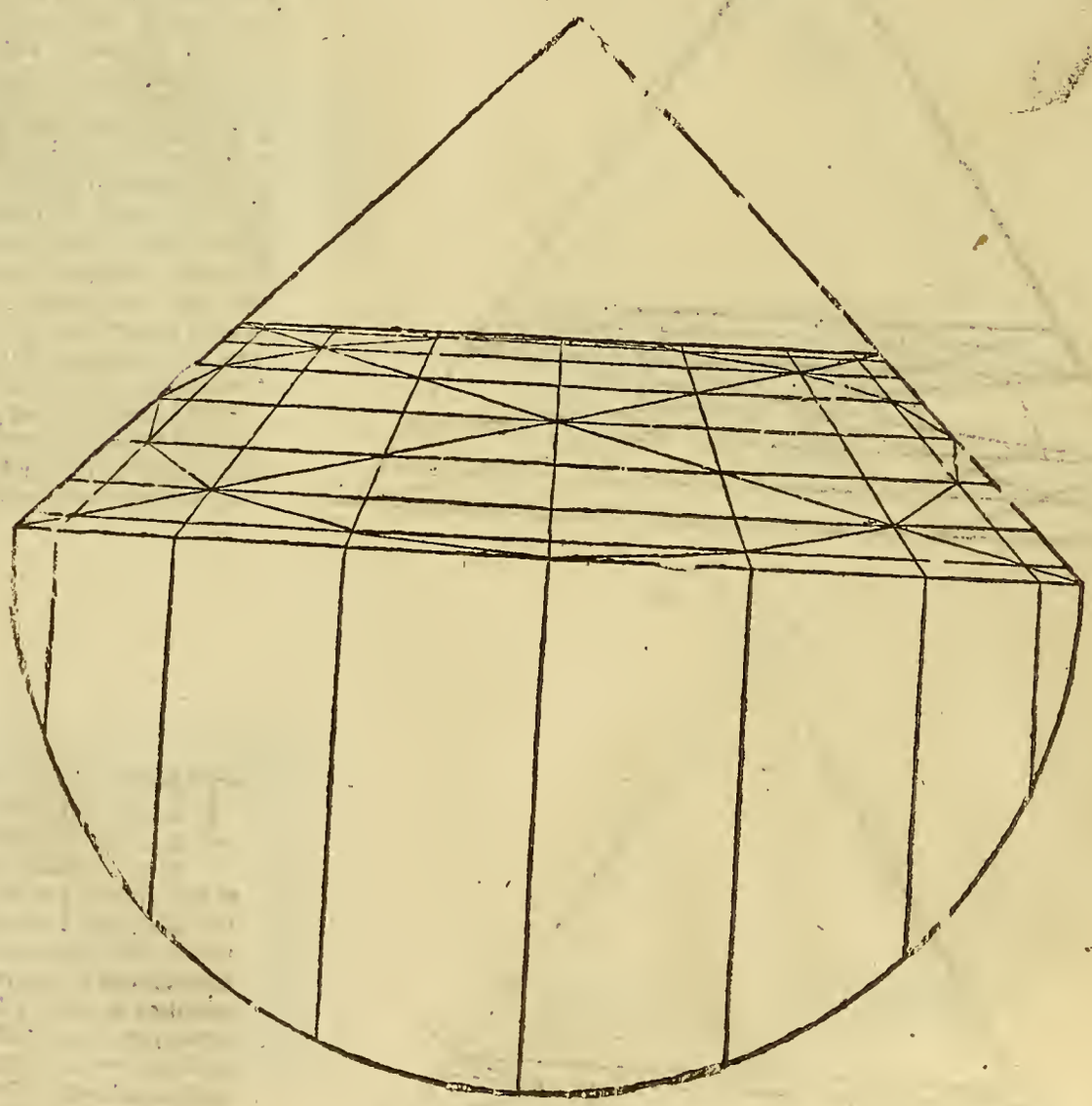


NOw I haue shewed how you shall make simple or plaine Perspective workes of foure corners, of fire corners, and eyght square corners: Now I will shew, how you shall make them double, that is, that euery simple figure shal haue his band. When you haue made a plaine Superficies of fire poynts, according to the rule aforesayd; then as much as you will haue the band or fase to be in bredth, that you must draw vpon the Base, and draw that also vp to the Horison: and where the Diagonall lines cut through it, there you must draw Paralel lines both vnder and aboue: and then draw two Diagonal lines more, out of the foure innermost points or corners of the fire cornerd Superficies; and so you shall finde your terminations to shut or close vp your smalest fire poynts or cornerd Superficies. Which second Diagonal, Paralel, and Horisontall lines are all drawen with prickes, for a difference from the first lines; that you may know them one from another.



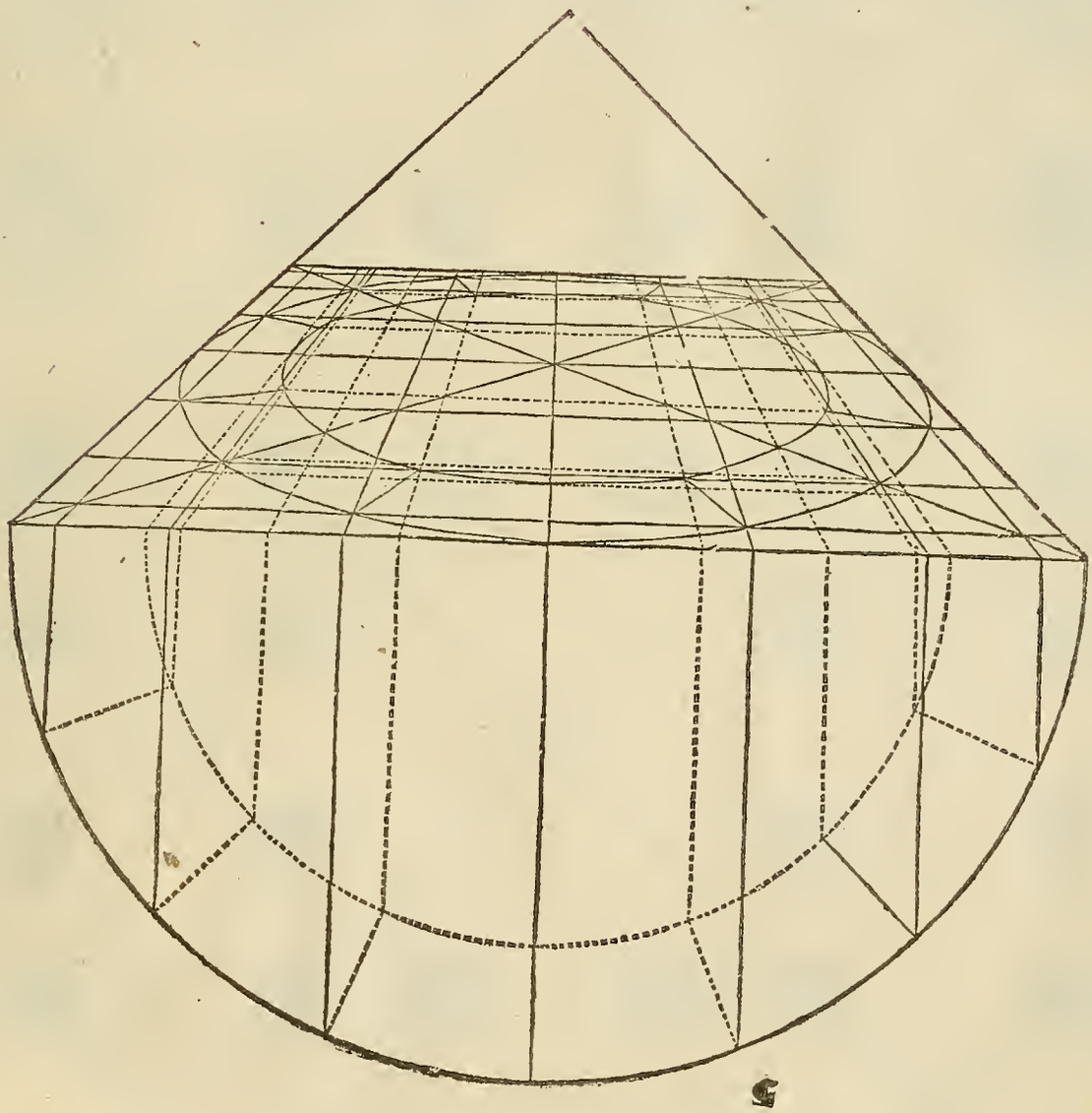
THE like must bee done with the eyght cornerd Superficies or Perspective work, for when the same is made within a foure square, making the Compas of what bredth you will, according to the rule aforesayd: then out of euery poynt or corner of the eyght square, a small line being drawen to the Center, you shall finde the termination to shut vp the innermost eyght squares; and then, when from poynt to poynt the lines are drawen, then one square or Compasse is full made. This eyght square forme may bee changed into a round, touching the middle on eyther side, or else without ouer the poynts or corners; a good workeman may easily draw a Circular shortening round line with his hand.

ALthough I haue said before that a man may make a round Circle about an eyght square, yet for more securitie you may by this way attaine to a more perfection therein; for that the more points or sides the Circuler forme hath, the round Compasse or Circle will be the fuller. But to make this Figure, it is necessary to make halfe a Circle vnder the Bases, and to deuide the Circumference into as many parts as you will, so that they be euen; in this forme the halfe Circle is deuided into eyght parts, so that the whole Circle must bee sixteene parts: which being done, you must set Perpendicular lines in all the parts of the Circumference, as farre as to the Bases of the shortened Quadrant, these parts being situated to the Horison, and two Diagonall lines drawen in the Quadrante, they by cutting through the Horisontall or Radiall lines, will shew you the Paralel lines. Then if you will draw a little Diagonall line, beginning at the middle poynt of the Base, from the one side vnto the other, and so from the one poynt vnto the other vpwards going euer the points: then the formes will be closed, as you see them heere; whereby it will be easie for you to draw a round forme with your hand, for it is vnpossible to bee done with the Compasse to make it shorten well. This figure you must be expert in, and you must also vnderstand it well, and so you must those that I haue before set downe, before you proceed further: for they will serue you for many pieces of worke hereafter ensuing, as you shall both see and find to be true.



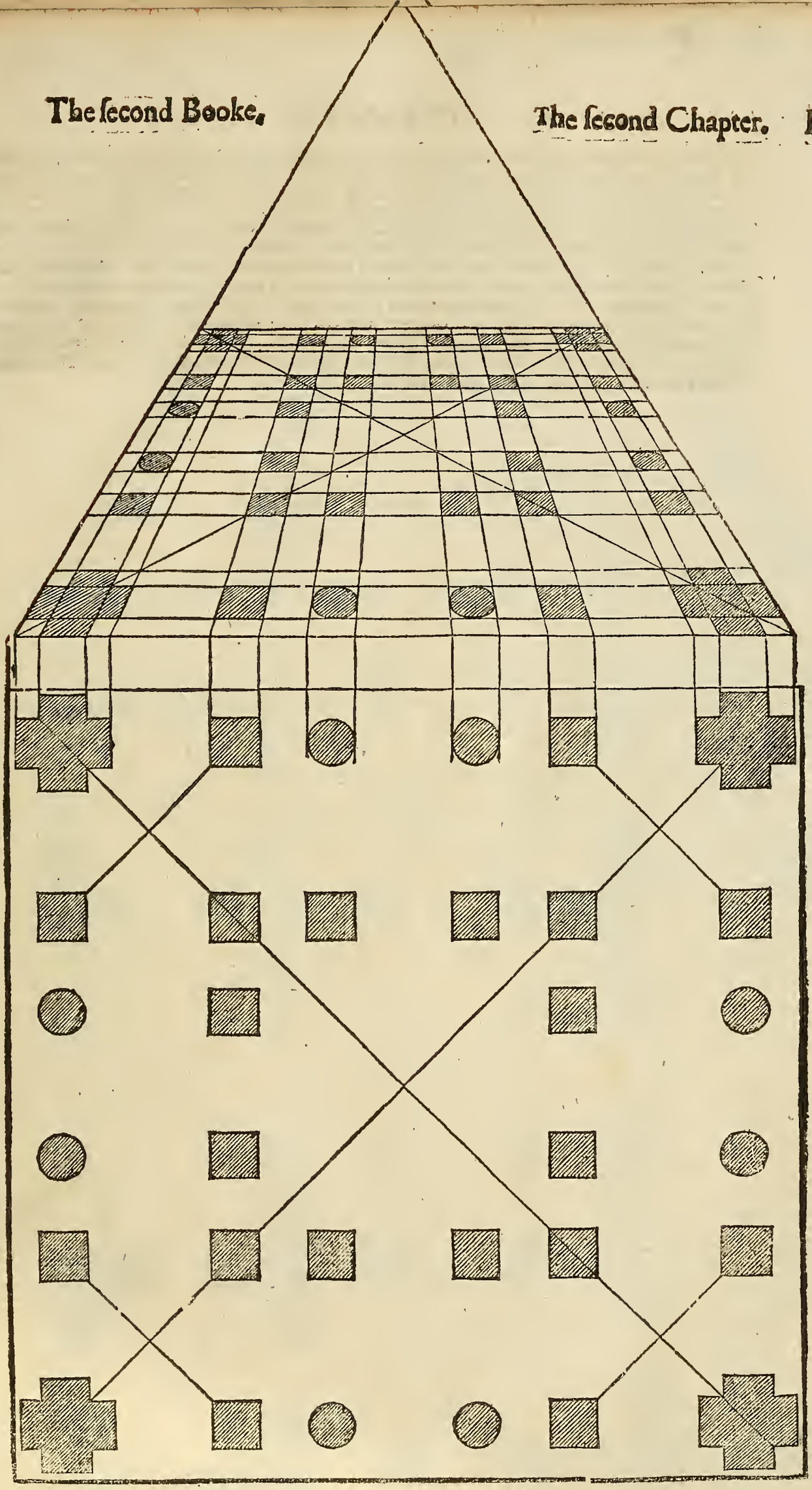
When you vnderstand the Figure aforesayd perfectly, then you must proceed further, and shut the round Circle also with an edge or border, according to the breadth that you will haue; you must also make the vtermost halfe Circle, and the aforesayd parts of the great Circle drawen towards the Center, will come into the smale Circle: the which parts of the small Circle being also set downe in Perpendicular lines with prickes not to darken the other lines, and those likewise that are drawen to the Horison. Then by cutting through of the Diagonall lines, you shall finde the Paralel lines. To make the innermost shortening a round or Circle, according to the first example set downe, as you may see; the first round with perfect lines, and the second with prickes, as you see in this Figure.

But, friendly Reader, you must not be weary to bee long in learning this Figure, or in making it often times; vntill you can doe it perfectly and vnderstand it well: for I am sure and certaine, that it will bee very hard vnto many men, yet without this, you cannot doe much; and he that can doe it well, shall easily vnderstand and make all the things hereafter ensuing.

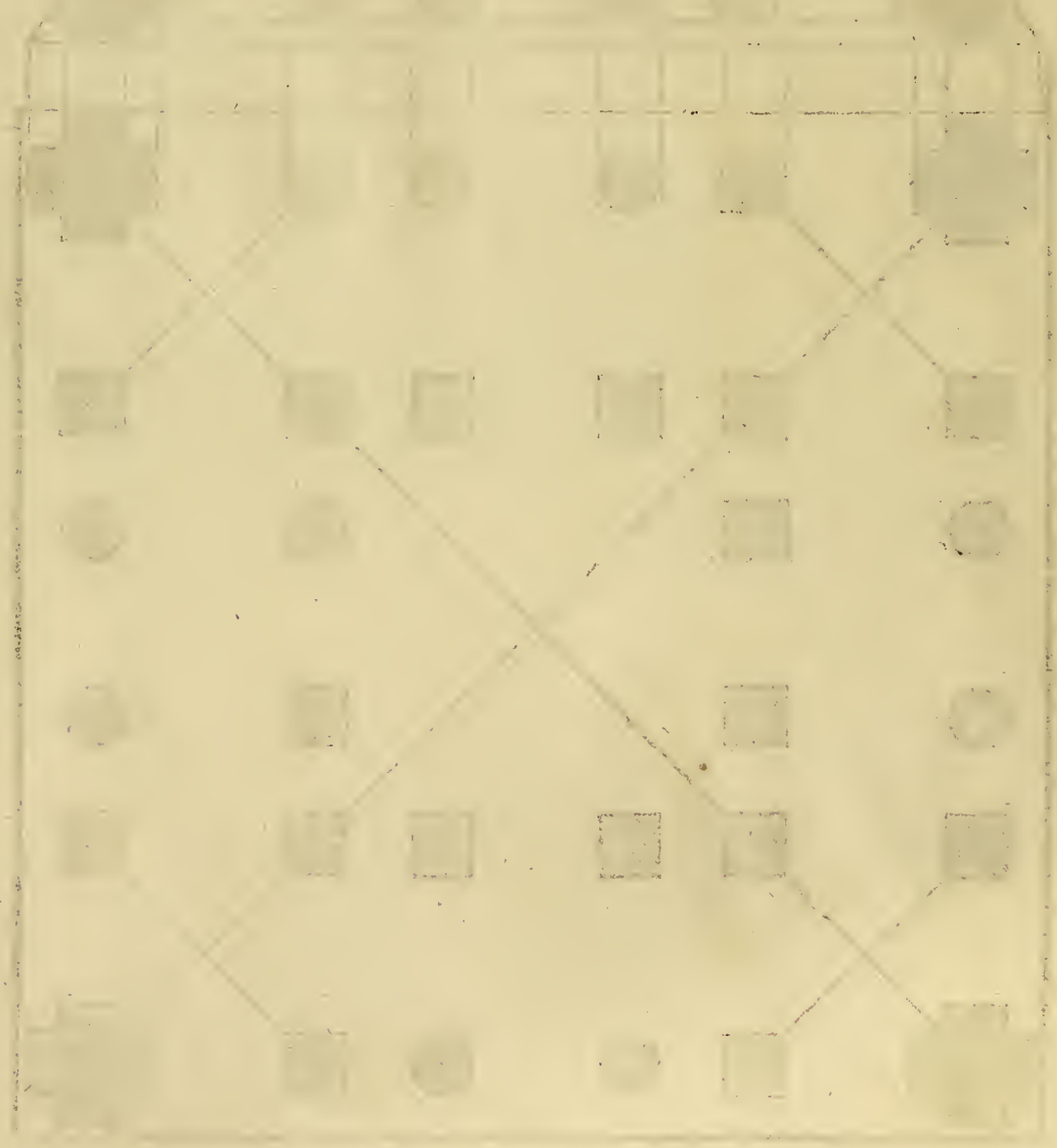


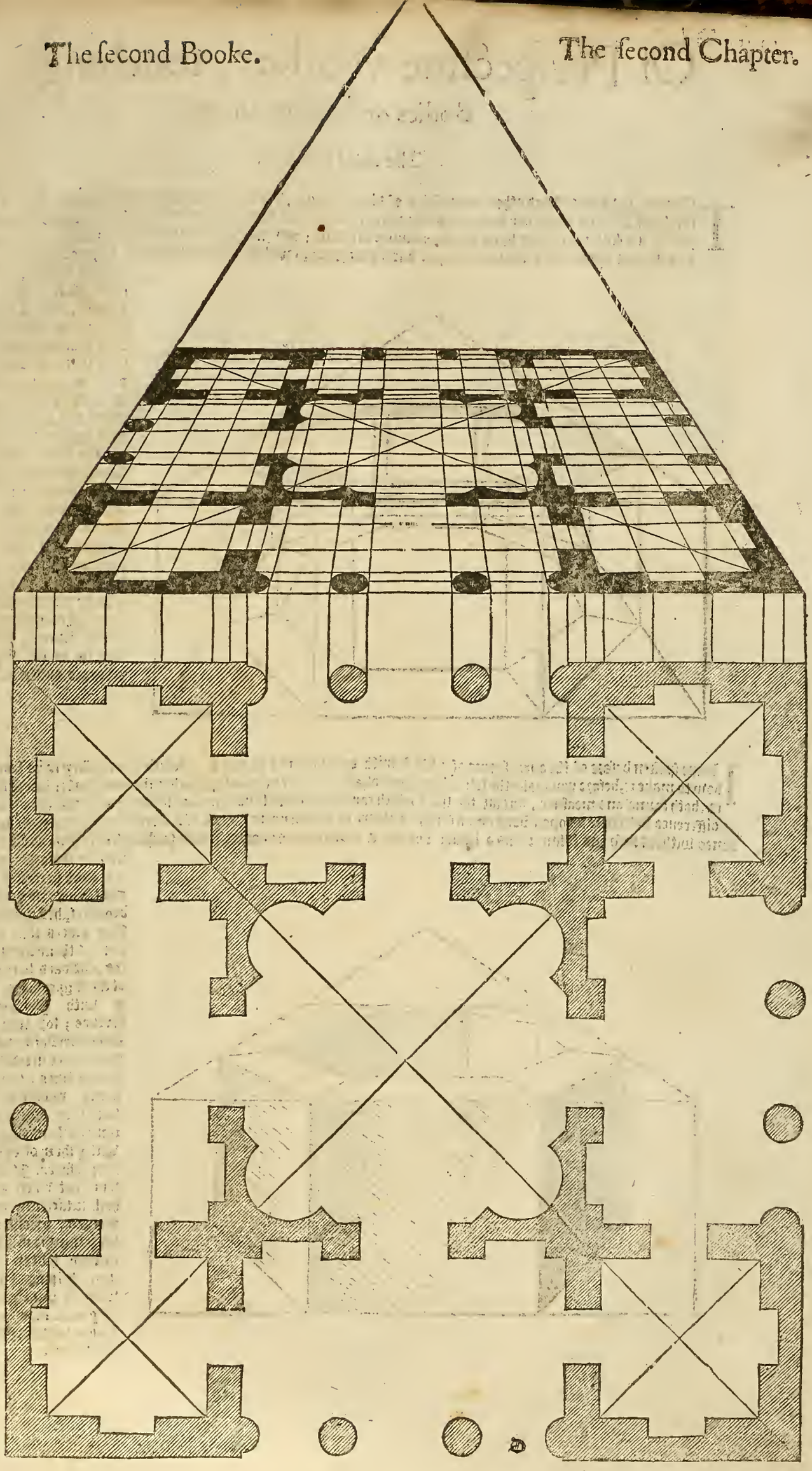
IT falleth out many times that a workeman will shew a House both without and within which to doe, he must place the ground in Perspectiue forme, that he may the surer and better draw that vp which hee will haue séene, and to leaue the rest on the ground: if then you will place a foundation in Perspectiue manner, to make it well, you must first set it on a flat forme, that out of that you may draw it into a Perspectiue forme.

To doe this, I haue set downe a kinde of open Building, that a man may the easelier conceiue it for a beginning, for when a man can doe this well, he may after that place many other and harder things in Perspectiue forme. I need not to take any great paines to write or show how this shortening should bee done, because it is so easily and so openly placed in a figure that a man may presently conceaue it: for that leading all the lines that goe from the corners and outsides of the flat ground to the Base, which you will make in the shortening; and the same being drawne vp to the Horison, together with the imagination of the distances: then you may shut or close vp the shortening foure square. Then you must draw the Diagonall lines therein, through drawing the Paralel lines, presently you shall find the way how to forme the Columnes and pilasters, so that it is vnpossible to faile therein; and especially for those that doe well conceaue and vnderstand that, which I haue set downe before.



THis Figure following is somewhat harder then that before, but when you goe from the smallest to the greatest, you conceaue things the easier, and specially he that will learne this Arte; he must not leaue nor refuse to exercise any of the Figures before set downe, but must vse all the diligence he can to be perfect in them all, and hee must also take a pleasure to doe them all, otherwise he that will omit now one, and then another, because he can hardly vnderstand or conceaue them (although I labour and striue at all times in setting downe these rules to shew all difficulties) shall little profit himselfe in this Arte. The manner how to place this ground in Perspectiue forme, is easily conceaued, without any other demonstration: for you must follow the manner or opperation of the figure before set downe, with this aduertisement; that the two Diagonal lines euermore direct the worke, together with the Horizentall lines: and although a man may shew many formes of grounds that are to bee placed in shortening, yet these two shall suffice for this time, because I haue other things to entreat off: for a skilfull workeman, by the helpe of these, may forme others for his purpose, and such as he shall haue occasion to vse. And if he will erect any peece of worke for a show, he must necessarily first measure the Ortographie with the same measure that he measureth the ground withal, and then place it in a shortening manner, as when time seruetb, shall be shewed.

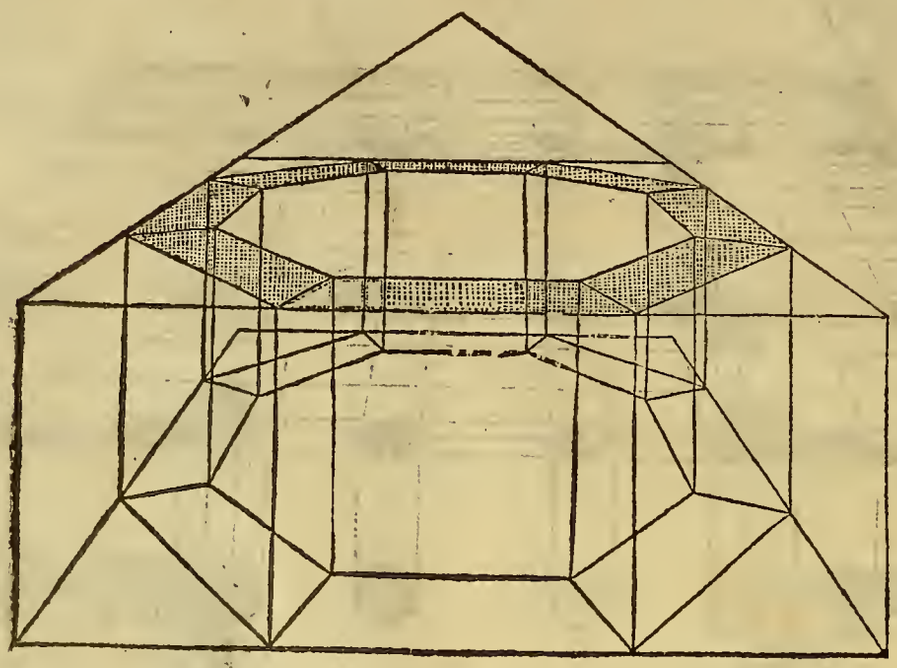




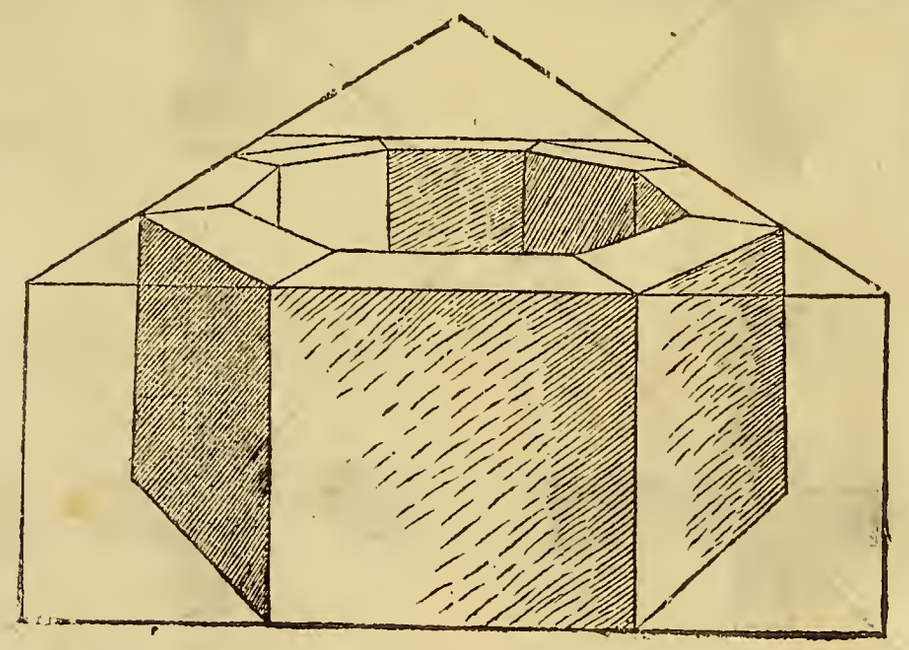
Of Perſpectiue vvorkes, touching Bodies or Maſsiue things.

The third Chapter.

TOuching the grounds and other Superficies of diuers formes, I thinke I haue ſufficiently ſpoken. Now I will ſpeake of Bodies which are drawne vp out of the ground: and firſt, you know that I haue taught before, how you ſhould frame an eyght ſquare forme plainely in it felfe; and then, I haue ſhewed how you ſhould compaſſe this Figure about, with a border or edge: but if a workeman will ſhew an eyght ſquare Figure in Perſpectiue wiſe, as a Well; then he muſt firſt make the ground, as he is taught before, as high as hee will, that the ſayd Well ſhall ſtand eleuated aboue the ground or fote thereof: there hee muſt make the ſame forme once againe, drawing it to the ſame Horiſon; then from all the vppermoſt corners or points to the lowest; you muſt drawe Perpendicular lines as well from the innermoſt figures, as from the vttermoſt, wherby the through cutting eyght ſquare bodies will be formed, as you may ſée in the Figure hereunto annexed.



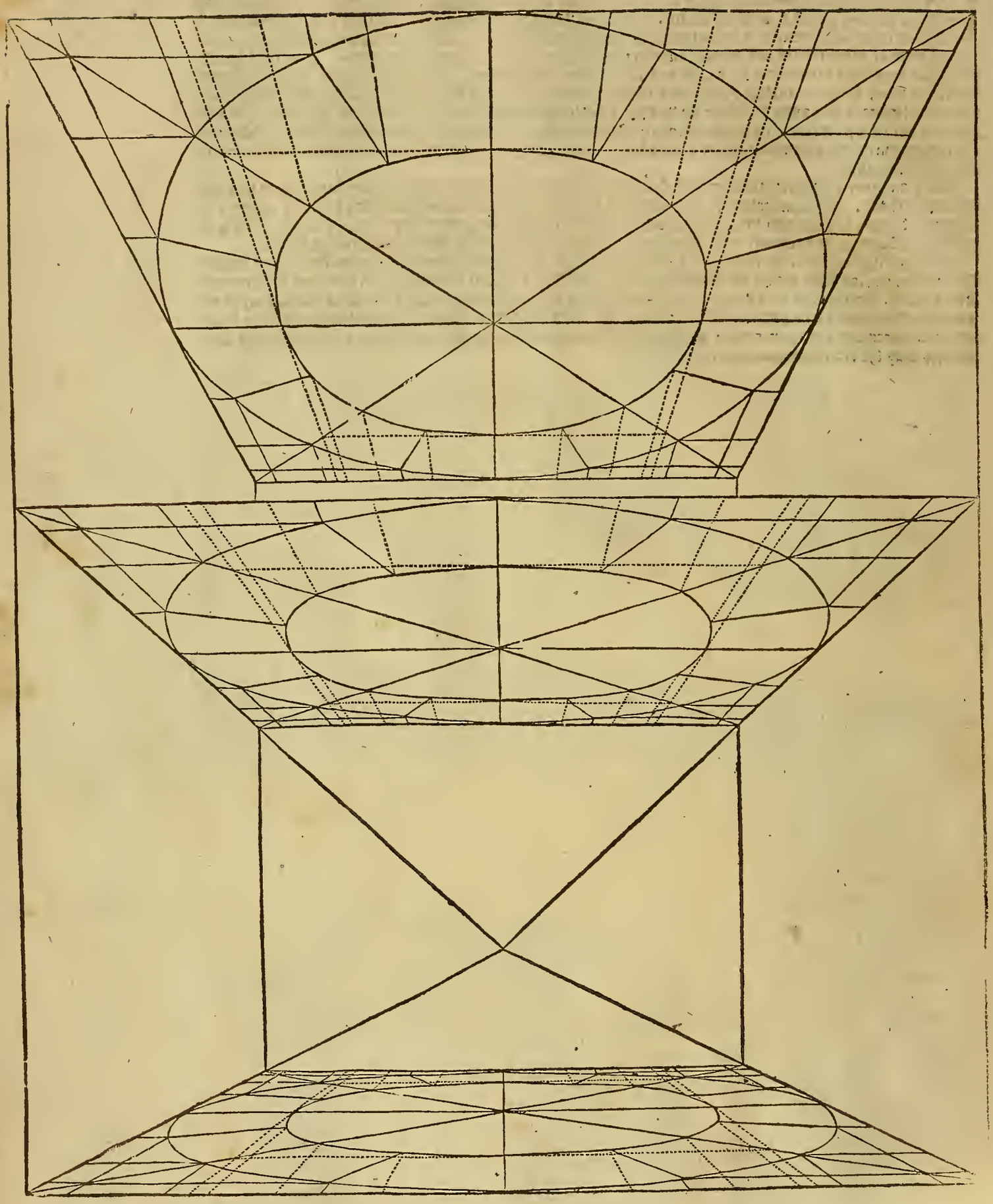
I Haue ſpoken before of the open frame of a Well with eyght points or corners, which is neceſſary to be learned, how to make it, before you make the ſolide body thereof, as this figure ſheweth, which is the ſame that is before ſhewed, both forme and meaſure, but all the lines which cannot outwardly be ſéene, are hidden; and there is as much difference betwéene an open body and a ſolide, as there is betwéene the modell of a mans body, that is nothing but bones without fleſh and ſkinne: and a lining body of a man couered ouer with fleſh (although it is hidden vnder it.) And as thoſe Paynters are much perfecter that haue ſéene, and perfectly beheld right Anatomies, then others that onely content themſelues with the outward bare ſhew of the Superficies, ſo it is with Perſpectiue workes; for they that wel vnderſtand and perfectly beare in minde the hidden lines, they ſhall better vnderſtand the Arte then others, that content themſelues only with ye ſhew of outward Superficies. It is very true that when a man hath ſufficiently experimented, practiſed and bearelh in his mind theſe inward hidden lines, then helping himſelfe with the principall, hee may make many perfect things, without doing all this labour.



FOr these three figures following, every one is drawne out of the foursquare, in such manner as I haue taught before; and they goe all three to one Horison or poynt as they should do, or as need requireth; by the which figures any man may helpe himselfe in many things, as I haue further declared: and he that is perfect in these, may make all kinde of round formes, and without knowing of these, hee can doe little in round formes. For out of these figures you may draw a round Solude or Piramidall Building with Pillars, or without Pillars; and also a round winding paire of Stayers: for this Figure will shew you how to make the Stayers round, with other things more, and yet not without your owne industry: for the things that by these may be made are wonderfull and infinite, so that you ware not weary, and spare no paynes till you are perfect in them, because that the bowing or Arches of gates and other things will seeme hard vnto you, as I will hereafter shew you; notwithstanding that they take their beginning altogether from these.

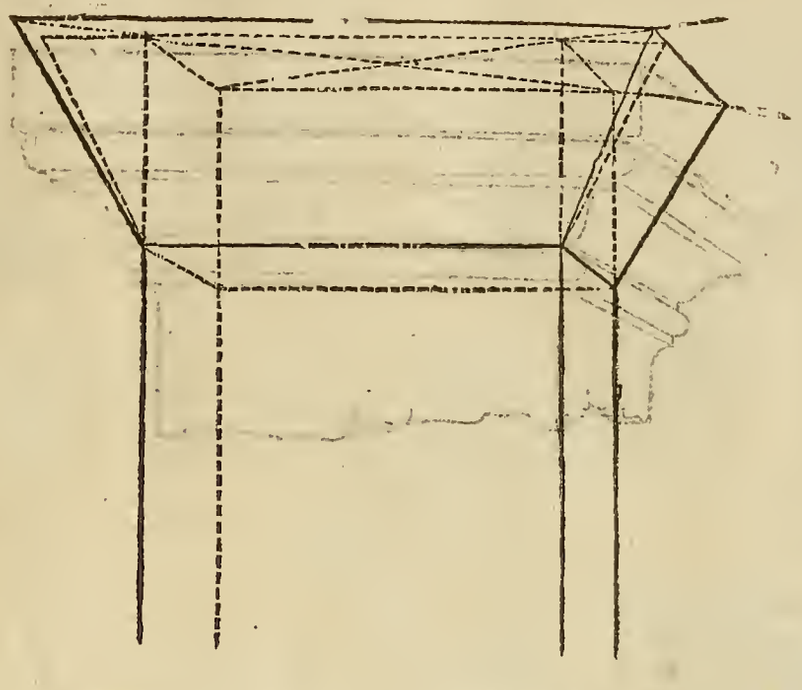
But if any man that desireth to learne this Arte, will at the first vnderstand these figures, as some bluntly will take vpon him to doe it. I beleeue certainely, he will bee put to an non plus, and deceaue himselfe; but if by learning all the former things, he proceedeth vnto these as well in Geometrie as in Perspective Arte: Then, I say, he is of a very grosse vnderstanding, if he cannot vnderstand or conceaue these figures, or the figures that hereafter follow.

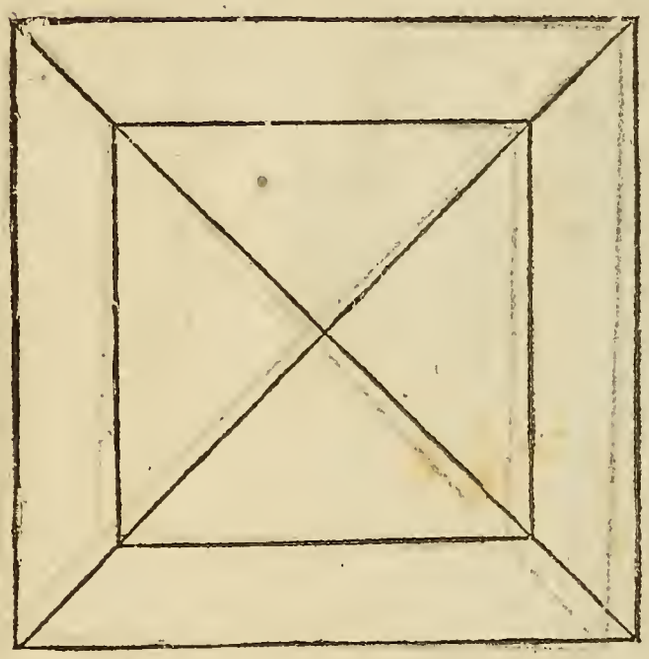
These three figures, to speake trueth, are but Superficies; neuertheleffe, if you draw Perpendicular lines from all the terminations, as well within as without: then you shall haue a through cutting or open body, and the innermost lines couered, then they will be a Massy body: And wonder not, gentle Reader, nor let it be strange vnto you, though I doe sometimes make a long discourse of some things, for (as I saye before) they are not only learned by many words and great paines, but it is also necessary that they were shewed vnto some men playnely by drawing them before them, that they may the better conceaue them.

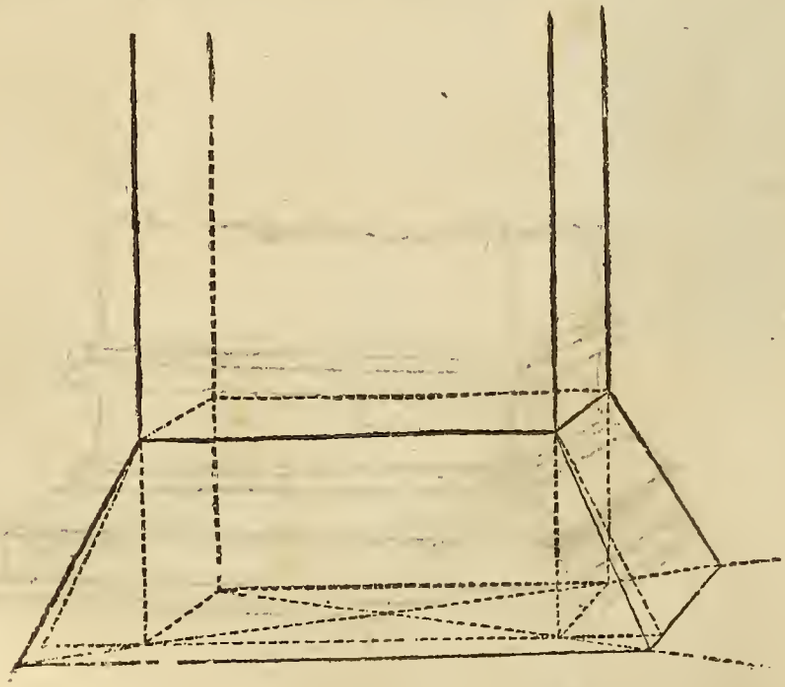


THe most part of great Riuers or water-falles that fall downe from high Hills or Mountains, by meanes of tempests with great force and power, when they enter into a Valley, then sometimes they run out of their Channel, and so much ground as they then vsurpe vpon on the one side, so much they lose againe on the other side; and so doeth Perspective worke in cornered things, for that as much as a man loseth of the poynt or corner whereon he looketh, so much greater the other point or corner sheweth that standeth out, which is shewed in the Figures hereunto ancred.

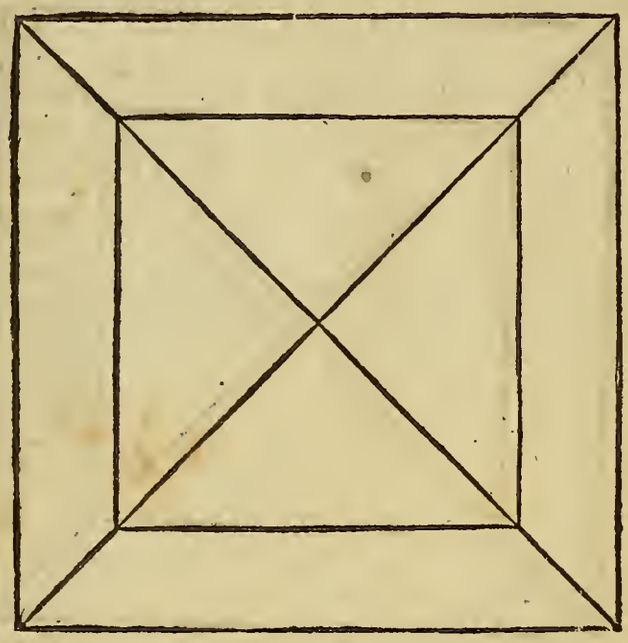
The Reader must then marke that the square in the middle signifieth the thickenesse of a foursquare Columne or Pillar, and the border that is without and goeth about it, signifieth the thicknesse or bearing out of the Bases and the Capital. The Figure vnder this platforme is the Base, and the vppermost Figure is the Capitall; the manner how to shorten them I will shew you: You must make the Pillar flat before without thicknes, and vpon it you shall forme the Bases and Capital, making the Proiecture or bearing out thereof on either side alike, but you must draw them lightly as the prickes herein set downe doe shew you: then draw the side of the Pillar which you will haue seene towards the Horizon; and hauing found how thicke the decreasing or shortening side must bee, by the rules that are shewed in the first part of Perspective worke, so you shal haue the shortening ground of the Pillar, wherein you must lightly drawe the two Diagonall lines long inough through, and from the Bases below, which is seene in the shortening; you must draw a line towards the Horizon, which you shall also let goe downe or sincke so farre, till it reacheth beneath the Diagonall lines, and there shall be the terminations of the shortening Bases: and thus you see that the Perspectiuenes taketh somewhat off from them, that is, the space betweene the points and the full blacke line; then from the terminations to the other vttermost poynt of the Bases, you must drawe a Paralel line vnder the ground of the Pillars, so long that it may touch the Diagonal lines, and there you shall finde that which is taken of from the Bases on the one side, and giuen to them on the other side, and the Proiecture of the Bases sheweth, that the one poynt is drawne inwards, and the other commeth further out, then the vppermost line of the Bases being also to the Horizon: then vpon the shortening side by a line you finde the third parte of the Bases below, and that which is here spoken of the Bases, you must vnderstand the same also of the Capitals.



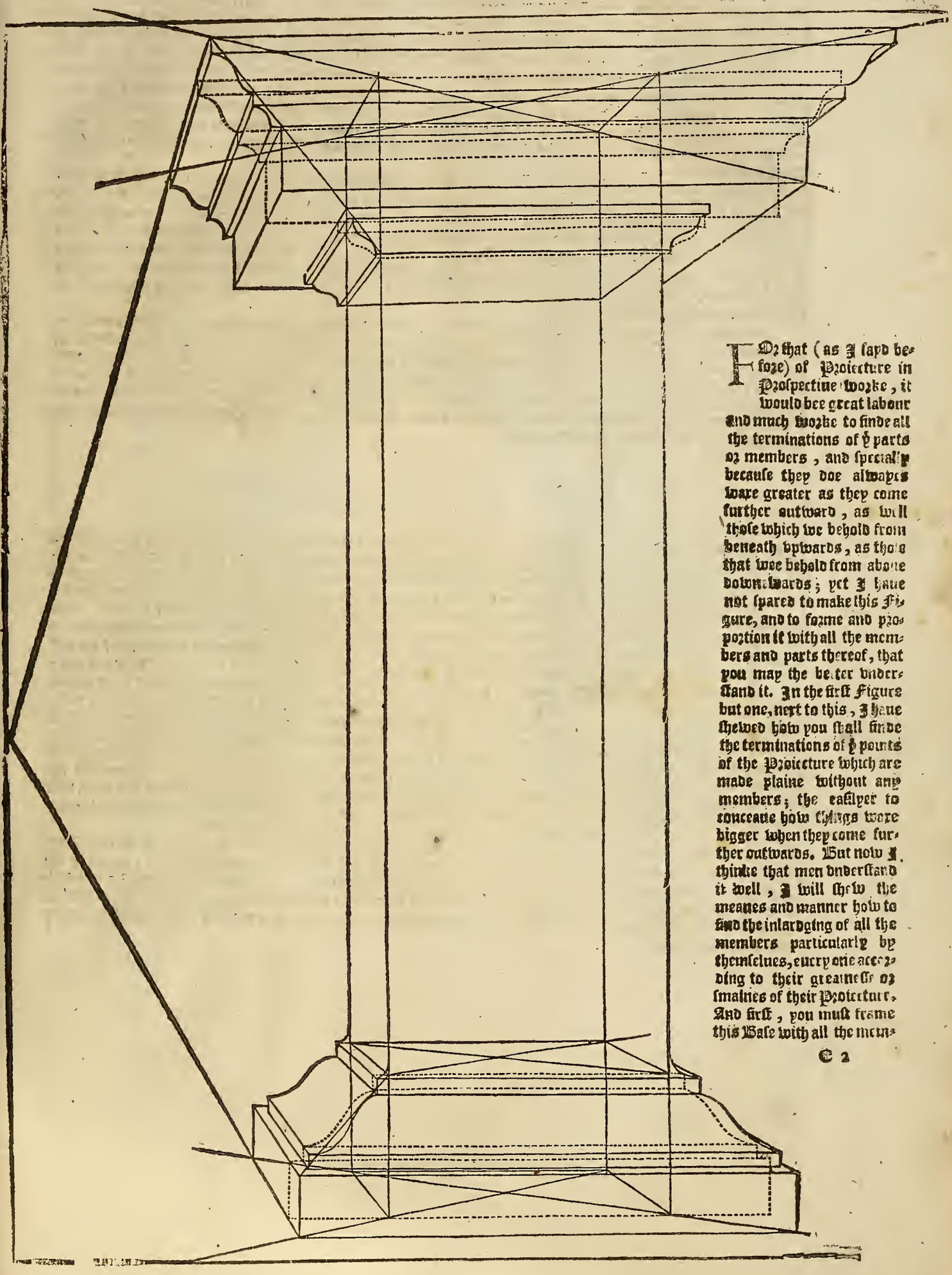




THE other three Figures are the ſame which are ſhewed before; the firſt were hollow, but theſe are perfect and ſolide with all their members, and although that in the Figures before I haue not ſhewed how you ſhould forme and frame theſe members, which in trueth would be a very confuſed and troubleſome thing to ſet downe in writings, therefore I haue only ſhewed the firſt terminations, that a man may keepe them well in his memory, and in theſe preſent Figures I haue ſhewed how they ſhow in a mans ſight, that you may ſee the effect that they worke: but from henceforward becauſe (as I ſaid before) it is a troubleſome thing, I will make another forme of them with all their members by darke lines: and then (according to my abilitie) I will ſet downe the manner how to finde the terminations of the members one after another, for all of them grow a little one ouer, or more then the other.



But you muſt conſider that theſe Bales and Capitals on the one ſide giue inward, and on the other ſide beareth out, which you muſt well remember, that you may firſt bee well inſtructed herein touching that which you will make. For it is true that the Theoricke conſiſteth in the vnderſtanding; but experience is gotten by practiſe and right vſe or handling: Therefore the moſt notable Paynter Leonardus Vinci, was neuer pleaſed nor ſatiſfied with any thing that he made, bringing but little worke to perfection, ſaying, the cauſe thereof was that his hand could not effect the vnderſtanding of his mind: And for my part, if I ſhould do as he did, I ſhould not, neither would I ſuffer any of my works to come forth: for (to ſay the truth) whatſoeuer I make or worke, it pleaſeth me not: but (as I ſayd in the beginning of my worke) that I had rather exercise in worke that ſmall talent, which it hath pleaſed God to bestow vpō me, then ſuffer it to lye and rot vnder the earth without any fruit; and although I ſhall not pleaſe thereby ſuch as are curious, to ſet downe the ground and perfection of al things, yet at leaſt I ſhall helpe yong beginners that know little or nothing thereof, which hath alwayes beene my intent.



For that (as I sayd before) of Proiecture in Prospective worke, it would bee great labour and much worke to finde all the terminations of ye parts or members, and specially because they doe alwayes ware greater as they come further outward, as well those which we behold from beneath vpwards, as those that wee behold from above downewards; yet I haue not spared to make this Figure, and to forme and proportion it with all the members and parts thereof, that you may the better vnderstand it. In the first Figure but one, next to this, I haue shewed how you shall finde the terminations of ye points of the Proiecture which are made plaine without any members; the easilyer to conceaue how things were bigger when they come further outwards. But now I thinke that men vnderstand it well, I will shew the meanes and manner how to find the inlarging of all the members particularly by themselues, euery one according to their greatnesse or smalnes of their Proiecture. And first, you must frame this Base with all the mem-

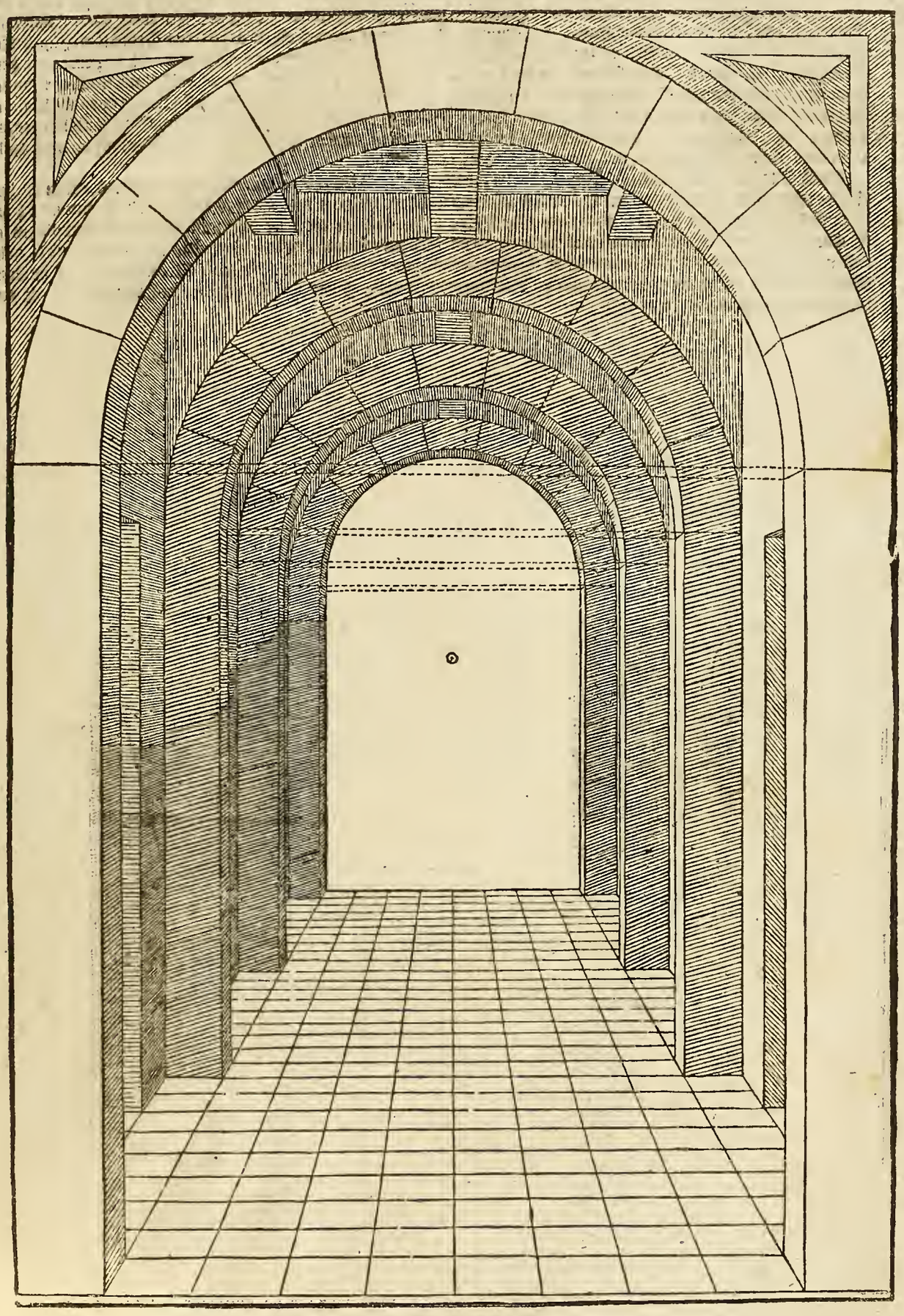
bere, and with the right Proiecture thereof, to bee without any shortening before, yet you must draw it lightly with a piece of Lead, or some other thing, as it is shewed vnto you here with pricks; then in the ground or foot of the Pillar you must draw the two Diagonall lines long inough out, and thereby (as I sayd before) you shall find the diminishing and the increasing of the particular parts of the crests of the said Base, whereas the vndermost line or foote of the crests of the Base, beare much more broader and longer then those that are marked with the prickes; then at each corner of the Creast of the Base you must draw an vpright line almost as high as the first creast of the Base (although I haue done it) but vpon the vttermost poynt not to comber the worke within: then you must draw the vppermost corners of the first Creast with prickes also, toward the Horison, which downewards will touch against the two vpright lines; and there shall be the terminations to close or shut vp the second great Creast with a full blacke line: then draw another blacke line from the innermost poynt of the Creast vpwards to the Horison, and there the shortening Creast shall be closed.

And as this Creast or Plinthus is closed and drawen on all sides with blacke lines, so you must doe with all the other lines of the Base, for when from the vppermost corner of the first marked Base you draw a holding line to the innermost corner of the greatest Creast with the blacke lines, by it you shall lightly find the terminations of all the parts or members, drawing the corners of the first Base towards the Horison. And when you haue formed all the innermost corners of the Bases, by the Horisentall line you may easily doe the second, and by the Paralel lines the vttermost of all; although by the lines of the distances, you may bring the said corners somewhat nearer as you may see by the Diagonall lines. But at this time I will not speake of that difficult or hard worke, for he that hath any vnderstanding herein, may herewith helpe himselfe.

That which is here sayd of the Bases, you must also vnderstand of the Cornices, onely that euery thing is contrary; and where you set Perpendicular lines below, which cut through the Horisentall or Radiall lines, so you must also fall aboue the Lead lines or Cathetes vpon the Horisentall lines, as you may better see it and learne it in the Figure, then it can be expressed by words: and you must not be afraid or abashed, although at first you cannot conceaue it, for that by practising you shall in time finde it; for it is not sayd that a man shall or can learne all things at once in one day: by this Cornice you may make all Cornices, bee they higher or lower, harder or easier, alwayes drawing euery member and part towards the Horison as it should be done.

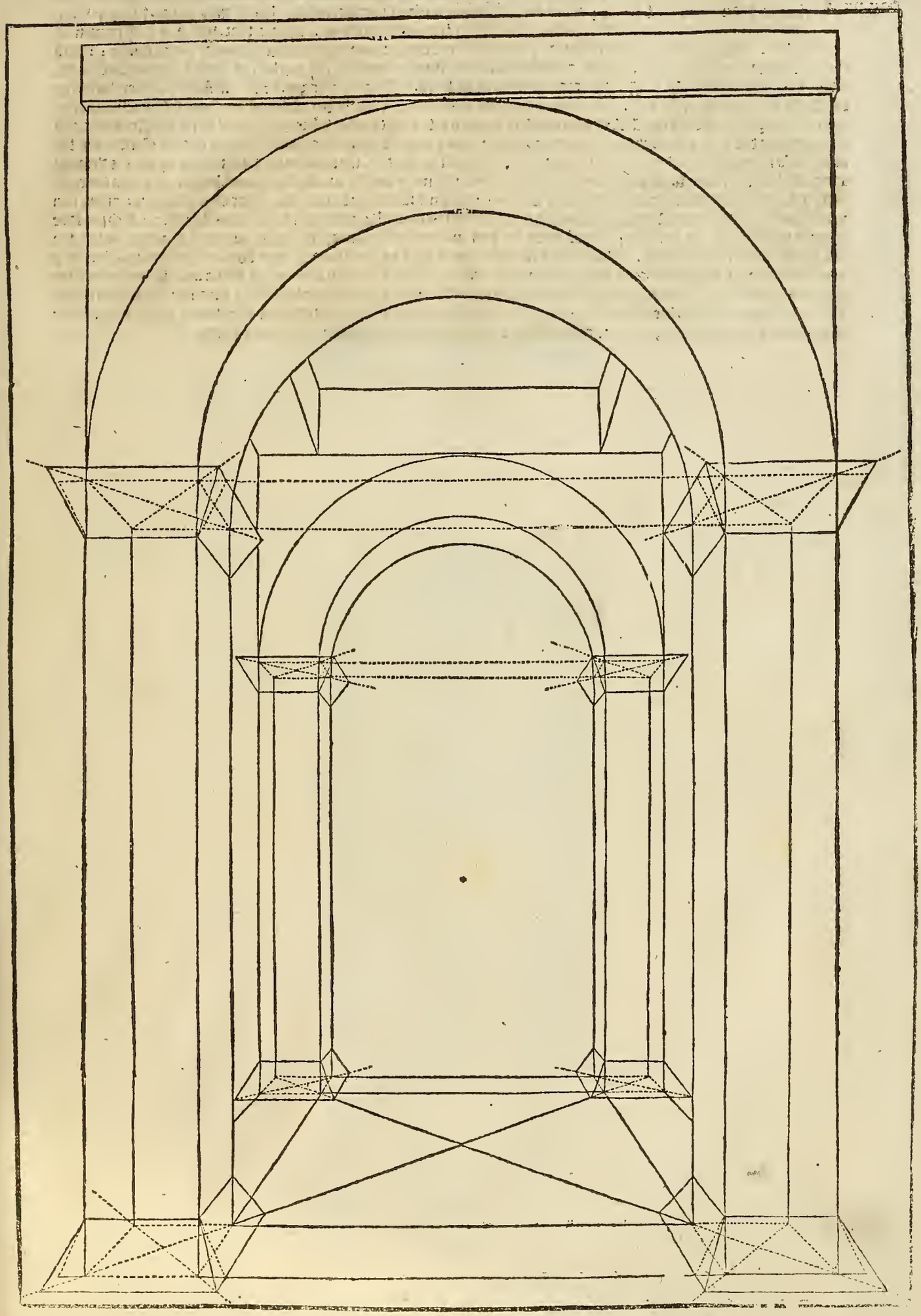
Although there are diuers manners & wayes to place Columnes one behind the other, standing vpon one ground in Perspective wise, thereby to make Portals, Galleries and other things, yet this hereunto annexed is the easiest. First, you must make a Pauement with a quantitie of foure cornered Quadrants, as it is also shewed in the beginning of this Booke; which may be of such breadth, as you will: say that these foure square stones are two foote broad, which shall be the thicknesse of a Pillar: betweene the two first Pillars beneath in the breadth, there shall be eyght square stones, and the height of the Pillars made of what quantitie you will; and they being raised toward the Horison, then you must draw two generall lines euer both the Pillars, and then out of the middle of the first line you must make two halfe Circles aboue vpon the flat side before, and deuide them in as many parts as you will; which parts shall be drawne to the Center of the halfe Circle, standing in the vppermost line: then out of the middle of the two generall lines you must draw the lesse halfe Circle, and all terminations of the flat Arch being drawne to the Horison, then the first Arch or Gate is made: the other two Pillars vpwards drawne to the Horison, then the first Arch or Gate is made: the other two Pillars vpwards shall also stand eyght Quadrants distant from the first Pillars, which will make a foure cornered place on all sides: containing 64. square stones: and you must doe with this gate as you did with the first, onely (when they are all of one wydenesse as these are) you need not deuide the Arches againe, for the Horisentall lines of the stones of the first Arch will shew you the terminations of all the other Arches, and also how long the Gallery must be, and how many Arches it must containe. I haue placed no Arches here in the sides, because I would not cumber you to much at this time; but I will speake thereof hereafter perticularly.

The two Doores on each side are both partly couered with the Pillars, but the wydenesse of them is of foure Quadrantes, besides that from the corner of the doores to the Pillars on each side there is two Quadrantes, as you see the halfe thereof; and the other halfe you must suppose to bee behind the Pillars. The beames aboue the Arches which beare vp the Chamber aboue, you may well guesse, although I write not particularly thereof: I haue not likewise set the Bases nor the Capitals vpon these Pillars, because they should not darken them to much; but in another place I will also entreat thereof.

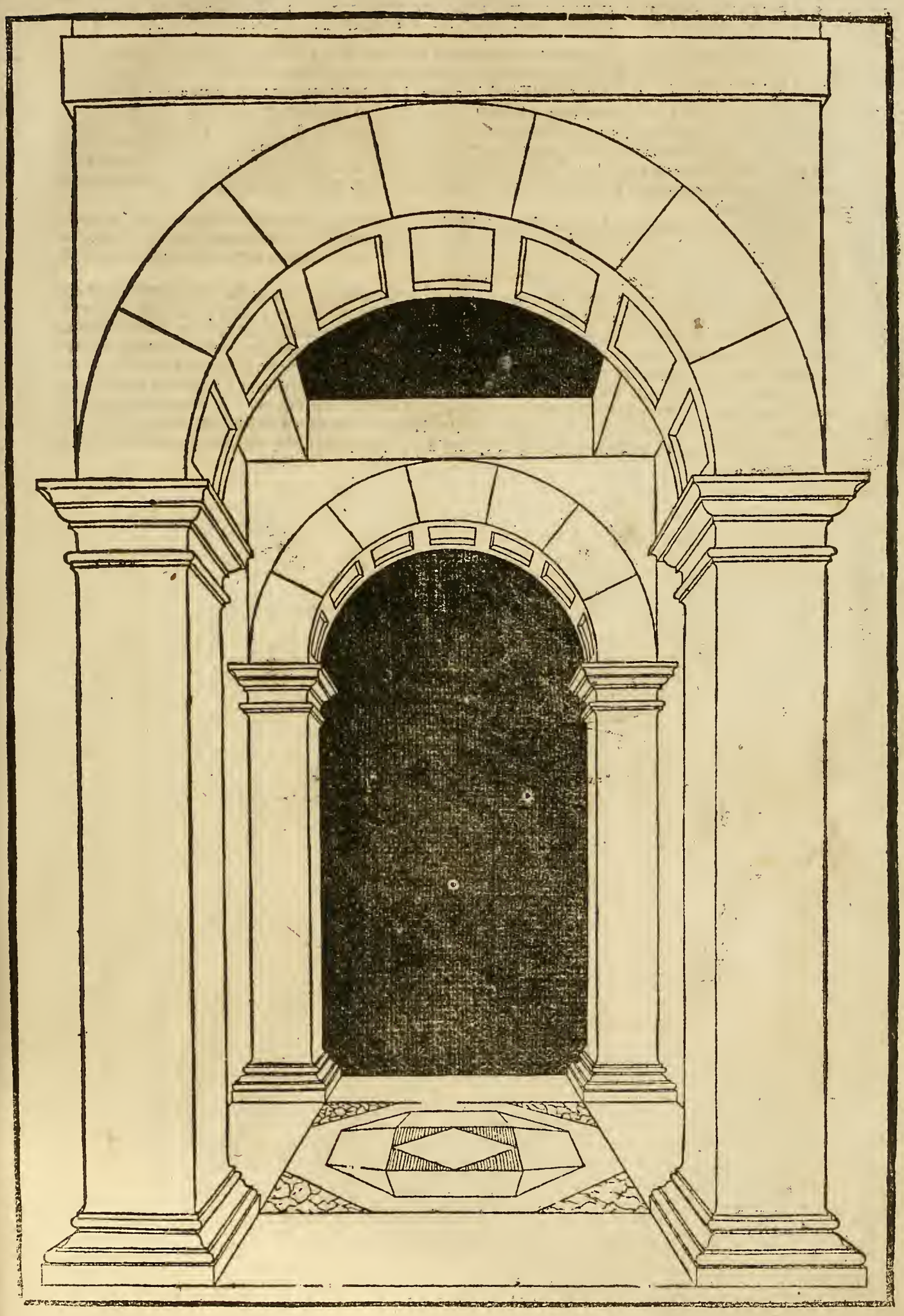


THese two Bowes or Arches are onely made to know how to ioyne their Bases and Capitals to them, whereof in two seuerall places I haue spoken before, and shewed how they rise on the one side, and fall or decrease in sight on the other side; that a man may the better learne how to doe them: for in trueth, if a man could shew it vnto you in effect, you would the easlyer vnderstand it; but to set it downe in writing or Figures as I doe, that men hereafter might know and learne them: it is requisite to entreat of them more at large, and that you may the better discerne and perceiue the poynts of the thin lines from the other poynts or corners of the blacke lines; therefore here I haue placed the poynt of the distances and the Horison downeward; and haue placed the Pillars in other manner vpon this ground without Quadrant stones: In this manner set the breadth of the two first Pillars vpon the Base of such thicknesse as you will, and draw them inwards, towards the Horison, then you must imagine the distances, as I haue already taught you: and these distances are set on both sides, and on eyther point of the distances you must draw a line both toward the right and left poynt or corner of each Pillar.

These Diagonall lines will not onely shew you the thicknesse of the first or formost Pillars when they shorten, but also the thicknesse of the two other Pillars which stand inward, which are all marked with prickes (and as I haue likewise said before) that which is here sayd of the Bases of the Pillars, the same also must be vnderstood vpward of the Capitals: touching the thicknesse of the bowes or Arches vnderneath, I haue shewed in the Figure before, how you must place the Center in the middle of the foure crosse point lines, to draw the halfe Circumference: The foure square or Quadrant aboue, is as great as that below on the ground; I need not shew how you shall make it, for you see it plaine enough in the Figure.



THis Figure is like the former, onely that the members of the Bases and Capitals are added thereunto; thereby to make it more perfect vnto you, and to shew you how a thing will stand when it is full made and finished, although I heere shewed it before; neuertheleſſe, when a man is perfect herein, then he may by practise helpe himselfe well inough without all this labour, vsing discretion and bearing in memorie that, which he hath imprinted in his mind: For in trueth, by this meanes (I meane the ground) a man may by practise make many things; which if they be made with discretion, and by a workeman, will alwayes beautifie the worke, as these bowes or Arches do, which vnder are deuided with Quadrantes, as you may sée them. There are, as you know, first two Centers to forme the Arche vnderneath; now a wise workeman must not alwayes séeke for the perfection of the edge of these Quadrants; but for example, Say that the Arche vnderneath is deuided into eyght parts, whereof fire shall be for the Quadrant, and two parts for the edge or border that runneth about it: now you must deuide the space betwéene the one Center and the other, also in eyght parts, but they must shorten or lessen a little, that is, the neather part against the vpper; & then the compasse being set somewhat lower, and made narrower: then you must draw the vppermost border, and then the compasse being set a little below the neathermost Center; you must in like sort drawe the other edge or border: after, you must square or deuide the Quadrants, leauing the space betwéene both, once so broad againe as the other, which must be drawen vp towards the Horison; and as much as you will make the Quadrant sinke: you must also draw out of the last Center with the Compasse. And in this manner a man may make diuers formes and compartements (but as I haue said) you must make them all with iudgement, and therefore it is very conuenient that a man should be well instructed therein; for that vsing onely the principall terminations, you must make the rest by practise: But I am of opinion, that some rigorous Perspectiue men will take hold of these my words, (to whom I answere) that if they meane I haue failed or done amisse, let them prowe what difference there is betwéene saying and doing.

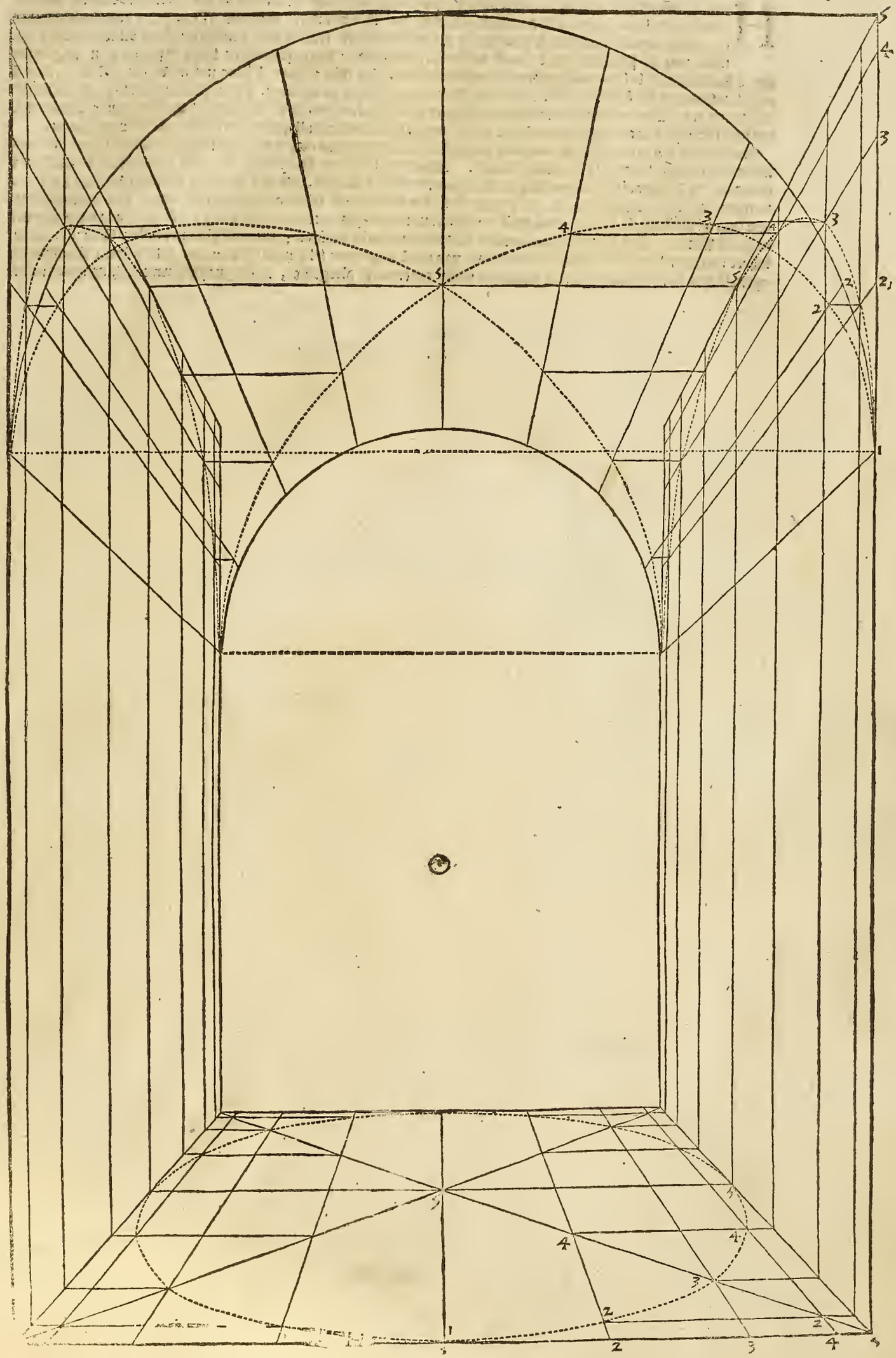


The manner how to make a crosse roofe of a Gallery or House in Perspective worke, is alwayes very troublesome to shew it vnto any man; and therefore also, it is muchmore troublesome to declare it in writing formen hereafter to vnderstand it. Neuertheleſſe, breaſe it is very necessary to be knowne, I will doe the best I can to shew it.

First, you must chuse the breadth and height of the greatest Arch or Bow that you desire to make, and then by the distances you must make a perfect shortening Quadrant, and also a lesse Bow or Arch. The greatest Arch before shalbe deuided into eyght equall parts, and those parts must be drawne towards the Horison to the smale Arch, which being done, then you must set those parts of the greatest Arche below vpon the Base; and with the helpe of the Horisentall and Diagonall lines, you may make a shortening Circle within the Quadrant, as in the other places before you haue bene taught. The terminations hereof shall be 1.2.3.4.5. which shall be set vpwards beside the great Arche, as you sée it there also marked with 1.2.3.4 5. Without this round below I haue drawne the Paralels with prickes to the wall, and where they end, there you must set all your Perpendicular lines vpright, which are come out of the Paralel lines of this Circle.

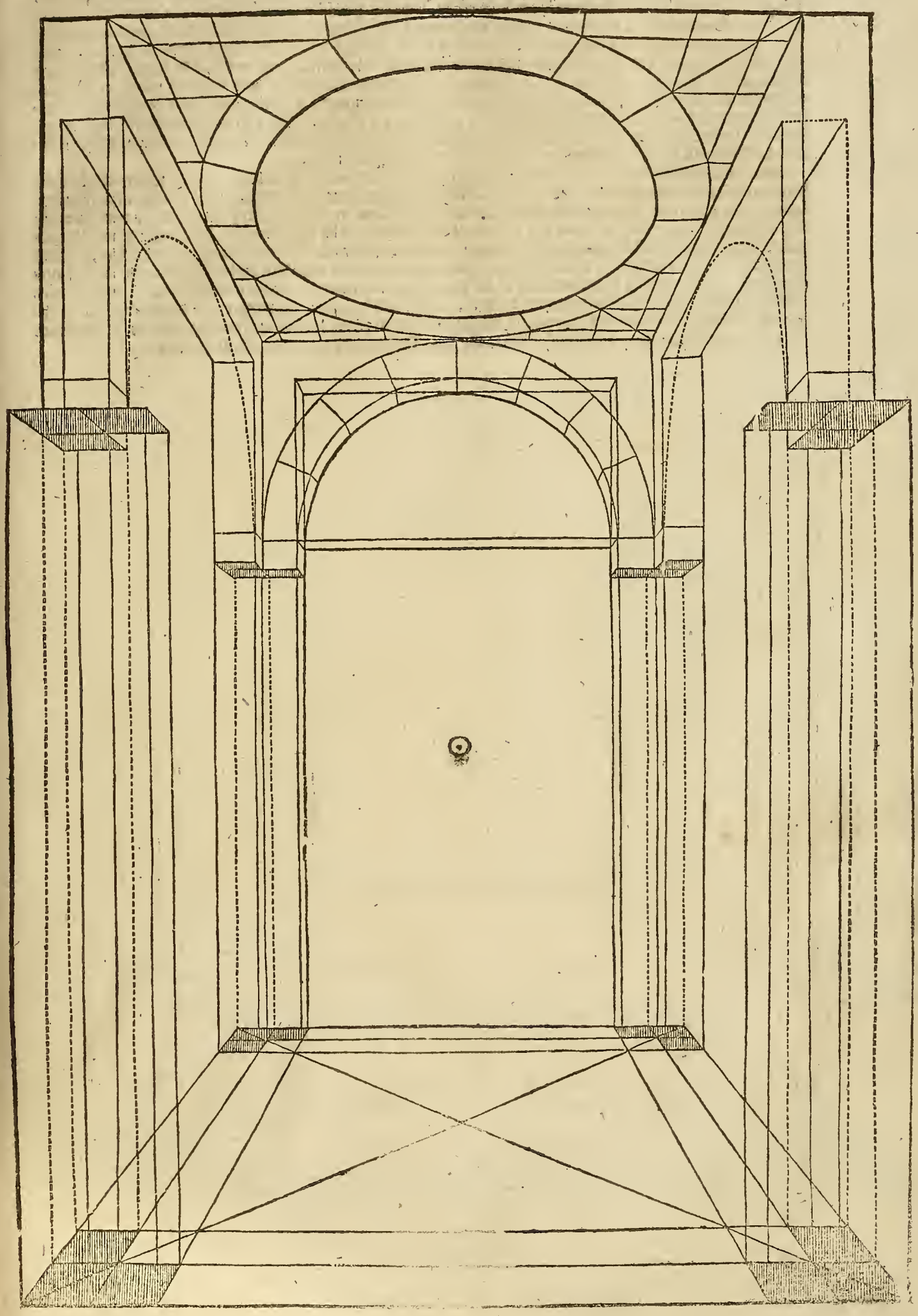
Then you must draw the terminations aforesayd, which are placed aboue, along by the Perpendicular lines with lines to the Horison; and where the sayd Horisentall lines cut through the Perpendicular lines, which are drawne vp from below; there you must make halfe a shortening Circle: and that which is marked on this side with Ciphers, must also be vnderstood to stand on the other, as you sée it in the Figure.

These two halfe shortening Circles being made, then you must draw a right blacke line aboue out of each of the middles, which are marked 5. and where that cutteth through the middlemost line, which goeth from the greatest Arch to the Horison, there shalbe the terminations & also the middle of the crosse worke; and then out of all the terminations of the two halfe Circles, you must draw crosse lines on the sides, and where euery one of them following an Horisentall, toucheth the Arch marked with 2.3.4. there the terminations shal stand to forme the halfe Circles in the crosse, through the which a man with a stedfast hand from termination to termination shall make a shortening halfe rounde crosse with prickes, as both on the right and left hand you may plaincly sée in the Figure. In this manner the worke should goe, although it stood somewhat out at the sides; but it is better first to print it well in your memory, before you seeke an other forme where the Horison standeth on the one side, that then you may the easilyer make that which is séene on that side.



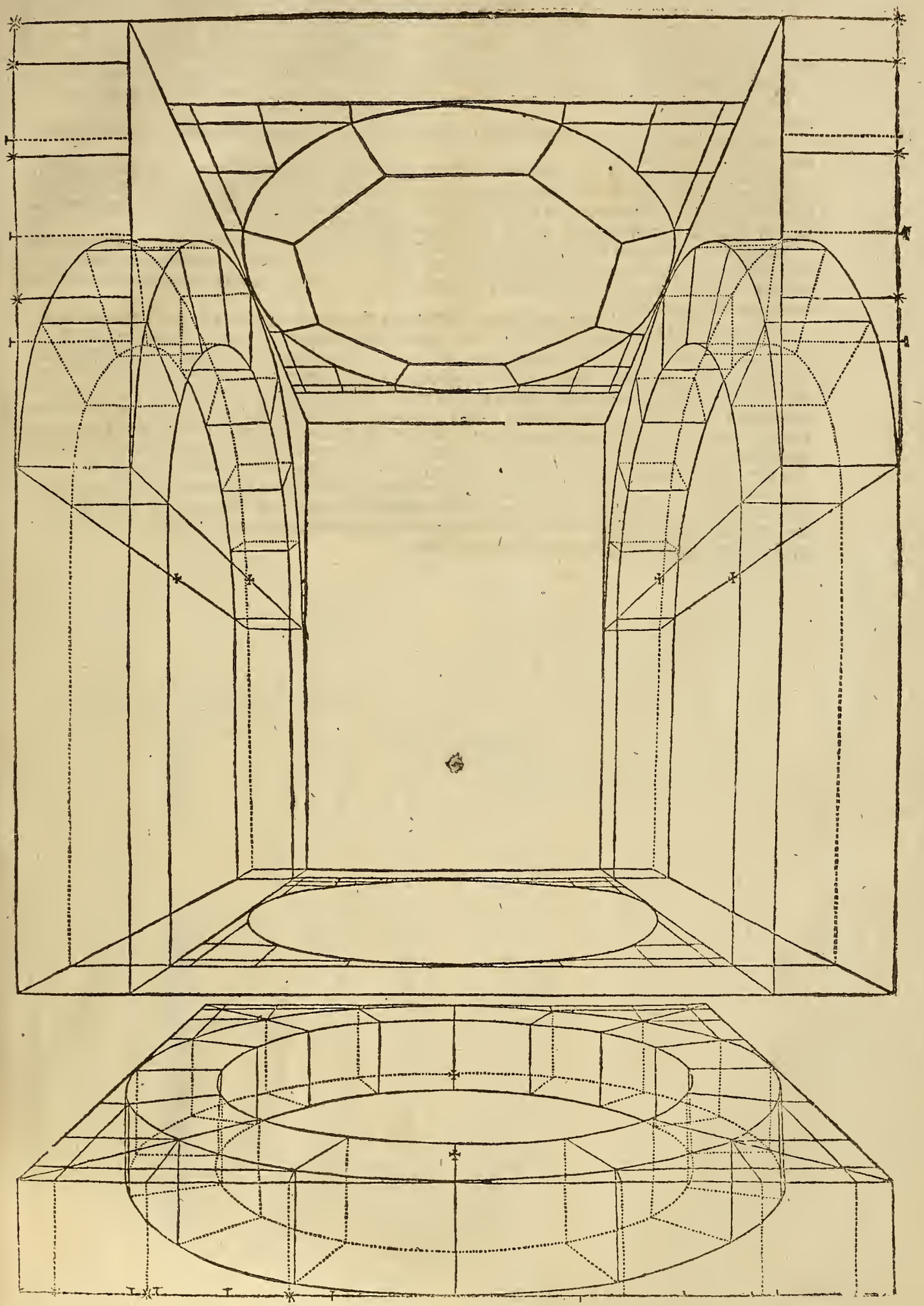
HAuing shewed in crosse worke on both sides, how you should place the Arches on the sides in shortening manner and drawne them vp out of the ground, although that they be single: now will I shew you a hollow Arche, and the maner how to shorten it: But before I proceed thereunto (for it is very combersome and difficult) first I wil shew you the Pilasters that should carrie the sayd Arches: which Pilasters stand so plainely in the Figure that I shall not need to take much paines to write of them. In this Figure I haue not made the first Arch, that I might not darken the sight of the Arches on the sides, which Arches on the sides, I haue also but marked how they shall stand, and are allwayes drawne out of the foure square Quadrant, as you se by the order of the foure square Quadrant, but the hindermost Arch which standeth not in the way, I haue drawne fully, and placed it also in his foure square.

Aboue in the top or roofe, I haue made the round forme, whereof you may make a Kettel or Tribunall; and you may also make it thus, when it is somewhat soncke. Touching the foure Pilasters, they (as I haue taught before) are found by the Diagonall lines comming from the poynt of the distances, and also that each Pilaster is three cornerd: standing like a three cornerd hooke, and on each end (the Arch reseth whereof there shall be foure) two Arches before, and two on the sides, so that the roofe will be right foure square, wherein you may make crosse worke or other manner of Roofe worke. And if you will make other kindes of works by the same; you must allwayes follow this rule: Item, where you can not well understand my writing, you must helpe your selfe with the figures, which figure also standeth open, so that with a little labour; a man may easily conceaue it altogether, although there were nothing spoken of it.



NOw you sée, what way you must follow to place Arches on the sides in shortening manner: And first, you must thinke vpon the third former manner Superficies, wherein I haue sufficiently shewed you the manner how to frame a round body; but in this Figure I will shew it more perfectly. Wherefore a man must imagine that the round Body lying below in his foursquare is made, and shall serue for the two Bowes on the sides. This Body then being made (as I haue shewed before) and as you sée it better now, you must first set it, where the Arches begin aboue the Horison. And the same Perpendicular lines which stand corner wise from the middle of the foure cornerd body, must be set like Paralel lines on the right & left sides vpwards from the two Arches, there (at it is aforesaid) to direct the Horisentall lines, as you may sée it plainely in the Figure. But you must vnderstand, that the two crosses below in this Body, are the two Centers to draw the stones of the Arches both aboue and below, they also signific the Centers of the Bowes vpon the Horisentall lines within the Arches.

You must also vnderstand, that the blacke lines doe forme the Circumference without, and the prickes or thin lines betoken the forme within; which is couered in the Arches: so that the Arches do shew through to be made of pieces, of the which pieces a man may learne to make diuers Compartements vnderneath in the Arch. Now when a man can make this Arch well, then hee shall not neede still to take all this labour, but by two principall lines helping himselfe with pricks, he may frame the Arch; and specially, because that the Arch which should come before, couereth or hideth a great part of the Arches on both sides: which Arch I haue not made here, that I might not darken or shadow the other shortening Arch. Neither need I write any thing of the Circumferences aboue in the top or Roofe, (nor the eyght corners within) for that in the next Figure you shall sée them; neither will I speake any thing of the Circumferences in the ground, for they are made (as I haue taught you heretofore of all others) and of the round body below (of the which there hath beene more sayd) a man may make many other things which are not here to be spoken of.



TO place Pillars with their Arches vpon grounds or platformes, I thinke there is sufficient spoken before; and what soeuer I haue spoken of foure square Pillars, is also to bee vnderstood of round Columnes, for that a man must take all round things, out of foure square things as well the Spira of the Base, as the round of the Capital. He that can make all the Figures aforesayd perfectly, and particularly this last body, shall helpe himselfe well, and not onely to doe the like things, but also to do many more. If I should in this small Treatise shew all that I could set downe, it would make a most great Volumne; and peraduenture I should want time to set forth the rest of my Booke, which I haue already promised: for there are many things that belong to Building, which need not to bee set downe in Perspectiue worke.

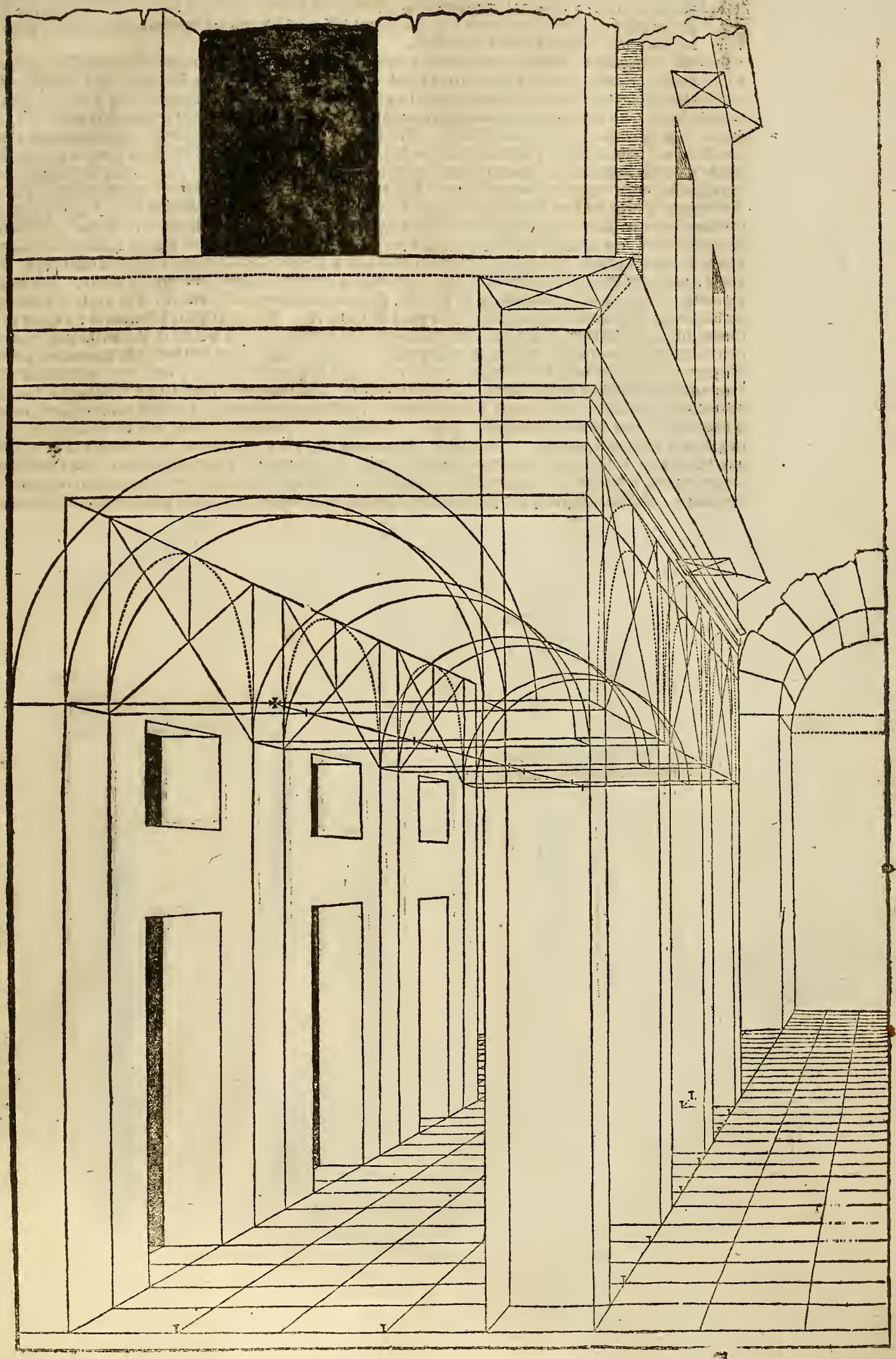
Let vs now begin to rayse the Building heresetdowne out of the ground, which before, and at the one side is séene, as I promised before to shew you.

The shortest and surest way is, to make a ground with many Quadrants; and imagine that it is mete with the Foot, with the Elle, or other measure: But let vs now take euery Quadrant for two foot, and as before there are foure Quadrants from one Pillar to the other; and the Pillar also containeth a Quadran, there shall also be foure Quadrants vpward in the length from one Pillar to the other, as you may sée it altogether in the Figure.

The Pillars then being set of such height as you desire, then the Arches vpon them must be made; and the manner how to make them, you may expressly sée in the Figure. And although you cannot see the Arches that are behind them, yet I haue made them here that you may sée their terminations: they are in some places drawne with full blacke lines, and in some places with prickes.

Aboue the Arches you must make the Architraue, Frise and Cornice; the Proiecture whereof, you must make as I haue sayd and taught heretofore, that is, how they make their corners against the two Diagonall lines, and by the like rule you shall also make the vppermost Cornice, as you may sée in the vppermost part, where the small Quadrant with the Diagonall lines stand. The doores that stand vnder in the Gallery, are each of them two Quadrants broad, and foure Quadrants high: below in the ground there are certaine tokens which shew like Nayles, which signifie the wydenesse of the windowes aboue the Cornice: which windowes if they stood whole there, then they would be twice as high as they are broad. The other Nayles vpwards betwéene the shortening Pillars, are also the breadth of the shortening Pillars, which (as I sayd before) are all foure Quadrants high, but they are partly couered with the Cornices. The part of the Arch which standeth at the ende, is separated from this Gallery, as the ground also sheweth it.

I haue here made no Bases nor Capitals, that the other things might not bee confounded: but you must vnderstand that they must be placed in the worke, as is sufficiently before shewed. And by this rule you may draw diuers Buildings out of the ground, as in the Figure following shall be shewed in diuers formes. The Centers of the Arches you sée them marked, standing all vpon one Horizontall line.

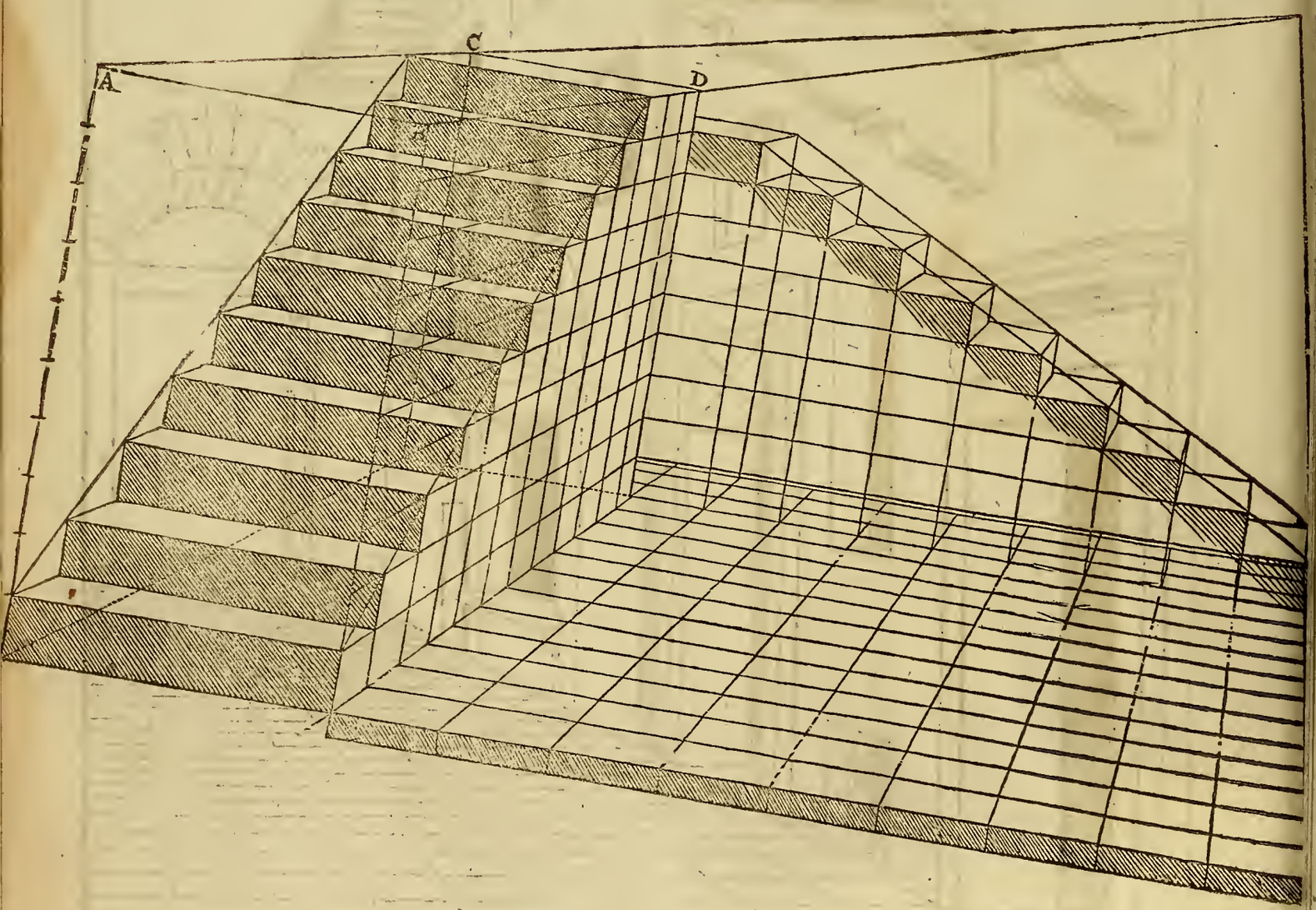


NOw I haue shewed the manner how to make a Gallery with Arches and Pillars, with other things thereunto belonging; now by an easier way I will shew some forme of Houses that are to be built out of the ground. You must make a ground or foote worke with Quadrants reaching long inough vpwards, which Quadrants must each of them be reckoned at two foote square.

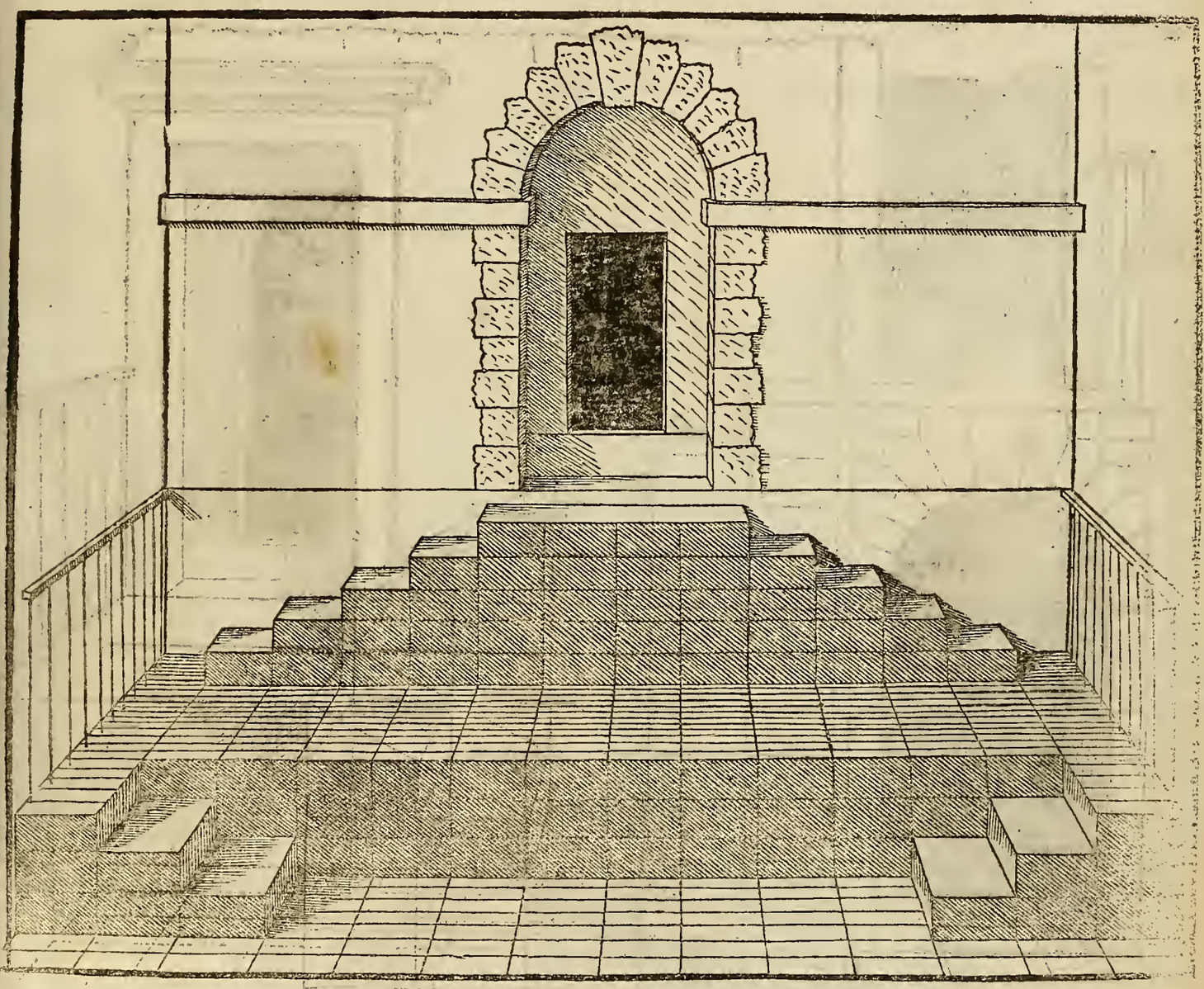
And first, at the entry of the House there shall be a doore of fiue foote broad, for that it containeth two Quadrants and a halfe in the shortening: and the height thereof shall be of ten foote, because it is fiue Quadrants high: Her Pilasters or Antipagmentum shall bee a foote broad, because they containe a halfe shortening Quadrant; the Frise shall also containe as much: and the Cornice shall containe so much lesse, as the vnder part thereof bearing ouer containeth, and shall be made according to the rule aforeshewed. Touching the part yetting ouer the doore, the Regdiliones or Mutiles, shal stand right aboue the Pilasters or Antipagmentum of the doore. And that litle doore vpon the yetting, shall stand right in the middle aboue the lowest doore, and shall be two foote broad. In the other corner of this first House, there shall be another doore, the widenesse thereof shall be fire foote; you may make it round or square aboue as you wil. But why doe I spend my time to set downe all these measures, which you may so plainely see in the Figure; onely it is necessary to warne such as are studious herein, that what worke soeuer a man rayseth out of the ground, consisteth in three principall things, that is, in length, breadth and height. The length is of certaine Houses or Roomes, containing a certaine number of feet. The breadth consisteth of Windowes, Doores, Gates, Shoppes, and such like things. The height consisteth of Portes, Windowes, Jettings, Cornices, Columnes, Rooffes, and such like things. But there is yet another, that is of the thickenesse of the Walles, Pillars, Columnes and Pilasters: The length is taken from the shortening Quadrants, and from thence also you take the breadth. But the height is taken out of the breadth in the Quadrants, which breadth must be taken from the Quadran or halfe Quadran, which toucheth it on the hithermost side as it standeth: as also from the hithermost doore, which is ten foote high, there you must take the measure from the Quadrans, which come to the Peralels on the nethermost corner or poynt of the doore; for if there you take fiue Quadrans in breadth, it shall be height within the Antipagmentum. And that which I haue sayd of these doores, you must also vnderstand of all the other things: The thickenesse of the Wall is two foote, for you see it containeth a Quadrant. The bearing euer of the second House is of fire foote, measured vpon the ground: the like also the bearing ouer or ietting of the first House containeth. To conclude all things, as I haue said, rising out of the ground on all sides, I haue set no Cornices, nor any other ornaments in this Figure, that you may the easier vnderstand it; but a man of ripe iudgement and vnderstanding knowing the terminations, can by his owne inuention helpe himselfe to make faire Buildings. And for that I may not spend too much time herein, I will make others to giue you more light therein.

THE Stayres, degrées or goings vp, are very neceſſary in Buildings, and therefore I will ſhew diuers kinds thereof, and firſt I will begin with the eaſieſt. According to common cuſtome a Stayre or ſtep is about halfe a foote high, and about a foote broad vpon the ſtep; then let the ſquare ſtones of this ground be a foote ſquare, therewith we will make a paire of ſtaires of fiue foote high, and three foote broad: at the foote of the ground wee will take the meaſure of the breadth, which both on the right and left ſides ſhall be ſet in Perpendicular lines on the Corners of the Stayres, which ſhall be deuided into ten, as the lines A. B. ſhew you. Then all the parts of A. B. ſhall be raiſed to the Horiſon, and then you ſhall take nine Quadrantes vpwards in length: and where as two lines are ſet vp cutting through the Horiſental lines of A. B. there the corners D. C. of the vppermoſt ſteps ſhalbe, containing a foure ſquare of three Quadrants on each ſide. From the hithermoſt points of the ſame vpperſteps, you ſhal draw two helding lines to the lowest ſteps; againſt the which the Horiſentall and the Perpendicular lines of the Quadran ſhall come together and ſhut vp the Stayres.

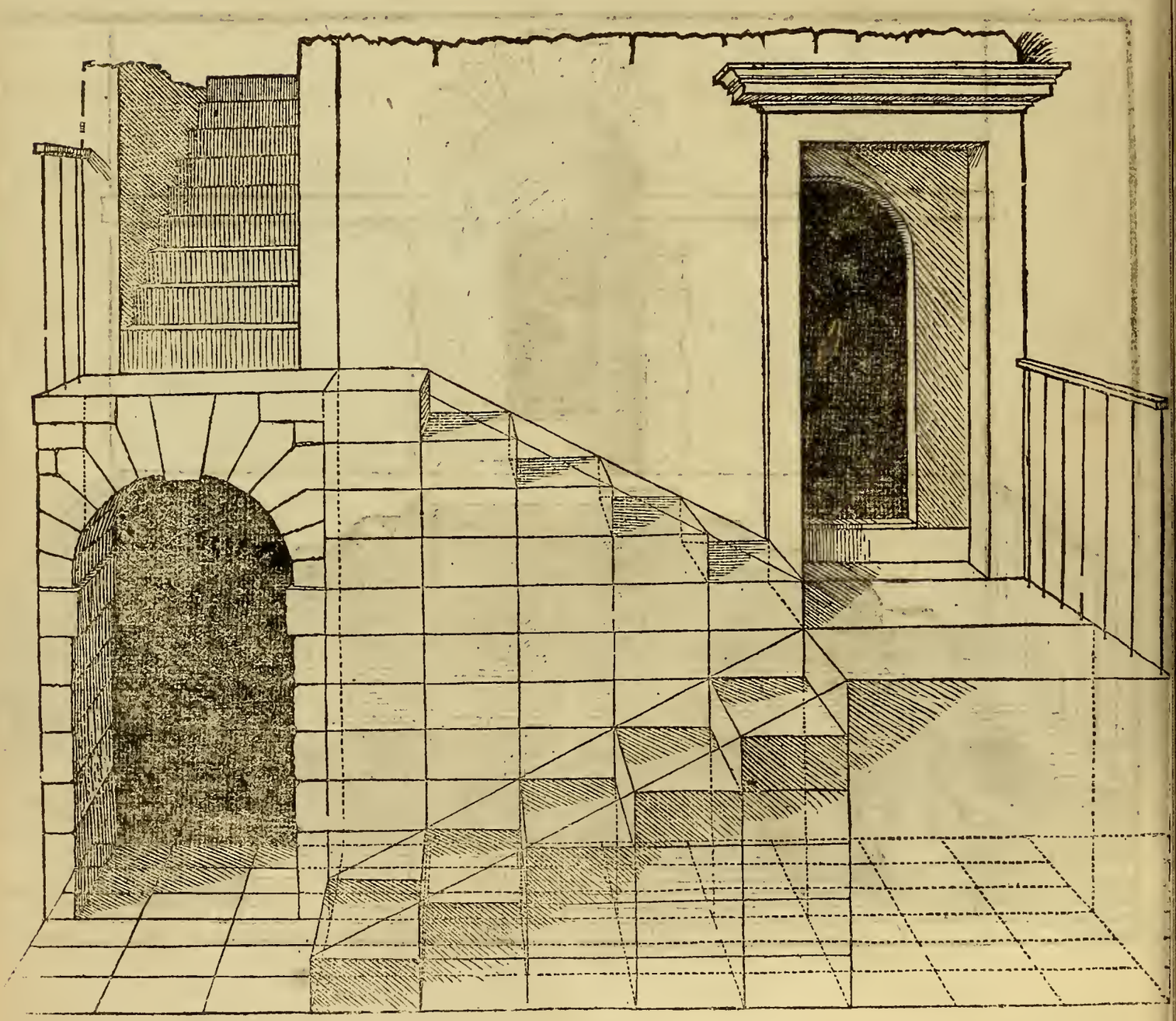
Theſe Stayres are ſhortened on the one ſide, and the other is plaine or profil, and containeth a ſtep leſſe in the height, which maketh foure foote and a halfe; it is alſo three foote broad, as it is marked vnder it on the ground. By this rule you may make Stayres or degrées as high as you will, and make ſome reſting places in the way: alwayes taking the meaſure from the foote of the ground, as well of the ſhortening, as of thoſe that are vpright.



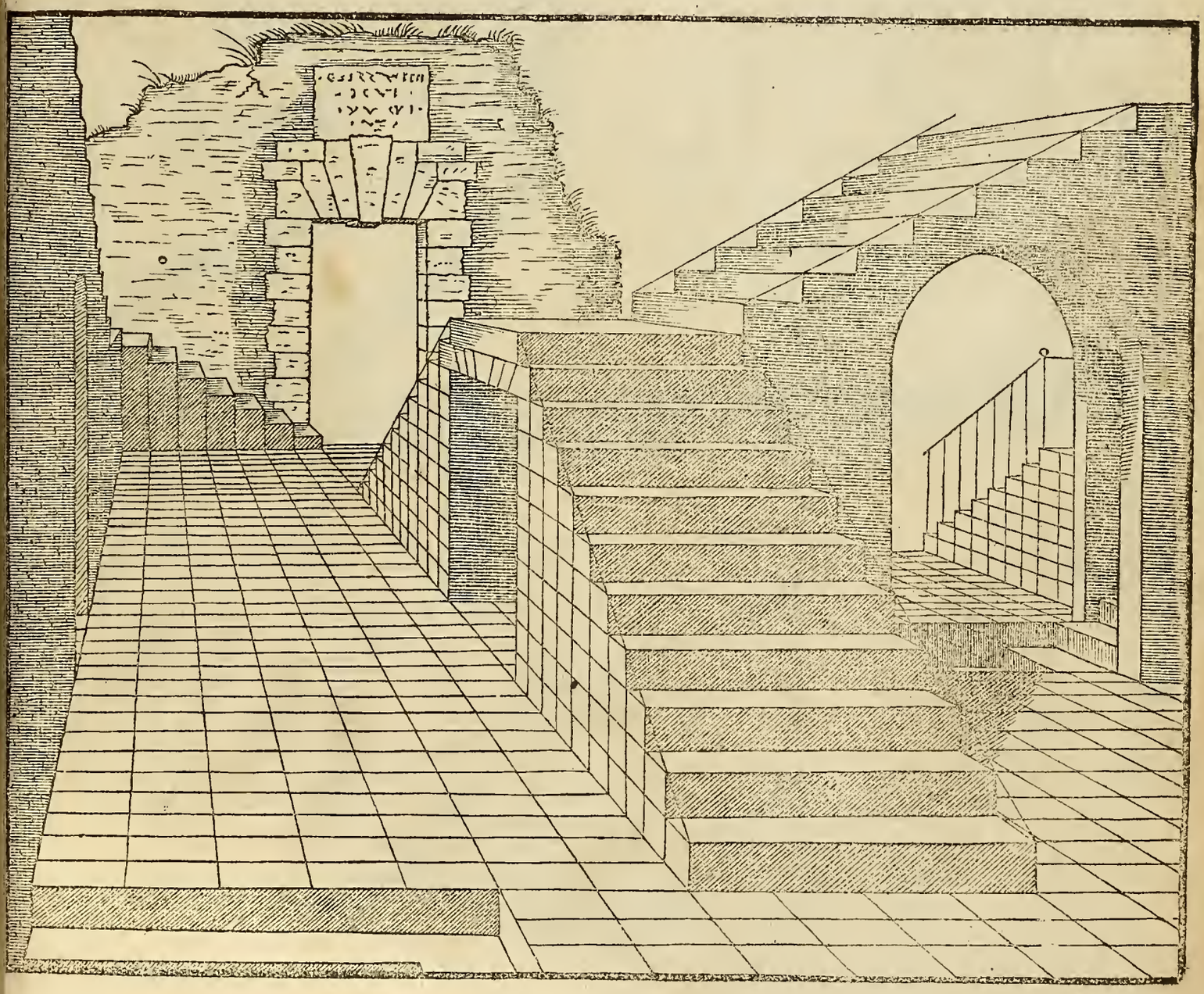
THE going vp being plaine or profil maketh a great show, and yet are very easie to set in all places, I meane in the turning, and may serue for many things, specially in Buildings, where a man going vp softly and with ease, giueth the beholders a kind of pleasure to view them, principally in common places, for that there is a going vp on eyther side, so that vpon the one side men may goe vp, and on the other side they may goe downe; and although there are only but two goings vp, yet by this a man by his own inuention may deuise others. How these Stayres are made, and with what reason, you may by the Figure perceaue them, although I should say nothing thereof: for as it is sayd before, the Quadrants are of a foote broad, and the steps halfe a foot high, and so the bredth of the step is one foot. The bredth of the Stayres is fiue foote, both the first and second: The resting gate containeth in widenesse three foote, and is fire foote high; which although it seemeth to be shut, and a small doore opening in it: yet it may be made whole open and otherwise closed. The two sides aboue the three steps are fiue foote broad, although here it is but one foote, because of the narrownesse of the Paper. The Perpendicular lines on the sides, signifie leaning places, and they should serue well also to the steps, but lest they should comber the worke, I haue left them out.



AMongst other things which show well in Perspectiue worke, I finde that goings vp or steps are very seemely, and the oftner that they turne, the better they shew; therefore I haue made these two goings vp turning, which stand in profil, yet you see the ground and the steps. This first going vp is fire foote high and three foote broad, as you may see it marked in the ground with pricks: the resting place betweene the first and second going vp, is two foure squares long, which is necessary, because of the turning. At the end thereof you finde a Portale, the dore thereof is two foote wide, the Antipagmentum is halfe a foore on eyther side, so that the place is three foote full. The Perpendicular lines on the right side of the plaine, signifie certaine leanings, which may bee made of Iron, Wood, or Stone; the like may be made along the Stayres both vpward and downeward, setting a Balister vpon euery Stayre: The height of this raile or leaning, shall be two foote and an halfe; for so it is easie to lay a mans hand vpon. How these Stayres are made vpwards out of the ground, although it may well be seene by the Figure without declaring it: yet I will say some thing thereof, to ease them that are short of memory. The resting gate or round dore vnder the plainnesse betweene the second and the third going vp, is no deeper then to the wall: Aboue the same dore there standeth another going vp, of foure steps, which to make, I haue sufficiently shewed; otherwise a man should continue the ground at the resting dore, to draw them vp from it.

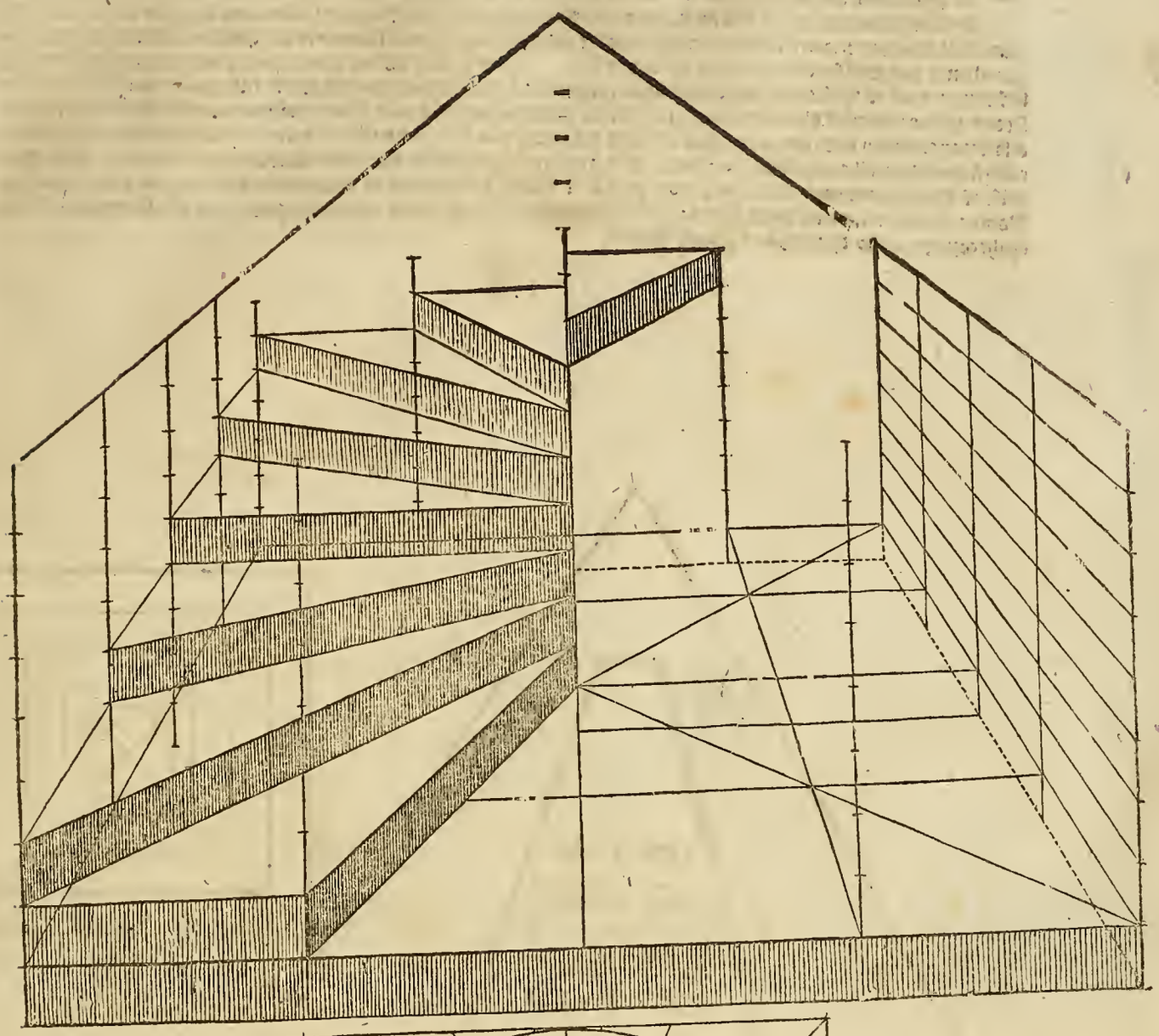


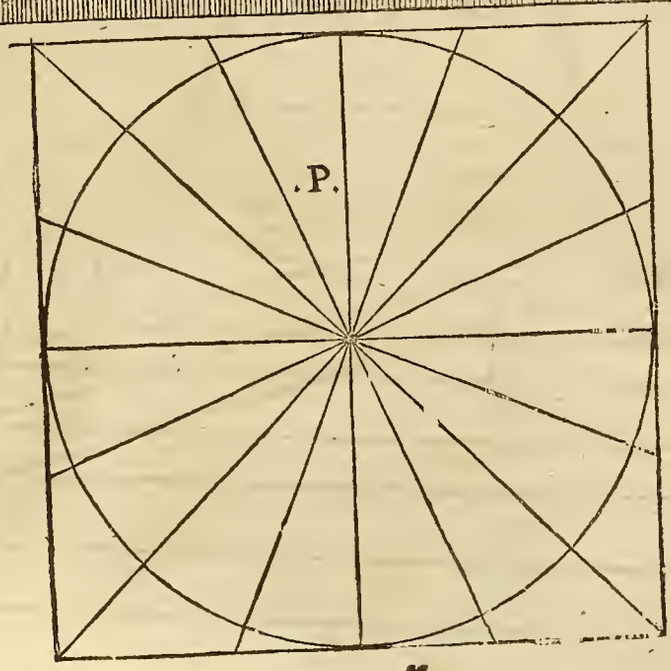
TOuching the seuerall kinds of Stayres, I am assured that they may partly be vnderstood without describing them in wrytingg, and specially the middlemost which goeth vp on both sides; and so shall the vppermost also, because it is rayled vp from the ground as well as the other, and is fire foot broad, as you may see and tell it on the ground vpon the plaine stones. The two Arches vnder the two goings vp are each a foot in thickenesse, whereby a going downe is foure foote within, and is also drawen out of the ground as the rest are. The other goings vp, which you see through the Arches; you may sufficiently perceiue by them how they are made: and so it is with the two paire of Stayres on the left hand, for from the first steps at the resting dore, you may easily see how they are rayled vpout of the ground, and aboue at the end of them they haue a piece of plaine ground to come to the other Stayres, which also is drawne vp out of the pauement as the rest are, that is, each step halfe a foote high, and a foote broad. But it is hard to measure in so small things, but it sufficeth that hereby you may see the manner thereof: and when you make them great you shall find that they will come well inough to passe. Vnder the Stayres last named, there standeth also a round dore which is fiue foot wide: vpon this ground, and on these Stayres a cunning Paynter might place diuers Figures in seuerall formes, eyther standing or sitting vpon the Stayres; and lying vpon the ground in shortening manner, and that in this wise: You may place the Figures where you will with feete, and then take fire feete or squares whereon they stand, and that shal be their height, for that it is the height of a common or ordinary man: this you must obserue both before and behind, and in euery place. If the Figure be vpon a step, then take the measure of that step whereon it standeth, and make it twelue steps high, which shall be fire foote: And is the Figure lying, doe the like; but if it lieth in shortening manner vpon the ground, then you must take the length by the shortening Quadrant.



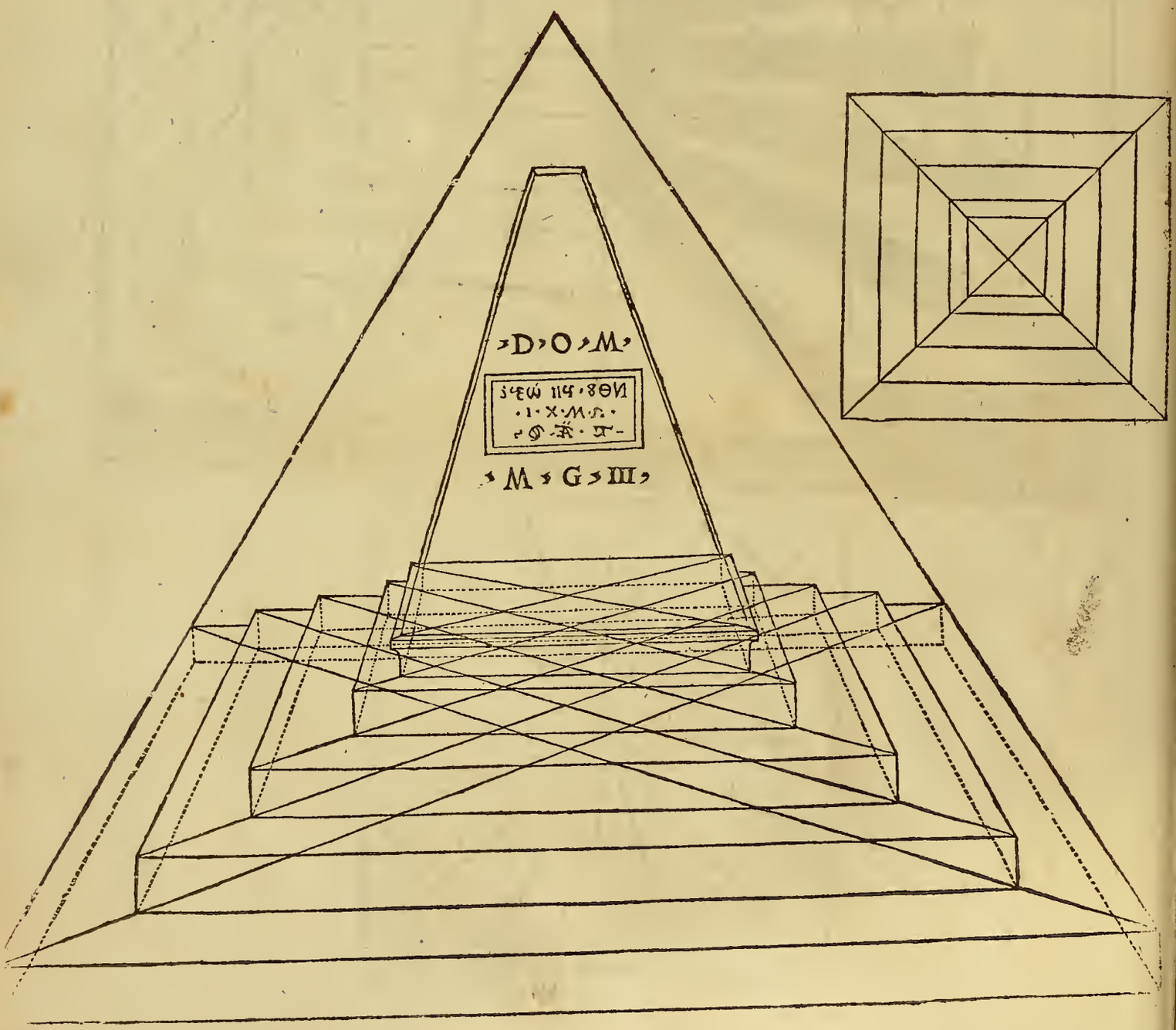
I haue ſhewed many kinds of goings vp, but there are other kinds, and he that is not well instructed in the former will hardly vnderſtand theſe two which I haue here ſet downe. The firſt ſhall be winding Stayres in foure ſquare, and he that can make theſe foure ſquare Stayres, may well make the round Stayres, for it is all one thing, ſpecially if he vſeth the rule before ſet downe of the round bodies.

The Figure P. is the ground of this winding Stayre, but it is much leſſe then the vppermoſt to get ground. This foure ſquare ground in ſhortening you muſt make halfe a foote high, which ſhalbe for the firſt ſtep. Then before at either end, you muſt make a Perpendicular line vpright, and in it make as many halfe fóte as you deſire to make the Stayres high; you muſt alſo place the like Perpendicular lines betwéene the middle, & the corners: then you muſt draw the terminations both on the right and the left ſides vpwards to the Horiſon, which muſt cut through the Perpendicular lines, which are drawne out of the terminations of the ſteps; and of the ſame height that the two cornerd Perpendicular lines are: and of the ſame meaſure you muſt make the other two Perpendicular lines betwéene the corners and the middle. Then in the middlemoſt termination of the ground you muſt place an other Perpendicular line, and deuide it alſo in halfe fóet, as the other Perpendicular line on the ſide is: So out of this Perpendicular line of the Centers againſt the néereſt Perpendicular line beneath on the left hand, you muſt frame the firſt ſtep with two lines: The ſecond ſtep you ſhal alſo frame and ſhut vp out of the Perpendicular line of the Centers in the corner following. Then from that poynt or corner you muſt draw a line to the Horiſon, which againſt the ſecond Perpendicular line will make the termination of the third ſtep, which ſhall alſo bee ſhut aboue, according to the aforeſaid rule: from that poynt or corner of the ſtep you muſt alſo make an Horiſontal line, which will touch the termination of the fourth ſtep; which being cloſed, then you muſt raiſe that corner alſo to the Horiſon, and that will ſhew you the termination of the fift ſtep. And when that ſtep is alſo cloſed with lines: then you muſt draw the poynt towards the Horiſon, which line will ſhew you the terminations of the firt ſtep againſt the hindermoſt Perpendicular line: and that being alſo cloſed vp with lines, then out of the ſame corner you muſt draw a Parael line to the termination of the ſeuenth ſtep, and not towards the Horiſon, becauſe it is another ſide of the foure ſquare. Thus you muſt worke round about from ſtep to ſtep, alwayes following this rule by the which you cannot faile.

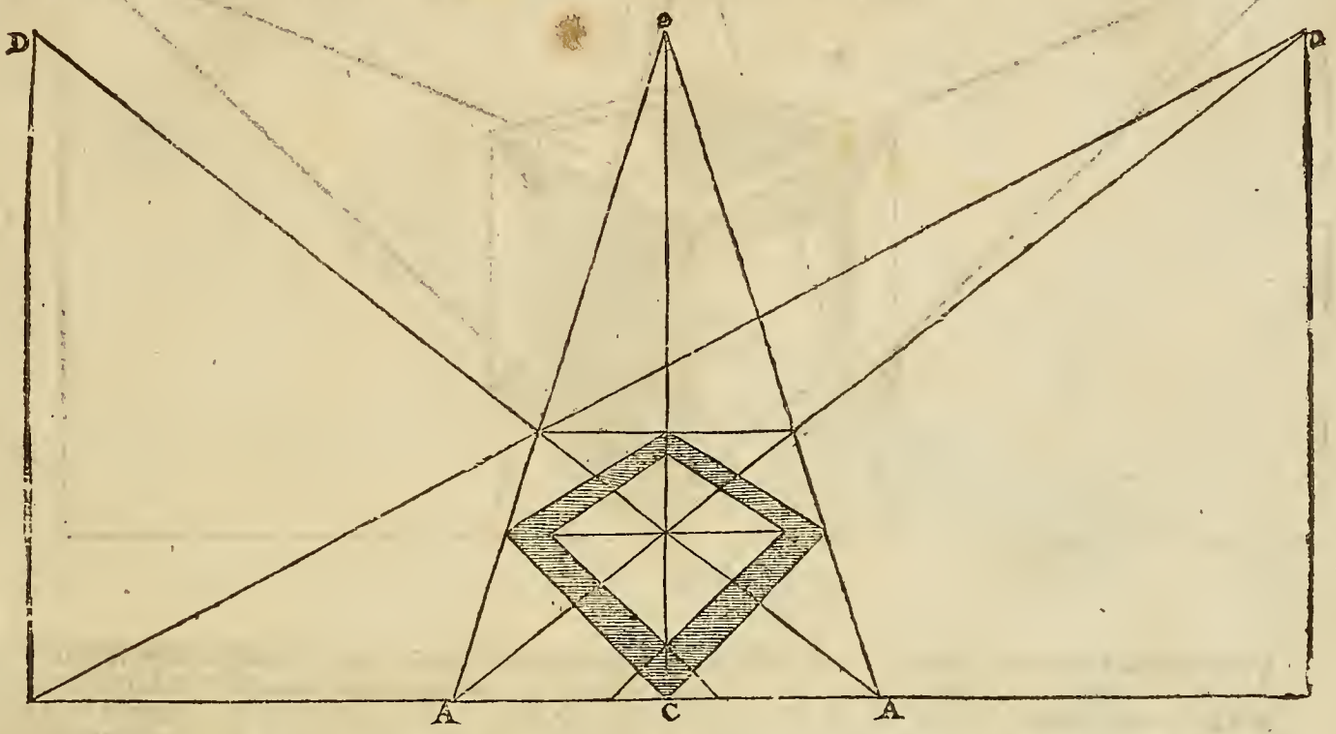



.P.

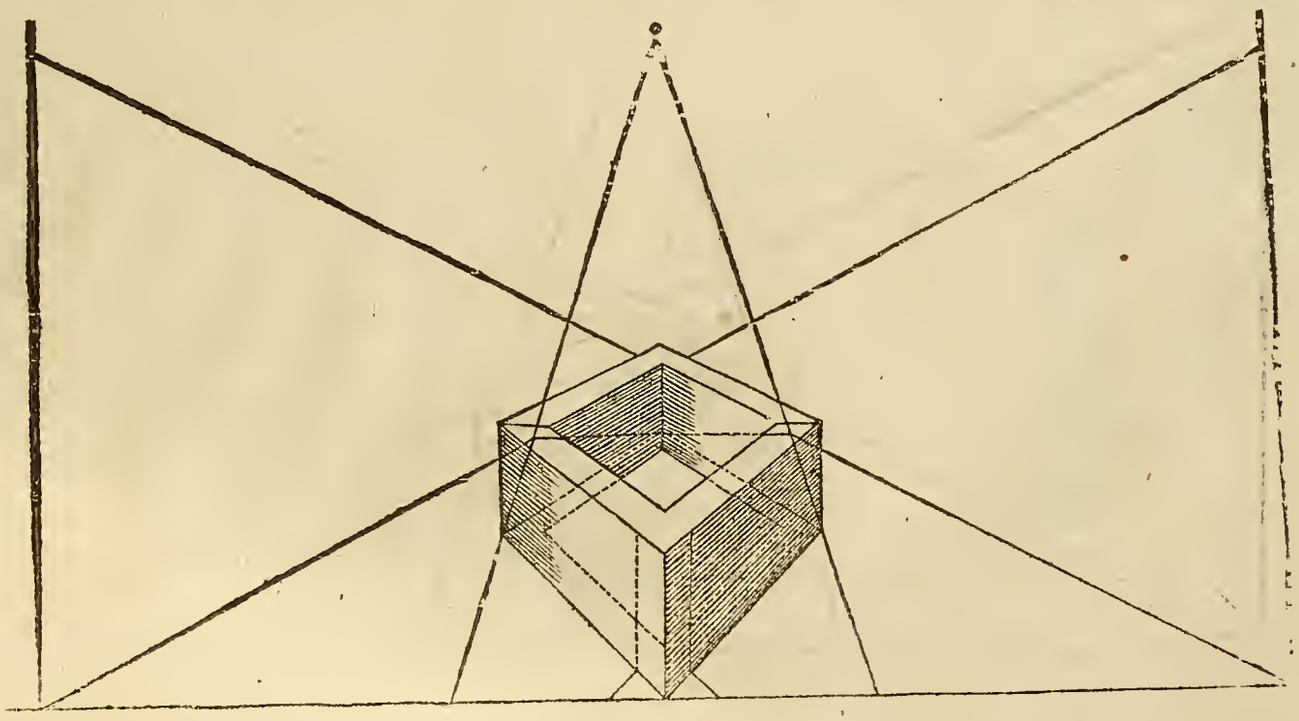
THat I may not forget to ſet down all kinds of Stayres, and ſpecially ſuch as often times fall out to be made; therefore I haue made theſe Stayres, whereon a man may goe vp on all ſides, whereof the ground ſtandeth aboue on the right hand, but yet very ſmall. Theſe Stayres muſt thus bee made. Firſt, you muſt make a foore ſquare ſhortening body of halfe a foot high, vpon this you muſt draw two Diagonall lines, and from the corner inwards there ſhall be a foote broad left on eyther ſide, and the terminations thereof drawne to the Horiſon, and ſo from the Diagonall lines you ſhall ſee the corners of the ſecond ſtep. Now I need not ſet downe vnto you how you ſhall finde the leſſening corner of the ſecond ſtep, the which is round about ſhut vp with Paralel and Horiſentall lines: then vpon the ſecond plaine you muſt draw two Diagonall lines, which doing (as I ſayd before) will ſhew you the third ſtep; which alſo being cloſed vp with lines, you ſhall alſo find the fourth and fifth, with the like rules: This Piramides is fantaſtically framed vpon them to fill vp the place. Alſo I need not ſet down to what vſes theſe Stayres may ſerue, for that the halfe of them is commonly found in diuers pieces of worke, as the gates of Pallaces, Churches, and other dwelling Houſes, and the aſcending vp to Altars: By this way alſo you may make round Stayres, and alſo Stayres of five or eyght corners, as by their formes I haue ſhewed.



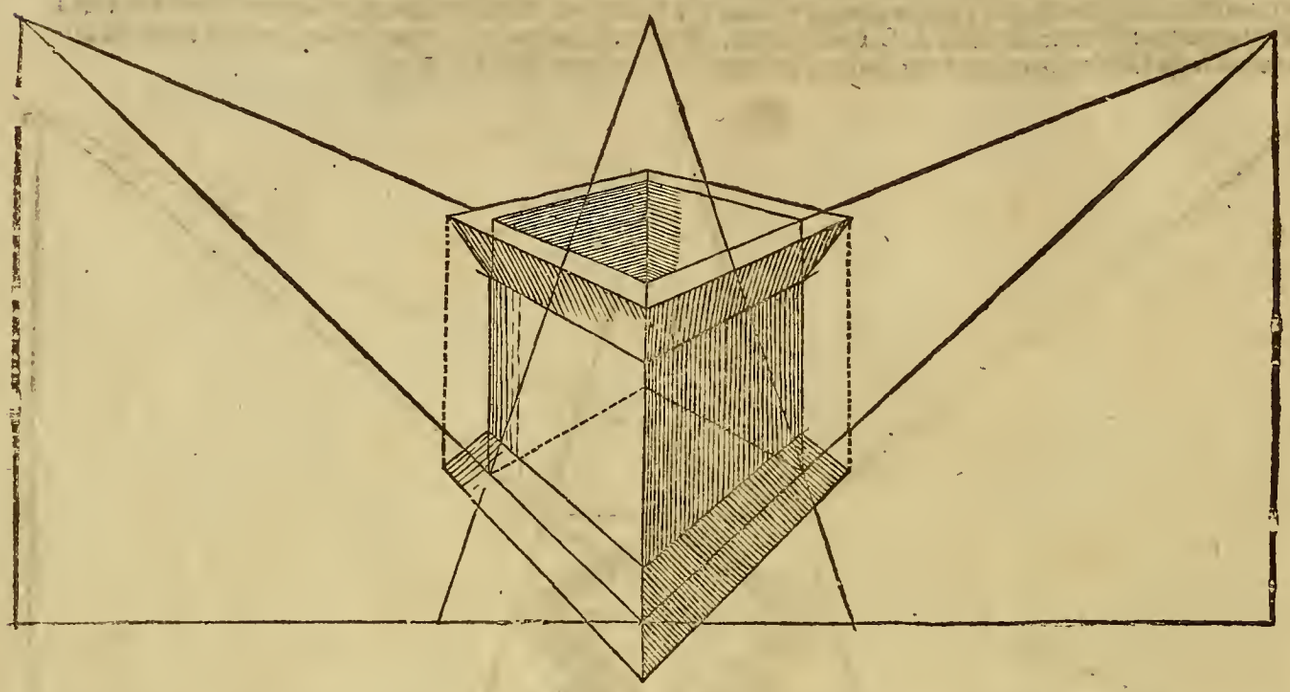
I Haue promised the studious Reader by this my labour to shew as much touching Perspective worke, as I can; that hee might shew his conceit touching Houses or Buildings in Perspective wise, meaning to set downe some simple manners thereof, as if he should forme a single or double ground, thereupon to rayse a body, and therewith meane to make an end. But falling from one worke to another, I am entred into a Laborinth; which peraduenture is too farre aboue my reach: which commeth to passe by meanes of some men that haue entreated me thereunto. And therefore, as I thought at this time to make an end of my second Booke, I begin to handle a harder matter, which rule is onely called an outward foure square: neuertheleſſe, it is aſwell drawne by the Horizon as by the distances, as you may see in the Figure following; which sheweth a right shortening foure square, containing in it another foure square, the which also may bee formed by the distances without Horizon: some men place the sides of the foure square vpon the Base, once so wide againe as before. And as you see two like sides of the foure square ouer the corner, so are the distances alike marked D. And as much more as you will haue this foure square to shorten, so much you must draw the distances from the Horizon; and as much as you will that the edges of the foure square shall be broad, so many breadths must you draw vpon the Base, betweene A. C. twice drawne. All the terminations of this foure square standing aboue the corners goe all to the distances, and none to the Horizon, but onely the foure square that is set therein.



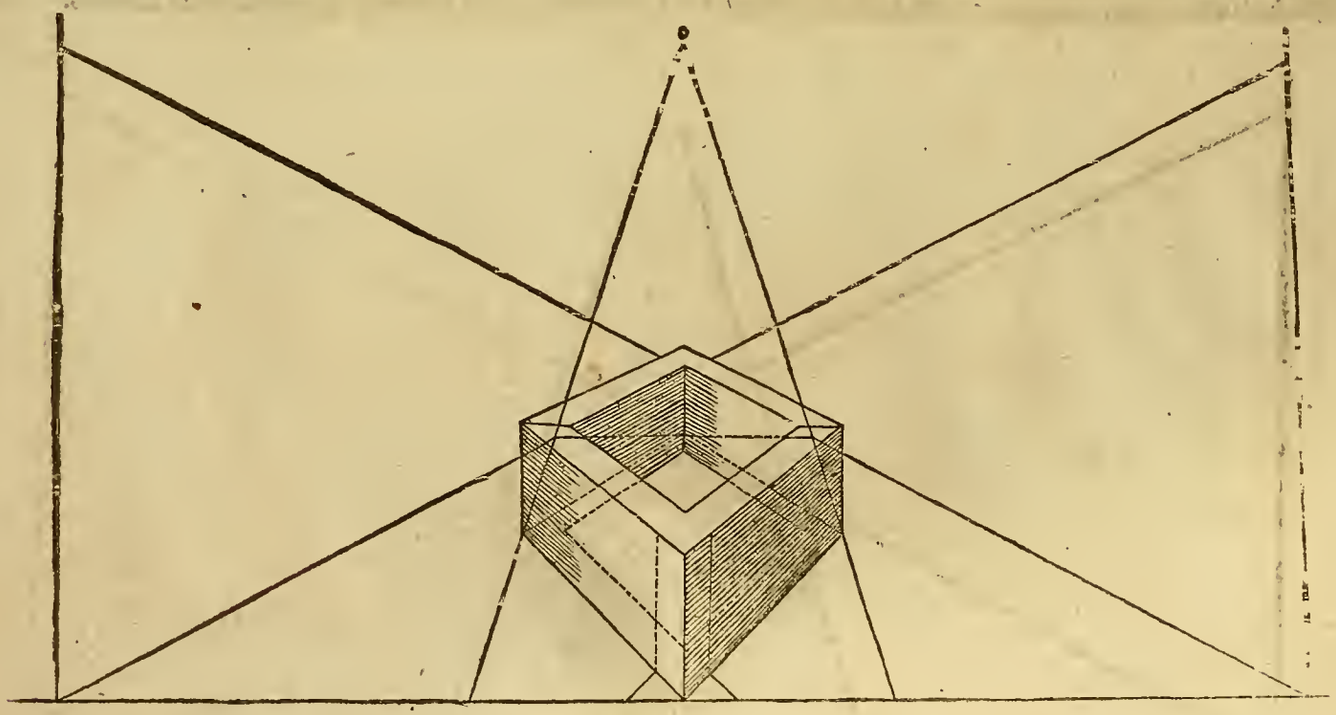
NOw I haue shewed, how you should shorten a Superficies, ouerpoynt or outward foure square: here I will shew how to imbosse or beare out the body thereof with the same Horizon and distances also, which body within is hollow, and you may heaue it vp as high as you: but I haue purposely left it somewhat low, that you might see the ground thereof. And by this Figure you may conceaue to how many things this may serue; and also how you may increase or diminish it, according to skil and iudgement. This shall suffice for these foure square models or hollow things: but I will shew how you shall make them wō Crests or Cornices.



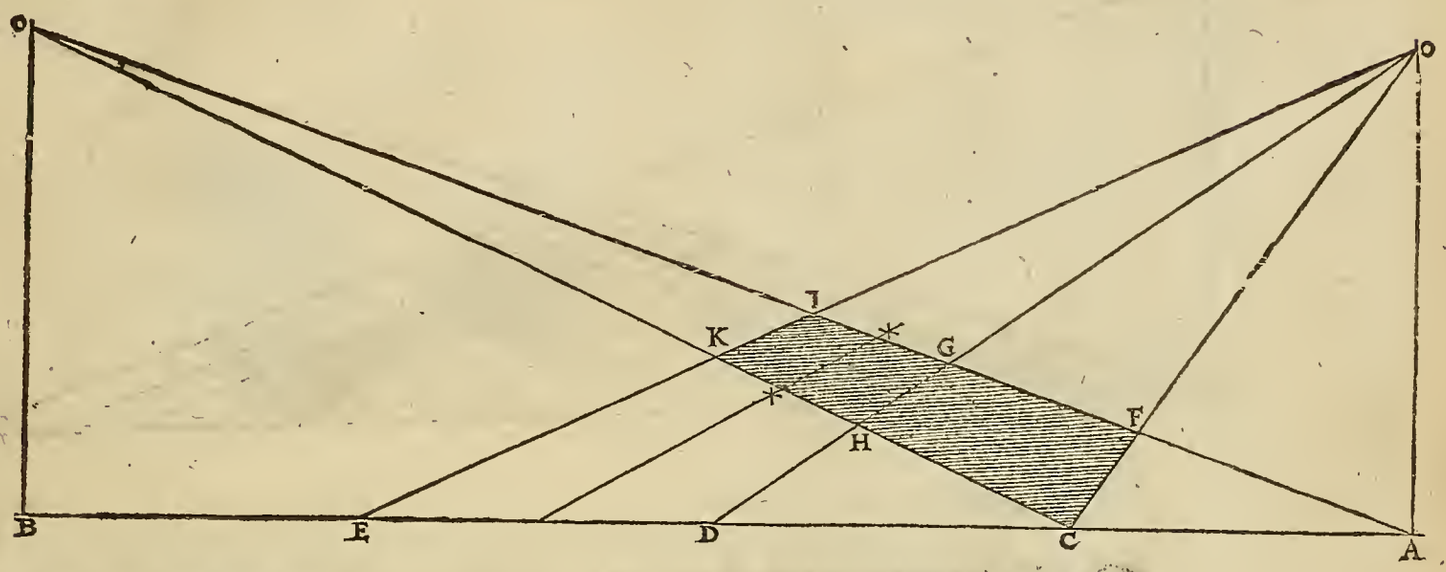
THis Figure is also formed by the aforesayd Horison, and the like distances as the other before, onely that they stand a little nearer: Now to creast this body both aboue & beneath, you must imagine the greatnes of the creast, and draw the same greatnesse both aboue and beneath the body; then giue the Crests aboue their due Proiecture, and from those poynts you must let Perpendicular lines fall to the poynts or corners below, whereby you shal haue the Proiectures of the Base and top thereof, which must be drawne towards the Distances, and not towards the Horison. Now you see how the Cornices stand without the foure square body: but this is only for Cornices that are made without members, not to comber you with the shadowing of them, for I will speake of them hereafter particulerly.



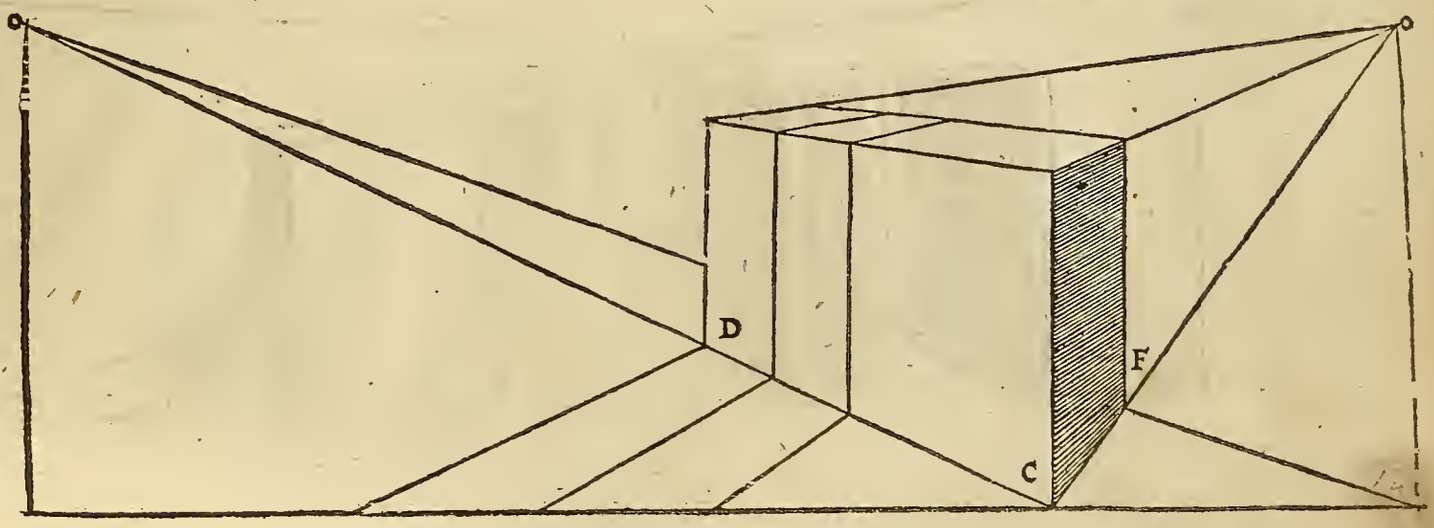
I Spake before of Cornices without members, which might serue this hollow Quadran, and how you shall make the terminations thereof. Now in this Figure I show you the sayd Cornices with their members, which you may also make in other maner as it pleaseth the workeman, that is, to make them bigger or lesser, as I haue spoken of other Cornices, alwayes vsing good discretion and iudgement to chuse and make such members therein, as may show well in mens sight. There are some Cornices which reach so farre ouer, that men can not see the members thereof vnder them; therefore in that case the members are so to be made, that they may be seemely and pleasant in mens sight.



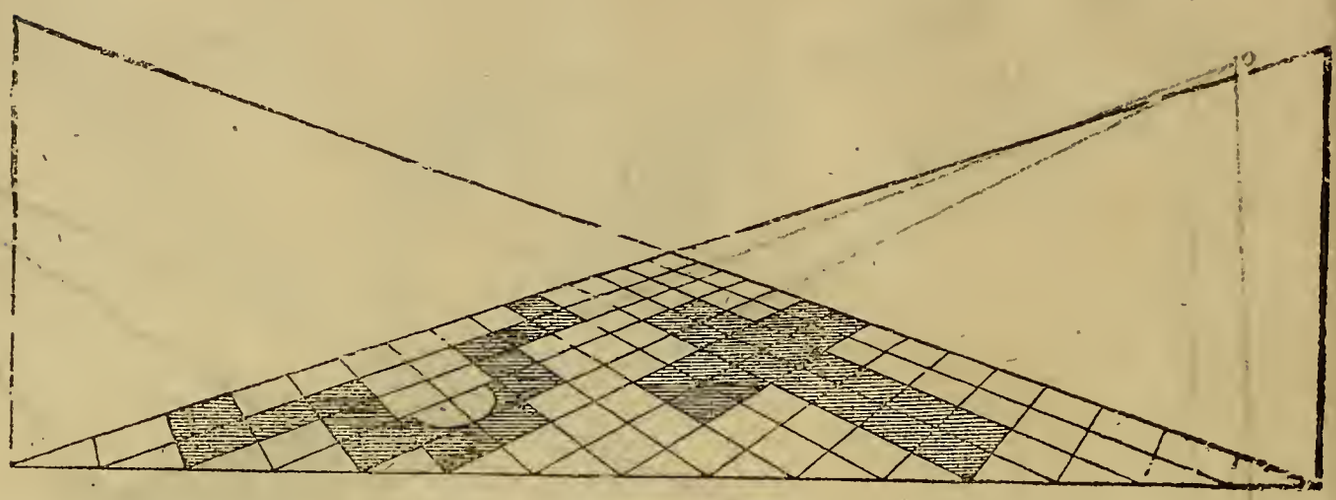
THe foure Figures aforesayd haue their distances equally broad from the Horison, that is, as much on the one side as the other; but the Figure following is of an other manner: so that the Horisental lines serue both for distances. To vnderstand it, begin thus: First, the Base A.B. is made and is placed in foure equall parts, as C.D.E. the lines C.D. are drawne on the right hand towards the Horison, and the lines A.C. are drawne towards the Horison on the left side, which forme a perfect shortening foure square; which foure square you see more on the one side, then on the other. The foure points or corners of these foure square things, are F.G.H.C. If you deuide these foure square things in two parts, then you must deuide the Base D. E. in two parts, and the terminations thereof being drawne to the right side, there you shall finde the halfe of your foure square marked with two Stars. But if you will lengthen it an other halfe foure square, then draw a termination E. to the right Horison, the lines at I. K. the other halfe foure square, so that these Superficies shall be of two perfect foure corners: And this will serue the ingenious workeman for many things, which I will not here set downe for breuitie sake.



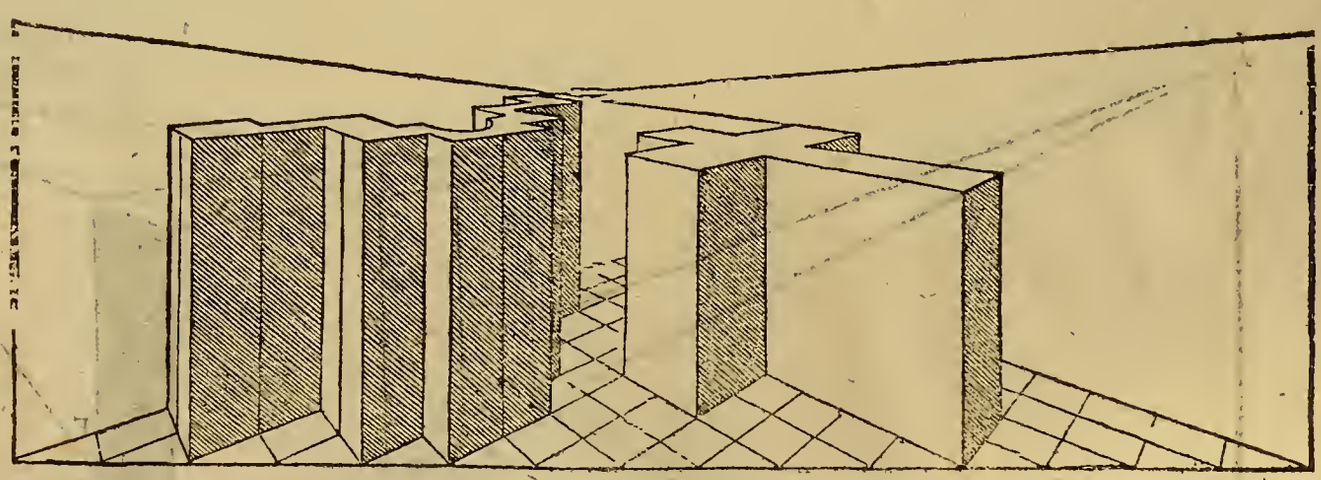
THis body hereafter following is rayled vp out of the former Figure before set downe, and is made with the same Horison, which body containeth two Quadrants in length, & one Quadrant in height, for the line C.D is set in Perpendicular maner vpon the nethermost corner, whereon the other Superficies are set: thus then this body is of two foure squares, I meane two foure squares in length, and one foure square broad and high. And this body (as I said before) shall serue for many things: But if you will haue more cubits in the length, then lengthen the Base in so many parts more, and you shall alwayes finde the trueth hereof. And if you will make a border or creast about this body, then you must follow this rule aforesayd.



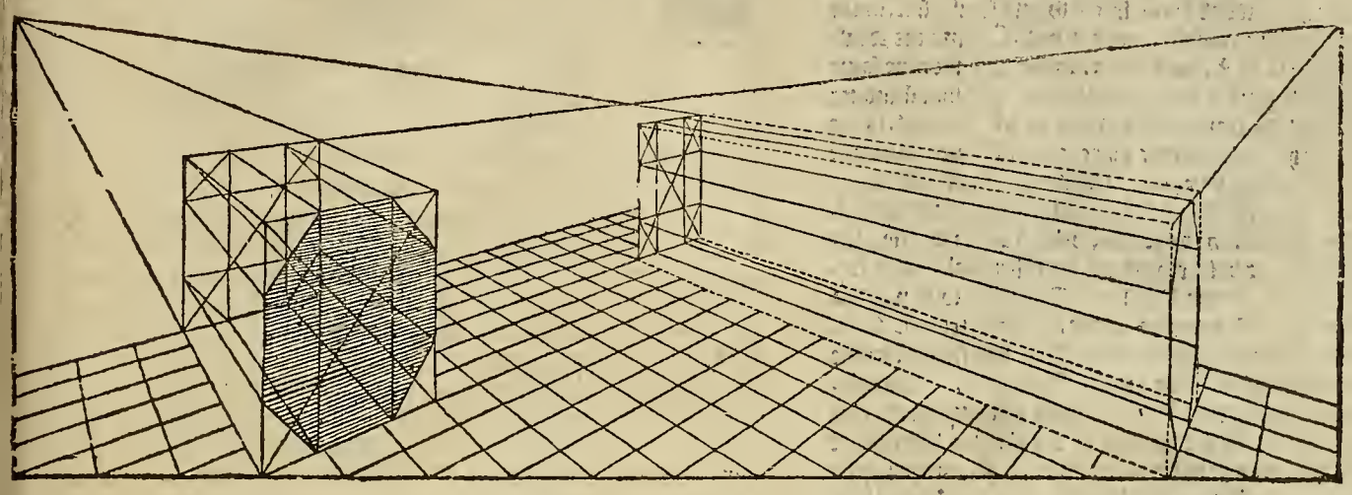
BUT will you make diuers things vpon one ground, then it is conuenient that first you make a pauement, as you sée it here set downe, and thereupon frame what you thinke good vpon the Quadrans, and the lesse the Quadrans are, and the more in number, you may the easier frame things vpon them. The crosse made vpon this ground is onely to show you the way and entry thereunto; but for such a forme, you may make a forme of a Christian Church as they are now built. The other forme by it, sheweth a piece of a foundation of a House, but all these things you may make in a greater forme, and set them forth as you will; sometime placing the Horizontall lines in such manner that you may see more of the out sides, but yet the Horizons must stand all of one height.



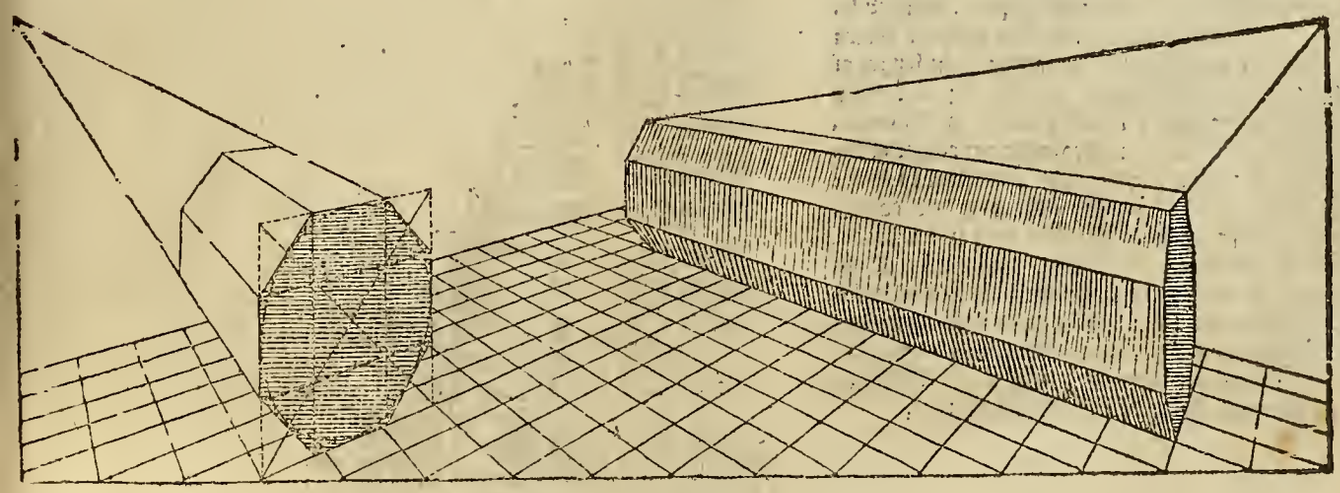
OUT of this Superficiall Figure aforesayd, I haue rayled these bodies, to shew how the Horizons of them doe stand in the worke as well aboue as below, as you shall finde by experience, and in trueth these workes which you sée ouer the poynts or corners, containe a Booke alone by themselues: but (as I sayd before) my meaning was to show but thrée or foure Figures of them, yet I will show ten of them; intending to leaue the Student some worke, whereof I am well assured: For that he hath more eyes, and more patience then my selfe, hee shall finde many things which I write not of, nor yet set downe.



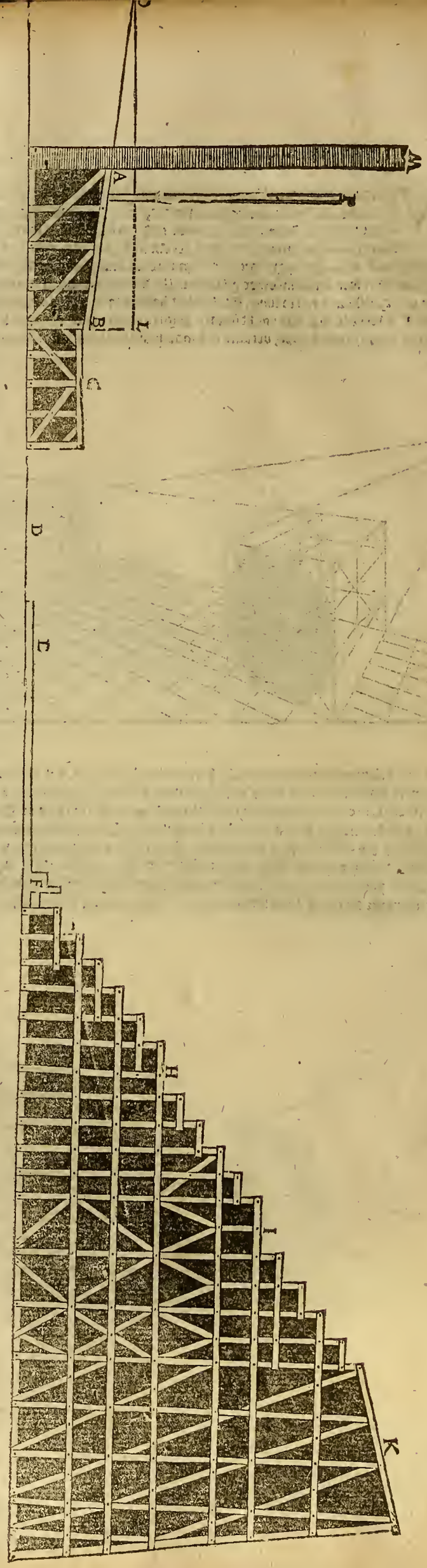
VPon this Pauement (as I sayd) you may forme or frame what you will, but in this Pauement here ensuing, you see a columne lying, being eight square, which is three Quadrans in thicknesse, and foureteene in length. This eyght square columne may be made out of a columne of foure square, as before in an other place is shewed: which foure square you may see drawne herein with prickes, and the terminations of the eyght square with blacke lines. But because that this eyght square columne is too much seene on the sides, the readier to make it out of the foure square: I haue therefore made an other piece by it, the which, because it draweth nearer to this Horison, is seene more before, then the other, although not so long; for it is but halfe so long as the other, as you may see & tell it in the ground or fort thereof. And if it were so that this eyght square Figure reached nearer to the Horison, it would then be better seene, yet it would not be wholly seene before, because it standeth without the foure square and corner.



These Columnes are the same which are before set downe, but the other well hollow, and these massie, whereby an expert workeman may finde out many things exercising this way, although there are other meanes to be vsed, as Albert Durer hath shewed, to looke through holes with a thread: There is also another way, which is drawne out of flat formes which is the sureest way, but very troublesome and hard to describe in writing; wherefore I haue chosen this as the easiest way to be shewed. And if I had not vndertaken to show other things of more importance, I would haue drawne diuers bodies and houses after this manner. But for that I meane to entreat of Scenes, and the preparing of places for to show Comedies and Tragedies, which is now vsed in this age, and specially in Italy, therefore I will make an end of these foure cornered things, leauing it to another (as I sayd before) to set forth more thereof.



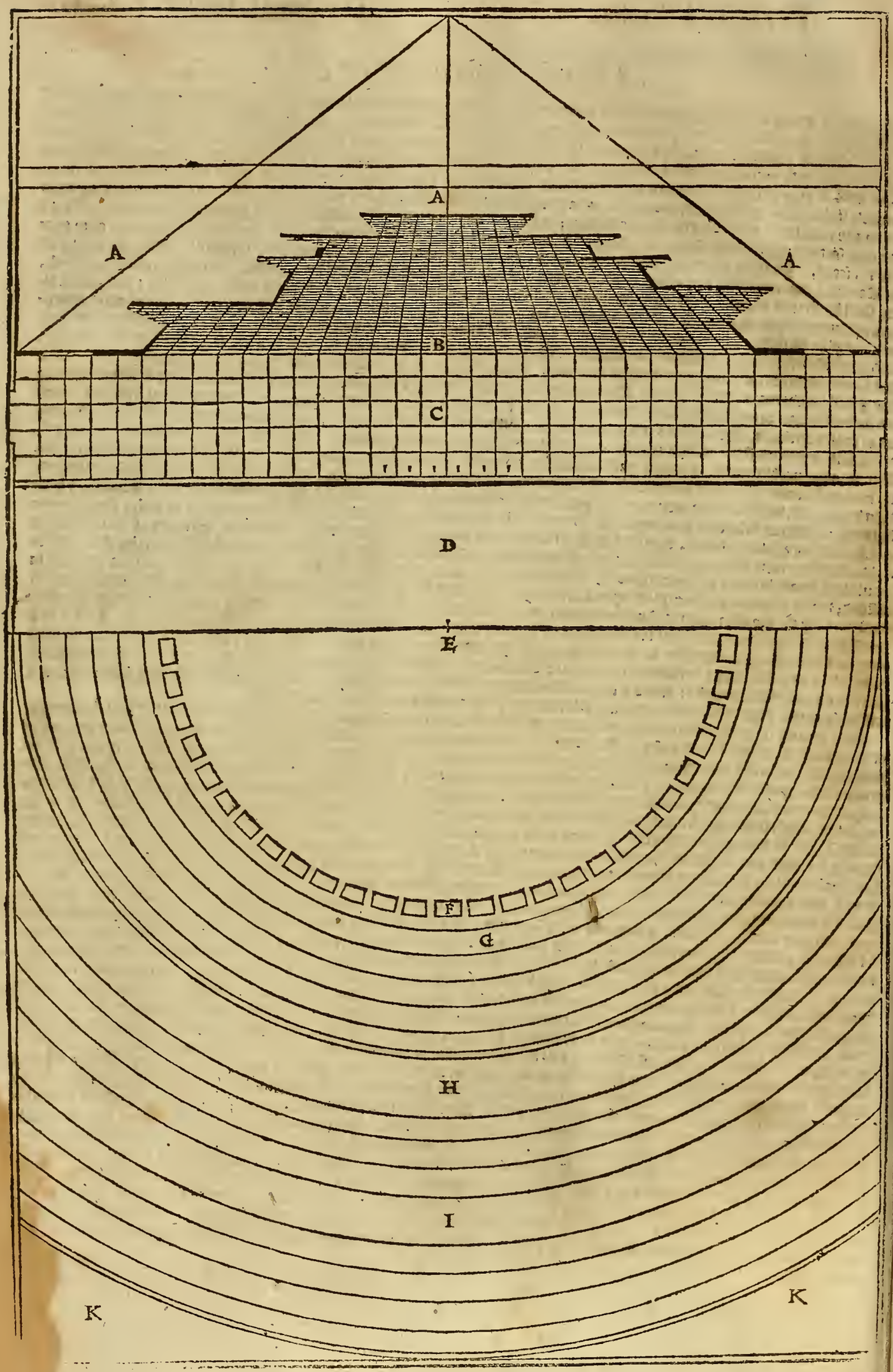
BCeause I meane hereafter to entreat of Theaters, and Scenes belonging vnto them, as we vse them in these dayes. In the which Scenes it will bee very hard for a man to shew how, & where a man should place the Horison herein, because it is an other thing then the rule before declared: Therefore I thought it good first to make this profill, that the ground by the profill may both together be the better vnderstood; yet it were conuenient first to studie the ground, and if it so falleth out that a man cannot attaine to all within the ground, then hee must proceede to the profill to bee the better instructed therein. First therefore, I will begin with the Scaffold before, which as the eyes shal stand eleuated from the earth, and shalbe flat, made by the water compasse, marked with C. And the Scaffold from B. to A. shall stand heaued vp vnder the same A. a ninth part of the length thereof, and that standing vp behind the seate marked with an M. aboue it, is the wall of the Hall or other place, against which, or where this Scene shall be made. That which standeth a little distant from the Wall Perpendilar wise, is marked P. that be the backe or vpholding behind of the Scene, that a man may go betweene it and the other wall. The termination O. is the Horison. The lines with prickes comming crosse vpon the water compasse from L. to O. where it toucheth the backe P. there you shall place the Horison onely to serue for the sayd backe. And comming forwards to L. this line shall alwayes be the Horison, for all the Ortographie of the Houses which shall stand forwards or outwards: But the Scenographies or shortening sides of the Houses, they must haue their Horisons standing further to O. And it is reason, which in effect haue two sides (as thes must be built that men may see out of them on both sides) should happen two Horison lines, this is touching the profill of the Scene. But the place which is called Procenie is that which is marked with P. and the part marked with E. is called Orchestra, which is rayled halfe a foote from the earth, where you see F. marked, are the places for Noblemen and Knights to sit on. And the first seate or step, marked G. are for the Noblewomen and Ladyes to sit on: and going vp higher, there must the meaner sort of Nobles sit. The broader place, marked H. is a way, and so is the place marked E. Betwéene H. and E. must sit Gentlemen of quality. And from L. vpwards meaner Gentlemen shall sit. But the great space, marked K. shall be for common Officers and other people: which place may be greater or lesse, according to the length of the Hall, or any other place. And the Theator, with the Scene or Scaffold, which I made in Vincente, was almost in this sort: and from the one corner of the Theater to the other, was eyght and twenty foote; for it was made in a place where I had roome inough, but the Scene or Scaffold was not so broad, because it was placed in a lodge. The frame of the seates was all made in one, as you may see in this Figure. And because the Theater stood in an open place which had no wall, whereunto it might be made fast, therefore in the circumference I haue made it sticking out, for the more strength and fastnesse thereof.



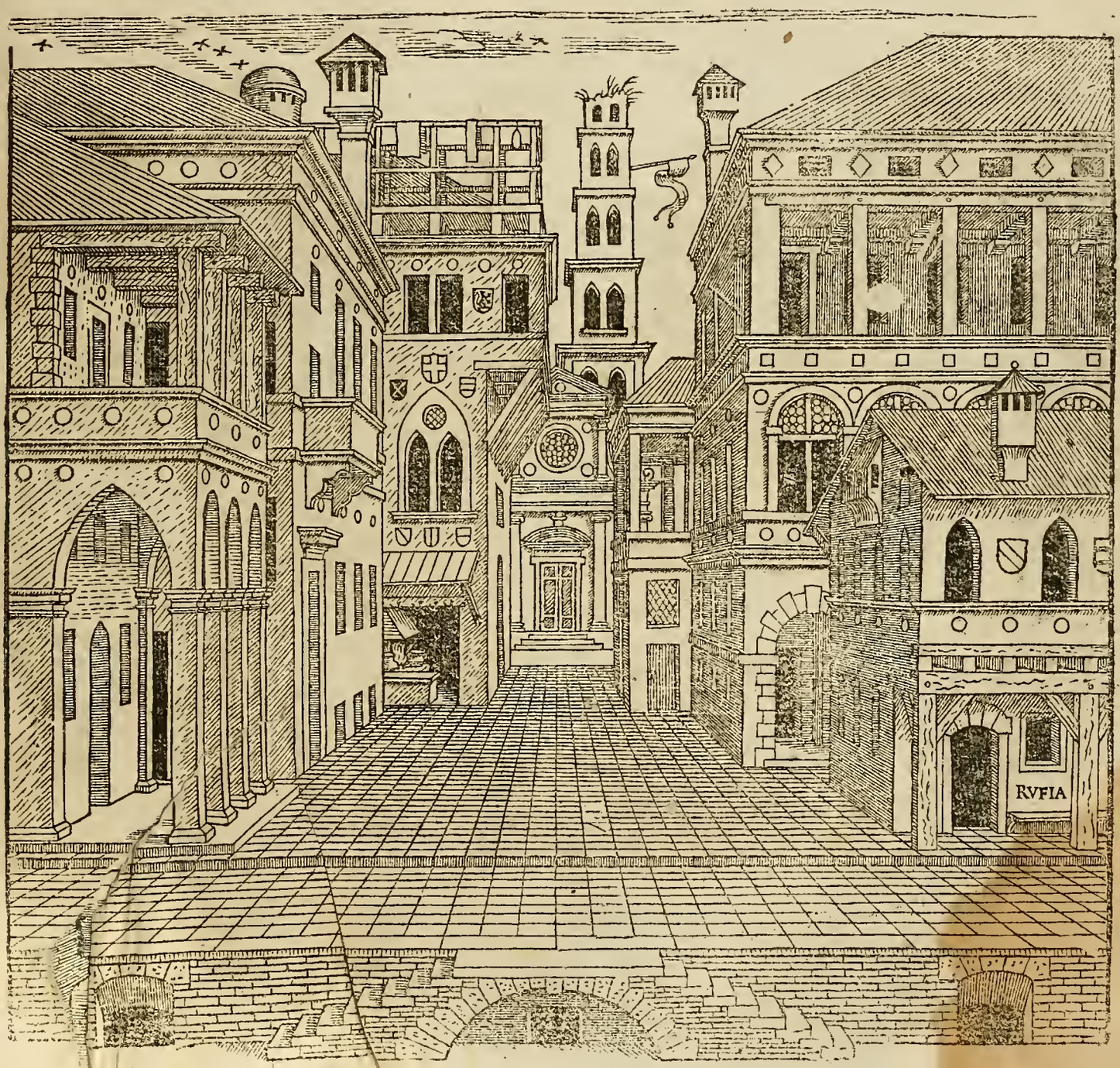
A Treatise of Scenes, or places to play in.

AMong all the things that may bee made by mens hands, thereby to yeld admiration, pleasure to sight, and to content the fantasies of men; I thinke it is placing of a Scene, as it is shewed to your sight, where a man in a small place may see built by Carpenters or Masons, skilfull in Perspective worke, great Palaces, large Temples, and diuers Houses, both neere and farre off; broad places filled with Houses, long streets crost with other wayes: tryumphant Arches, high Pillars or Columnes, Piramides, Obeliscens, and a thousand fayre things and buildings, adorned with innumerable lights, great, middle sort, and small, as you may see it placed in the Figure, which are so cunningly set out, that they shew forth and represent a number of the brightest stones; as Diamonds, Rubins, Saphirs, Smaragdes, Iacinthes, and such like. There you may see the bright shining Mone ascending only with her hornes, and already risen vp, before the spectators are ware of, or once saw it ascend. In some other Scenes you may see the rising of the Sunne with his course about the world: and at the ending of the Comedie, you may see it goe downe most artificially, where at many beholders haue bene abasht. And when occasion seruetb, you shall by Arte see a God descending downe from Heauen; you also see some Comets and Stars shot in the skyes: then you see diuers personages come vpon the Stage, richly adorned with diuers strange formes and manners of Apparell both to daunce Moriscoes and play Musicke. Sometimes you see strange beasts, wherein are men and children, leaping, running, & Tumbling, as those kind of beasts vse to doe, not without admiration of the beholders: which things, as occasion seruetb, are so pleasant to mens eyes, that a man could not see fairer made with mens hands. But for that we are entred into another maner of Perspective worke, therefore I will speake more at large thereof. This Perspective worke whereof I will speake, although it be contrary to those rules which are shewed before, because these afore sayd are imagined to be vpon a flat wall: and this other rule because it is materiall and imbossed or rayses outward, therefore it is reason we obserue another rule therein, according to common custome. First, you must make a Scaffold, which must bee as high as a mans eye will reach, looking directly forward; for the first part thereof which is marked C. But the other part behind it, whereon the Houses stand, you must rayse vp behind against the wall at least a ninth part thereof, that is, you must deuide the playne Stage or Scaffold in nine parts; and then you must make the Scaffold higher by a ninth part behind: then before at B. which must be very euen & strong, because of the Morisco dancers. This hanging downward of the Scaffold, I haue found by experience to be very pleasing, for in Vincente which is as sumptuous and rich a Towne as any in all Italy; there I made a Theater and a Stage of wood, then the which, I thinke, there was neuer a greater made in our time, in regard of the wonderfull sights that there were seene, as of Wagons, Elephants and other Moriscoes. There I ordained, that before the hanging Scene there should be a Scaffold made by water compasse, which Scaffold was 12. foot broad, and 60. foot long, according to the place wherin it stood; which I found to be very pleasing and fit for shew. This first Scaffold, because it was right, therefore the pauement thereof must not obey the Horison, but the Quadrants, whereof on euery side were foure square, from whence at the beginning of the rising Scaffold B. all the Quadrans went to the outtermost Horison O. which with their due distances do shorten very well. And for that some men haue placed the Horison of this Sciographies against the wall right aboue the Scaffold, whereby it seemeth the Houses runne all in one; therefore I determined to place the Horison before the dore, which pleased me so well, that I vsed the same kind of order in all these kind of works: and so I counsell those that take pleasure in such Arts, to vse and esteeme this way for the best, as I will shew in this Figure following, and haue also declared in the profill of the Theater and Scene.

And because the preparation for Comedies are done in three sorts, that is, Comical, Tragical and Satiricall; I will first entreat of the Comicall, whereof the Houses must be made as if they were for common or ordinarie people, which for the most part must be made vnder rooffes in a Hall, which at the end thereof hath a chamber for the pleasure or ease of ye personages: and there it is that the ground of the Scaffold is made (as I said and shewed before) in the profil. Therefore C. is the first part being the flat Scaffold; and suppose that each Quadran containeth two foote on eyther side, so shal they vpon the hanging Scaffold before on the Base be also two foot broad, which is marked B. And (as I sayd before) my meaning is not to place the Horison hereof against the backe behind in the Scaffold, but as farre as it is from the beginning of the pauement B. to the wall, so farre I would also that men shall passe behinde through the wall, and so shall all the houses and other things show better in the shortening: and when by conuenient distances you haue drawne all the Quadrans towards the Horison, & shortened them, then you must shorten the houses right with the foure square stones; which houses are the great lines marked vpon the ground, aswell for those that stand vpright, as those that shorten. All such houses I alwayes made of spars, or ratter or laths, couered with linnin cloth; making dores and windowes, both before and in the shortening, as occasion fell out. I haue also made some things of halfe planks of wood, which were great helpe to the Paynters to set out things at life. All the spaces frō the backe to the wall marked A. shall be for the personages, to the which end the hindermost backe in the middle shall stand at the least two foot from the wall, that the personages may goe from the one side to the other, and not be seene. Then you must rayse a termination at the beginning of the pauement B. which shall be the poynt L. and from thence to the Horison there shalbe a line drawne, as it is marked in the profil with prickes, which shall be of like height; and where that toucheth the hindermost backe of the Scene or Scaffold, there the Horison of that backe shall stand: and that Horison shall serue onely for that backe. But if you stretch a corde or any other thing to the termination L. then you may fasten a thread to it, to thrust backward or forward, to vse it out of the stedfast Horison, & all the Ortographie of the houses before. But the Horison which goeth through the wall, shall serue for all the shortening sides of the houses: and for that men should breake the wall, if they would vse all this Horison in grosse, which may not bee done, therefore I haue alwayes made a small modell of wood and Paper inlaid of the same bignes, and by the same modell set it downe in grosse, from piece to piece. But this way will fall out hard for some men to vnderstand, neuertheless, it will be necessary to worke by models and experiments, and by studie a man shall find the way: and for that a man can hardly finde any Halls how great soeuer, wherein he can place a Theater without imperfection and impediment; therefore to follow Antiquities, according to my power and abilitie, I haue made all such parts of these Theaters, as may stand in a Hall. Therefore the part marked D. shall be the posit scene, and the circular place marked E. shall bee the Orchestra: round about this Orchestra shall be the places for the noblest personages to sit, marked F. The first steps marked G. for the noblest women to sit vpon. The place H. is a way, so is the part marked I. In the middle betwēne these degrees are steps the easier to goe vp. The places marked K. must bee made so great backward as the Hall will afford, which is made somewhat slooping, that the people may see one ouer the others head.


A
A
A
B
C
D
E
F
G
H
I
K
K

TOuching the disposition of Theaters and other Scenes, concerning the grounds thereof, I haue spoken sufficiently; now I will speake of the Scene in Perspectiue worke: and for that Scenes are made of three sorts, that is, Comical, to play Comedies on, Tragicall, for Tragedies, and Satiricall for Satirs. This first shall be Comicall, whereas the houses must be slight for Citizens, but specially there must not want a brawthell or bawdy house, and a great Inne, and a Church; such things are of necessitie to be therein. How to rayse these houses from the ground is sufficiently expressed, and how you shall place the Horison: neuertheleſſe, that you may be the better instructed (touching the former of these houses) I haue here set downe a Figure, for satisfaction of those that take pleasure therein; but because this Figure is so small, therein I could not obserue all the measures, but refer them to inuention, that thereby you may chuse or make houses which shew well, as an open Gallery, or lodge through the which you may sée an other house. The hangings ouer or shooting out, show well in shortening worke, and some Cornices cut out at the ends; accompanied with some others that are painted, show well in worke: so doe the houses which haue great bearing out, like lodgings or Chambers for men, and especially aboue all things, you must set the smallest houses before, that you may sée other houses ouer or aboue them, as you sée it here aboue the bawdy house: for if you place the greatest before, and the rest behind still lesser, then the place of the Scene would not be so well filled, and although these things vpon the one side be made all vpon one floore: Neuertheleſſe, for that you place great part of the lights in the middle, hanging ouer the Scene or Scaffold, therefore it would stand better if the floore in the midst were taken away, and all the roundels and Quadrans which you sée in the Buildings, they are artificiall lights cutting through, of diuers colors; which to make, I will shew the manner in the last of this Booke. The windowes which stand before, were good to be made of Glasse or Paper, with light behind them. But if I should here write all that I know to serue for this worke, it would be ouerlong to rehearse; therefore I referre that to the wit and discretion of those that exercise and practise themselues heerein.



HOuses for Tragedies, must bee made for great personages, for that actions of loue, strange aduentures, and cruell murthers, (as you reade in ancient and moderne Tragedies) happen alwayes in the houses of great Lords, Dukes, Princes, and Kings. Therefore in such cases you must make none but Stately houses, as you see it here in this Figure; wherein (for that it is so smal) I could make no Princely Pallaces: but it is sufficient for the workeman to see the manner thereof, whereby he may helpe himselfe as time and place seruetb: and (as I sayde in the Comicall) hee must alwayes study to please the eyes of the beholders, and forget not himselfe so much as to set a small building in stead of a great, for the reasons aforesayd. And for that I haue made all my Scenes of laths, couered with linnen, yet sometime it is necessary to make some things rising or bossing out; which are to bee made of wood, like the houses on the left side, whereof the Pillars, although they shorten, stand all vpon one Base, with some stayres, all couered ouer with cloth, the Cornices bearing out, which you must obserue to the middle part: But to giue place to the Galleries, you must set the other shortening Cloth somewhat backwards, and make a cornice aboue it, as you see: and that which I speake of these Buildings, you must vnderstand of all the rest, but in the Buildings which stand far backward the Painting worke, must supplie the place by shadowes without any bearing out: touching the artificiall lights, I haue spoken thereof in the Comicall works. All that you make aboue the Roofe sticking out, as Chimneyes, Towers, Piramides, Obliscos, and other such like things or Images; you must make them all of thin bords, cut out round, and well colloured: But if you make any flat Buildings, they must stand somewhat farre inward, that you may not see them on the sides. In these Scenes, although some haue painted personages therein like supporters, as in a Gallery, or doore, as a Dog, Cat, or any other beasts: I am not of that opinion, for that standeth too long without stirring or mooving; but if you make such a thing to lie sleeping, that I hold withall. You may also make Images, Histories, or Fables of Marble, or other matter against a wall; but to representt the life, they ought to stirre. In the latter end of this Booke I will shew you how to make them.

THe Satiricall Scenes are to representt Satirs, wherein you must place all those things that bee rude and rusticall, as in ancient Satirs they were made plaine without any respect, whereby men might vnderstand, that such things were referred to Rusticall people, which set all things out rudely and plainely: for which cause Vitruuius speaking of Scenes, saith, they should be made with Trees, Rootes, Herbs, Hils and Flowres, and with some countrey houses, as you see them here set downe. And for that in our dayes these things were made in Winter, when there were but fewe greene Trees, Herbs and Flowres to be found; then you must make these things of Silke, which will be more commendable then the naturall things themselues: and as in other Scenes for Comedies or Tragedies, the houses or other artificiall things are painted, so you must make Trees, Hearbs, and other things in these; & the more such things cost, the more they are esteemed, for they are things which stately and great persons doe, which are enemies to nigardlinesse. This haue I seene in some Scenes made by Ieronimo Genga, for the pleasure and delight of his lord and patron Francisco Maria, Duke of Vrbin: wherein I saw so great liberalitie vsed by the Prince, and so good a conceit in the workeman, and so good Art and proportion in things therein represented, as euer I saw in all my life before. Oh good Lord, what magnificence was there to be seene, for the great number of Trees and Fruits, with sundry Herbes and Flowres, all made of fine Silke of diuers collors. The water courses being adorned with Frogs, Snailes, Tortuses, Toads, Adders, Snakes, and other beasts: Rootes of Corrale, mother of Pearle, and other shels laid and thrust through betweene the stones, with so many seuerall and faire things, that if I should declare them all, I should not haue time inough. I speake not of Satirs, Nimphes, Mer-maids, diuers monsters, and other strange beastes, made so cunningly, that they seemed in shew as if they weat and stirred, according to their manner. And if I were not desirous to be briefe, I would speake of the costly apparel of some Shepheards made of cloth of gold, and of Silke, cunningly mingled with Imbrothery: I would also speake of some Fishermen, which were no lesse richly apparelled then the others, hauing Nets and Angling-rods, all gilt: I should speake of some Countrey mayds and Nimphes carelesly apparelled without pride, but I leaue all these things to the discretion and consideration of the iudicious workeman; which shall make all such things as their pattrons serue them, which they must worke after their owne deuises, and neuer take care what it shall cost.

Of Artificiall lights of the Scenes.

Promised in the Treatise of Scenes to set downe the manner how to make these lights shining through, of diuers colours, & first I will speake of a sure colour which is like to a Zephir, and yet somewhat fayrer. Take a piece of Salamoniacke, and put it into a Barbers Bason, or such like thing, and put water into it: then bruse and crush the Salamoniacke softly therein, till it be all molten, alwayes putting more water vnto it, as you desire to haue it light or sad colour; which done, if you will haue it fayre and cleare, then straine it through a fine cloth into an other vessell, and then it will be a cleare Celestiall blew, whereof you may make diuers kinds of blew with water. Will you make an Emerauld colour, then put some Saffron as you will haue it pale or high coloured; for heere it is not necessary to prescribe you any weight or measure, for that experience will teach you how to doe it. If you will make a Rubbie colour, if you bee in a place where you may haue red Wine, then you need not vse any other thing; but to make it pall with water, as need requireth: but if you can get no wine, then take Brazill beaten to powder, & put it into a Kettell of water with Allum, let it seethe, and skum it well; then straine it, and vse it with water and Vinnegar. If you will counterfeit a Ballayes, you must make it of red and white Wine mingled together; but white Wine alone will showe like a Topas or a Crissolite: The Conduit or common water being strayned, will be like a Diamond, and to doe this well, you must vpon a glasse ground frame certaine points or tablets, and fill them with water. The manner to set these shining colours in their places, is thus, Behind the painted house wherein these painted colours shall stand, you must set a thin board, cut out in the same manner that these lights shall be placed, whether it be round or square, cornerd or ouale, like an Egge; and behind the same board there shall be another stronger board layd flat behind them, for the bottels and other manner of glasses with these waters to stand in, must be placed against the holes, as it shall necessarily fall out, but they must be set fast, lest they fall with leaping and dancing of the Vonscoes. And behind the glasses you must set great Lampes, that the light may also be stedfast: and if the bottels or other vessels of glasse on the side where the light stands were flat, or rather hollow, it would show the clearer, and the colours most excellent and fayre; the like must be done with the holes on the shortening side: But if you need a great light to show more then the rest, then set a torch behind, and behind the torch a bright Bason; the brightnes whereof will shew like the beames of the Sunne. You may also make glasse of all colours and formes, some foure square, some with crosses, & any other forme with their light behind them. Now all the lights serving for the colleurs, shal not be ỳ same which must light the Scene, for you must haue a great number of torches before the Scene. You may also place certaine candlesticks aboue the Scene with great candles therein, and aboue the candlesticks you may place some vessels with water, wherein you may put a piece of Camphir, which burning, will show a very good light, and smell well. Sometime it may chance that you must make some thing or other which should séeme to burne, which you must wet throughly with excellent good Aquauite; and setting it on fire with a candle it will burne all ouer: and although I could speake more of these fires, yet this shal suffice for this time; & I will speake of some things that are pleasing to the beholders. The while that the Scene is empty of personages, then the workman must haue certaine Figures or formes ready of such greatnes as the place where they must stand, will afford them to be, which must be made of paste board, cut out round and paynted, signifiing such things as you will, which Figures must leane against a rule or lath of wood, crosse ouer the Scene where any gate, doore, or way is made, and there some one or other behind the doore must make the Figures passe along, sometime in forme of Musitions with instruments, and some like singers; and behind the Scene some must play on, vpon certaine instruments and sing also: sometime you must make a number of foote men and horsemen going about with Trumpets, Phifes and Drummes, at which time you must play with Drumbes, Trumpets and Phifes, &c. very softly behind, which will keepe the peoples eyes occupied, and content them well. If it be requisite to make a Planet or any other thing to passe along in the Ayre, it must bee framed and cut out of paste-board; then in the hindermost and backe part of the houses of the Scene, there must be a piece of wire drawne aboue in the rofe of the house and made fast with certain ringes behind to the paste-board painted with a Planet or any other thing that shal be drawne softly by a man with a blacke thréd from one end to the other, but it must be farre from mens sight, that neither of the thrèds may bee séene. Sometime you shall haue occasion to shew thunder and lightning as the play requireth; then you must make thunder in this manner: commonly all Scenes are made at the end of a great Hall, whereas vsually there is a Chamber aboue it, wherein you must roule a great Bullet of a Cannon or of some other great Ordinance, and then counterfeit Thunder. Lightning must be made in this maner, there must be a man placed behind the Scene or Scaffold in a high place with a bore in his hand, the couer whereof must be full with holes, and in the middle of that place there shall be a burning candle placed, the bore must be filled with powder of bernis or sulphire, and casting his hand with the bore vpwards the powder flying in the candle, will shew as if it were lightning. But touching the beames of the lightning, you must draw a piece of wyre ouer the Scene, which must hang downewards, whereon you must put a squib couered ouer with pure gold or shining lattin which you will: and while the Bullet is rouling, you must shoote of some piece of Ordinance, and with the same giuing fire to the squibs, it will worke the effect which is desired. It would be ouerlong if I should speake of all things which are to be vsed in these affaires, therefore I will leaue speaking of Perspectiue things.

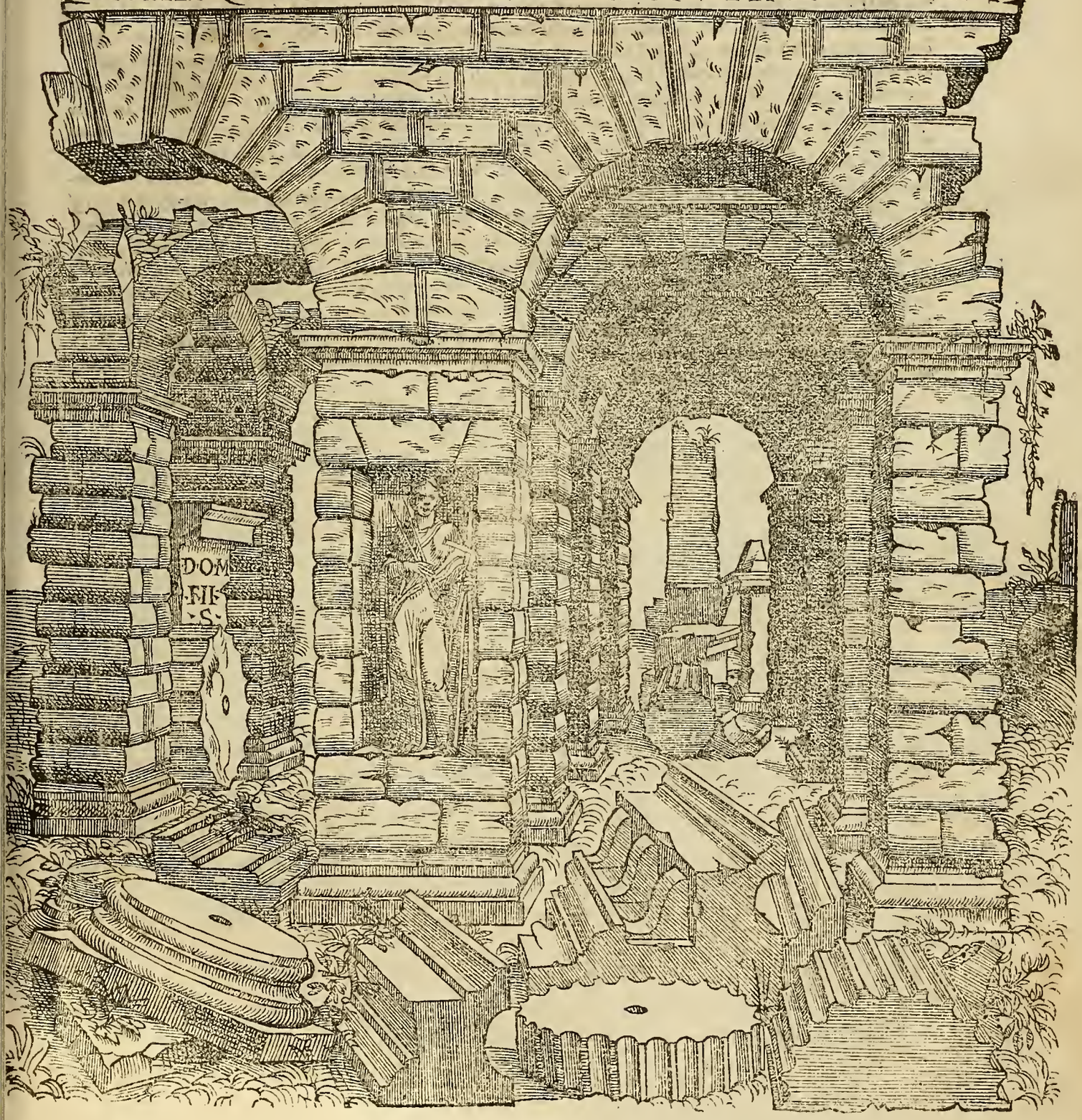
FINIS.

Here endeth the second Booke of Architecture, entreating of Perspectiue Arte; translated out of Italian into Dutch, and out of Dutch into English, at the charges of Robert Peake, for the benefit of the English Nation; and are to be sold at his house néere Holborne Conduit, vnder the Sonne Tauerne. 1611.

The third Booke,

Intreating of all kind of excellent Antiquities, of buildings of *Houses, Temples, Amphitheaters, Palaces, Thermes, Obelisces, Bridges,* Arches triumphant, &c. set downe in Figures, with their grounds *and measures: as also the places where they stand, and who made them.*

ROMA QVANTA FVIT IPSA RVINA DOCET



Although diuers Authors write many strange things touching Architecture, as the Egyptians, the people of Asia and Grecia, with diuers other nations, and haue left them for our example, so that reading them, we may sufficiently satisfie our eares, and fill them with the greatnesse thereof, that is, touching the length, bredth and depth, that certaine places haue contained; yet we can not satisfie our eyes, nor the desire we haue to see such incredible works, vnlesse it had beene our hap to haue the contemplation thereof, for that the reliques of such works are almost, or for the most part vtterly defaced; or vnlesse we might haue seene them drawne in proportion vnto our eyes, as in this Booke we may not onely read, what the Romanes at the last, after other nations had built, but also the same Authors haue set downe vnto vs in Figure (as you may see them here) piece by piece, not only how many rods, ells, feet & palmes, but also the minutes thereof, and what compas they contained, all perfectly described. And although it was no part of my intent, to translate this Booke of Antiquities of Rome into our mother tongue, regarding the barrennesse of our language; or peraduenture such as studie or fauour the same, are all too few to defray my charges therein: yet I haue not refrained to doe it, being thereunto compelled by the great works of the forification of the City of Andwerp, and other great places; and for this cause specially, that euery man that wondreth at the greatnes thereof, which was made with most great cost & charges, may hereby see and consider, yea how much greater, & needles charges (to be compared vnto this) the Romanes (not speaking of other nation) haue in time past bestowed, in making of Obelisces, Piramides, Thermes, Theaters, Amphitheaters, tryumphant Arches, and many more such like things, which serued only for pleasure & tryumph: whereby it is to be presumed, that they would haue made the fortifications of such Cities or Townes, made for the safety of the Land, far better then they now are. Now it is to be noted, that all, whatsoeuer the Romanes haue made, doth not wholly agree with Vitruuius *rules, so that many which haue counterfeyted these, and such like peeces of worke, haue thereby beene abused and deceiued: for some would hardly beleeue, that in those dayes (as well as at this time) all maner of workemen were one better then another, which many, vnawares and vnskilfully do many things, which good Antiquities would willingly not suffer, hereof they shall find good instructions in this Booke (and they may learne, if they will read it) how to discerne good from bad; whereunto the former printed fourth Booke is specially made: for in it the whole quantity of the measures is contayned, as in the Epistle of the sayd Booke it is promised. So in this third Booke, you shall not onely find, first the Ichnographia, and then after the Orthographyes, with part of the Sciographies of the most famous Antiquityes of Rome, Italy, and some of other places, but also of the most excellent buyldings in our dayes, specially those that are made by* Bramant. *So that the Reader being well instructed in the aforesayd fourth Booke, where all the Orders are well set foorth and declared, he may of himselfe iudge what is well or ill made, that at one time a man may, without any further labour, make a good and incorrigible peece of worke.*

The

The third Booke of Antiquitie.

The fourth Chapter.

Mong all the ancient building to bee ſeene in Rome, I am of opinion, that the Pantheon (for one piece of worke alone) is the fayreſt, wholeſt, and beſt to be vnderſtood; and is ſo much the more wonderfull then the reſt, becauſe it hath ſo many members, which are all ſo correſpondent one to the other, that whoſoeuer beholdeth it, taketh great pleaſure therein, which proceedeth from this, that the excellent workeman, which inuented it, choſe the perfiteſt forme, that is, the round forme, whereby it is vſually called, Our Lady of the Round: for within, it is as high as it is broad. And it may be, that the ſayd workeman, conſidering, that all things proceeding orderly, haue a principall and onely head, whereon the nether parts depend, was of opinion, that this piece of worke ſhould haue onely but one light, and that, in the higheſt part thereof, that it might ſpread abroad in all places alike, as in effect you ſee it doth: for beſides other things which haue their perfect light, there are ſixe Chappels, which (for that they ſtand within the thickneſſe of the wall) ſhould be darke, yet they haue their due light, by the meanes of ſome drawing windowes, aboue in the top of the ſayd Chappels, which giue them ſecond light, taken from the vppermoſt hole, ſo that there is not any ſmall thing in them, but it receiueth a part of the light, (and this is not made without great iudgement:) for this Temple, in old time, being dedicated to all the gods, by which meanes there ſtood many Images in it, (which the diuers Tabernacles, Seates, and ſmall windowes ſhew) it was neceſſary that euery one had his due light. Wherefore ſuch as take pleaſure to make Images, and other imboſſed or grauen worke, muſt conſider, that ſuch a Cabinet ſhould haue his light from aboue, that euery one, ſtanding in his place, neede not looke for light to ſee, but that they may bee ſeene altogether at one time. But to come to my firſt ſpeach: For that the Pantheon ſeemeth vnto me to be the perfecteſt peece of worke that euer I ſaw, therefore I thought it good to ſet it firſt in the beginning of this Booke, and for a principall head of all other peeces of worke. The founder of this Temple (as *Plinie* writeth in more then one place) was *Marcus Agrippa*, to accompliſh *Auguſtus Cæſars* laſt will, who being intercepted by death, could not finiſh it: and ſo it was built about foureteene yeeres after the byrth of our Lord, which is about 5203. yeeres from the beginning of the world.

In this Temple (as *Pliny* writeth) the Capitals were of Copper; and hee writeth alſo, that *Diogenes*, the Image-maker of Athens, made the excellent Caracters in the Pillars, and that the Images placed aboue the Fronteſpicium were much commended, although by the highneſſe of the place they could not be ſo well diſcerned. This Temple was conſumed with lightening, and burnt, about the 12. yeere of the raigne of the Emperour *Traian*, which was about 113. yeeres after the byrth of Chriſt, and in the 5311. yeere of the creation of the world: and *Lucius Septimus Seuerus*, and *Marcus Aurelius Antonius*, repayred it agayne, with all the Ornaments thereto belonging, as it appeareth in the Architraue of the ſayd frame: which Ornaments, you muſt preſume, were all new made, otherwiſe the Caracters of *Diogenes* would ſtill haue bene ſeene there. But in truth, the workman that made it, was very iudicious and conſtant; for that he proportioned the members thereof very iudiciouſly to the body, and would not ſuppreſſe the worke with many cuttings: but as I will ſhew, when time ſerueth, how to place and deuide them excellent well. Alſo, in all the worke, hee hath obſerued the worke of Corinth, and would mixe no other with it: and withall, the meaſures of all the members are as well obſerued as euer I ſaw or meaſured in any other peece of worke, whereby we may call this Temple an example of workemanſhip. But leauing this matter (for that it giueth the workeman little, or no inſtruction to the purpoſe) I will proceede to the particular meaſures: and that I may goe forward orderly in theſe Antiquities, the firſt Figure ſhall be the Ichnography. The ſecond, the Orthography. The third, the Sciography.

This

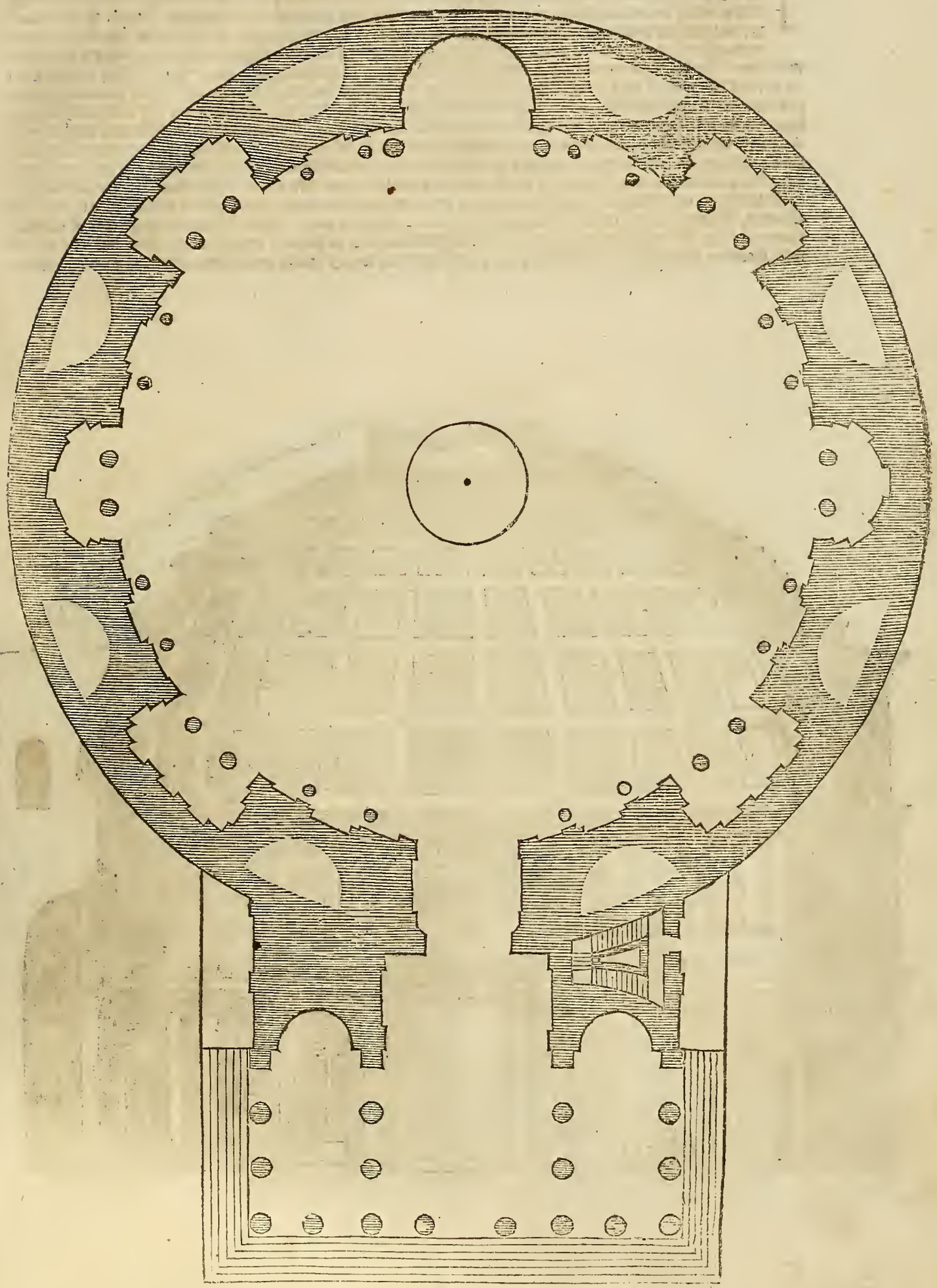
This Figure following is the Ichnography, that is, the ground of the Temple aforesayd, which is measured by the ancient, or old Romish Palmes placed along by the side hereof. And first, speaking of the Portall, whereof the Columnes are 6. Palmes & 29. minutes thicke. The Intercolumnes (which are the spaces from one Columne to another) are 8. Palmes and 9. minutes: the breadth of the Portall is 40. Palmes: the breadth of the flat Pillars of the Portall, is like the Diameter of the Columnes: the breadth of the Seates betweene the Pillars, is 10. Palmes: and the Pilasters on the sides are 2. Palmes: the widenesse of the Gates is 26. Palmes and a halfe: the widenesse of the whole Temple (that is, of the Floore within, from one wall to another) is 194. Palmes: and iust so much is the height from the Floore to the vndermost stone of the window aboue. The sayd round hole is 36. Palmes and a halfe broad: each of the sixe Chappels that are made within the thicknesse of the wall, are 26. Palmes, and 30. minutes; and goe halfe as deepe into the wall as the thicknesse of the foure square Pillars on each side. But the principall Chappell is thirtie Palmes broad, and also is an halfe Circle, besides the Pillars aforesayd. The thicknesse of the Columnes of all the Chappels, is 5. Palmes, 3. minutes lesse: the foure square corner Pillars also of the sayd Chappels, contayning as much. The Columnes of the Tabernacle betweene the Chappels are two Palmes thicke: the thicknesse of the wall that goeth round about the whole body of the Temple, is 31. Palmes. And although that the Chappels make the walles hollow, yet betweene them there are hollow places made within the walles, which some say, were left for places to receiue wind, because of earthquakes. But I am of opinion, that they were left so vnfilled, to spare stuffe, because they are made circlewise, and are strong inough. The going vp, which you see here on the left side, was also on the right side, to go vp the Portall: men also went from thence round about the Temple, ouer the Chappels, through a secret way, which is yet there: through the which also, they went without on the steps, to clime vp into the highest parts of the buildings, with many goings vp which are round about it. It is thought, that this foundation was all one masse or lumpe, and without, many places hollow, so that some neighbours marking it, and seeking to build, haue found such a foundation when they digged.

This is the old Romish Palme, which is deuided into twelue fingers, and each finger is deuided into foure parts, which are called Minutes, by the which measure this present Figure, with all the parts following, was measured.

Anno Dom.i 1756

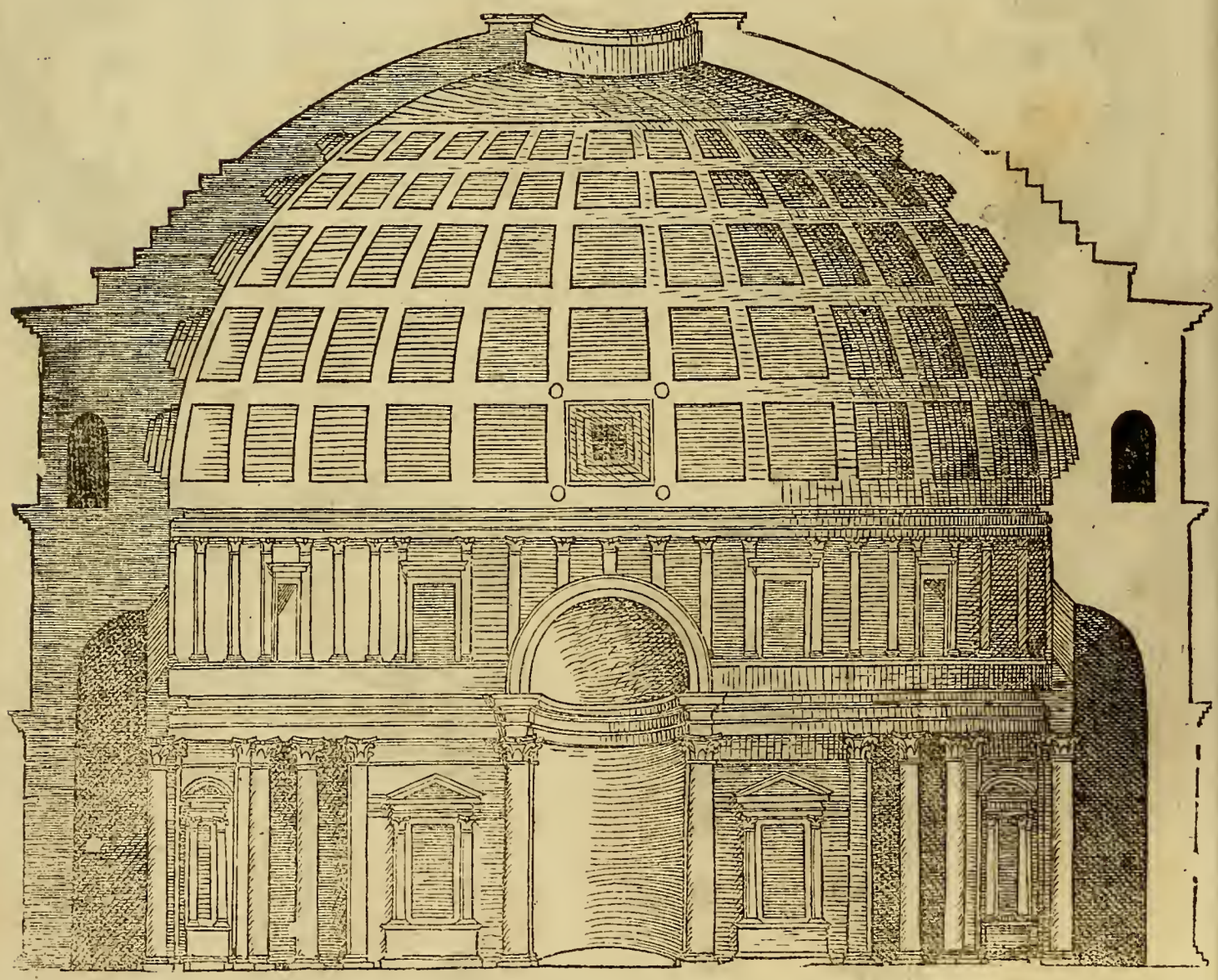
On the 29th of Nov.r the Rotunda of the antient Pantheon at Rome suddenly fell in, to the intire demolition of that magnifi. & celebrated building, a precious remain of the Roman Architecture. It has ~~been~~ been a Romish Church dedicated to the Virgin Mary, and all the Martyrs & called the Church of all Saints.

The ground of the Pantheon called Rotonde.



The forme of the Pantheon without.

THE Figure hereunder, sheweth the whole forme of the Pantheon right before, and although at this time men go downe into it by certaine steps; yet as it was made at the first it was seuen steps aboue the ground. It is no wonder that such and so old a piece of worke is yet whole and standing still, for that the foundation was not sparingly made; for it is thought that it was once as broad againe vnder as it is aboue, as it had beene found by the neighbour workemen: but let vs proceed to the particular measure thereof from the earth vpwards. I sayd before, that the Diater of the Columens of the Portal is fire Palmes & nine and twenty minutes, but the height is foure and fiftie Palmes and nine and twentie minutes, without the Bases and Capitals: the Bases are three Palmes and nineténe minutes high, and the Capitals seuen Palmes and seuen and thirtie minutes high; the height of the Architraue is fiue Palmes, the Fréese is fiue Palmes and thirténe minutes high; the Cornice is foure Palmes and nine minutes high, aboue from the top or Scina of the Cornice, to the poynt of the Gewell, are foure and thirtie Palmes, and nine and thirtie minutes. The Timpanum, that is, the flat part of the Gewell, is thought to haue beene adorned with siluer images, although it is not set downe in writing; but considering the great power of such Emperors, I am perswaded that it was so, for if the Goathes, Wandals, or other nations (which spoyled Rome more then once) had beene desirous or couetous of Copper, they might haue taken it from the Architraues and other Ornaments in Portals in great abundance: but let it be as it will, there are Figures and tokens séene, which shew that there were Figures and tokens of Pettall standing thereon.

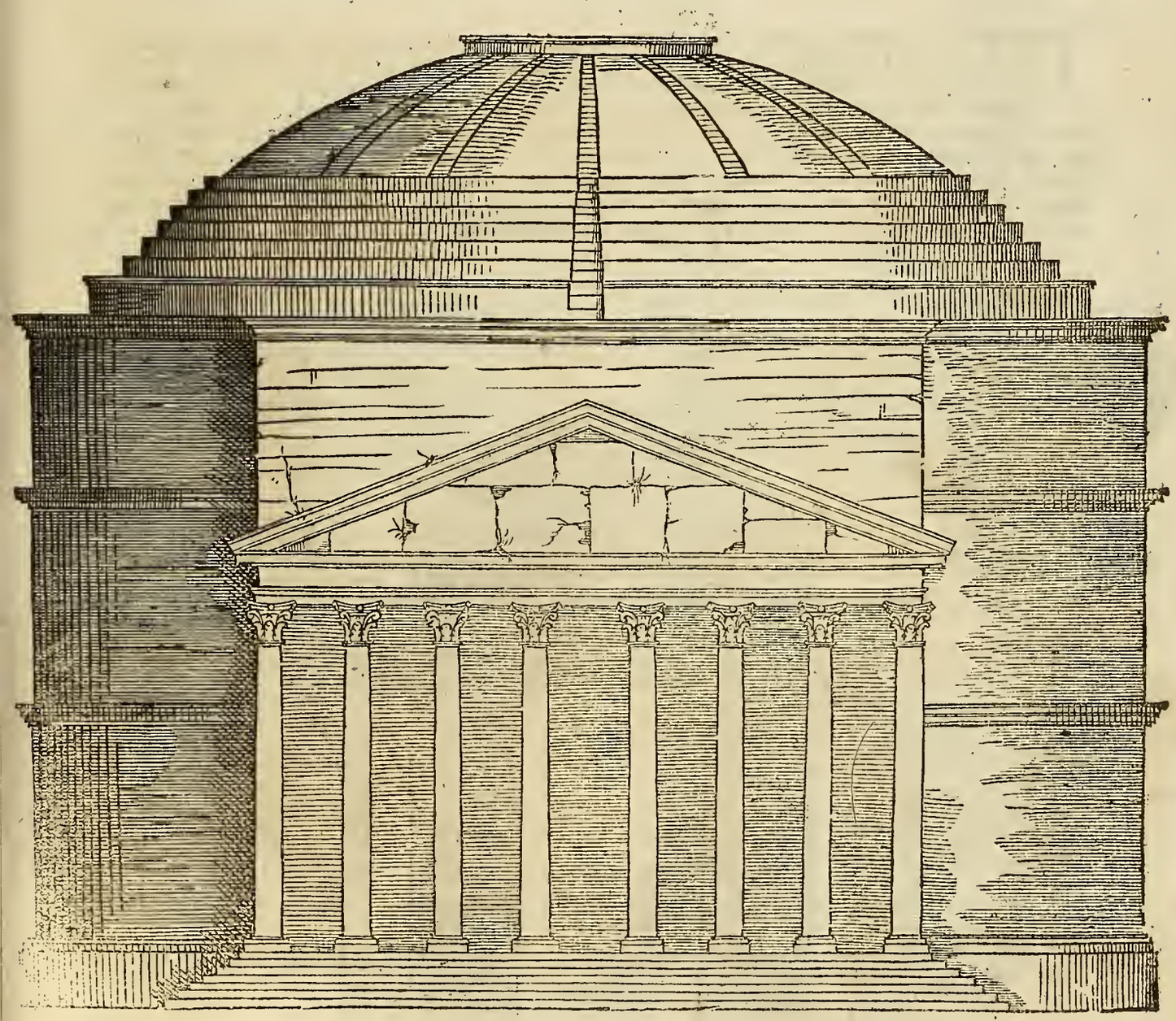


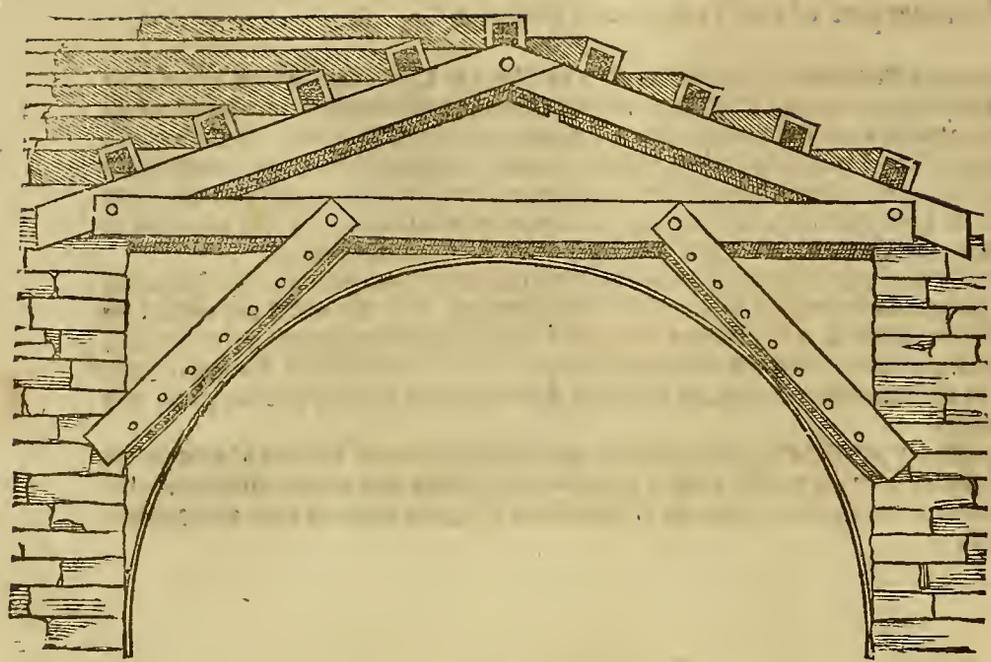
The inner part of the Temple or Pantheon.

This Figure following sheweth the Pantheon within, which forme (as I said) is taken from Sphera, because it is so wide from one wall vnto the other, as it is high from the Pauement to the open place vpon the top thereof; which wideneſſe and height are both a hundred ninetie and foure Palmes vpwards, from the Pauement to the highest; and from the Cornice to the highest part of the roſe is also the same measure, that is, each the halfe of one hundred ninetie and foure Palmes. The Quadrants in the roſe are all like that in the middle; and it is thought that they were also beautified ouer with Siluer plate by certaine remnants thereof yet remaynng to be seene: for if they had beene of Copper, they would yet be seene there, or else those ouer the Portals would also haue beene taken away.

Let no man wonder that in these things (requiring Perspectiue Arte) that there is no Pauement or other shortening seene, but I make it onely out of the ground to shew the measure of the height thereof, that you might not misse it by shortening: But in the Booke of Perspectiue Arte these things are shewed in their right shortening manner (and that in diuers wayes) that is to say, in Superficies, and many bodies, and diuers sorts of houses, seruing thereunto: I will not now set downe the measure of Cornices downewards, for hereafter I will shew the Figures piece by piece, and thereof set downe a generall measure.

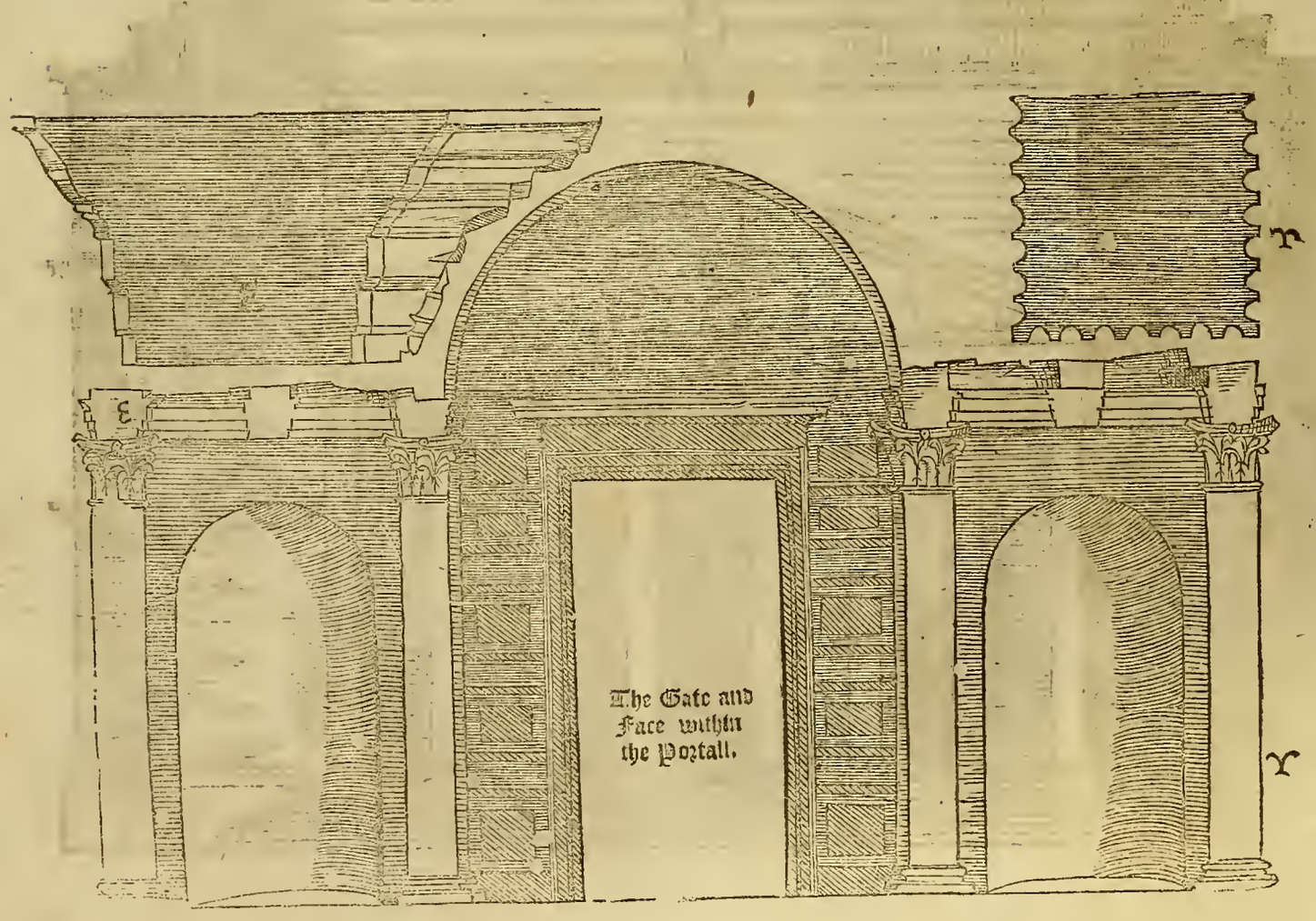
The Chappell in the middle, although here it sheweth well with the other worke, yet many men are of opinion that it is not ancient, because the Arch thereof wanteth the fiue pillars, which is a thing neuer vsed by good Antiquities; but it is thought that it was made greater in the Christians time, as the Christians Temples alwayes haue one principall Altar which is greater then the rest.

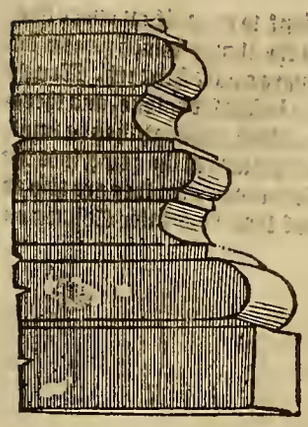




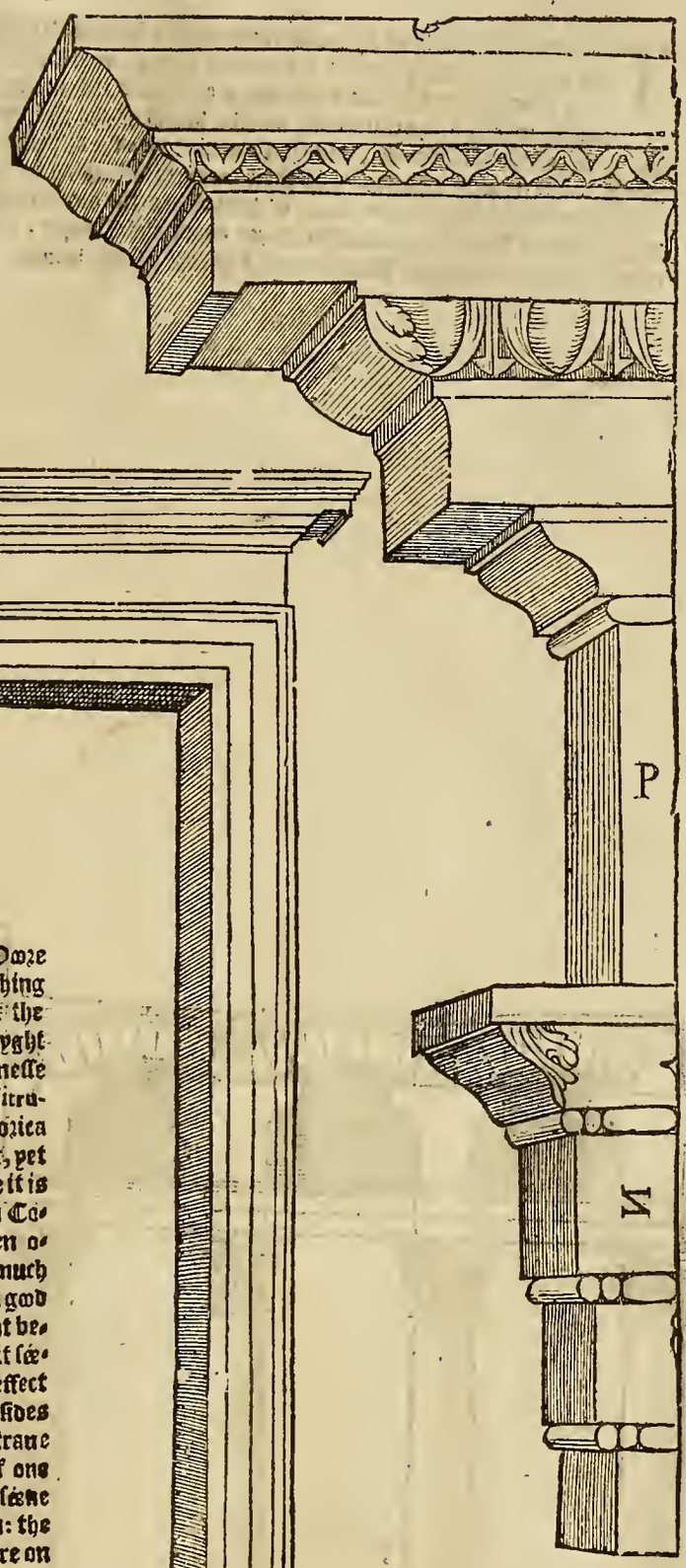
THis Ornament is yet standing aboue the Portall of the Pantheon, which is made in this manner, all of Copper plates, the halfe Circle is not there; but there was a crooked Superficies finely made of Copper: and many men are of opinion that the beautifying thereof was of Siluer, for the reasons aforesaid: but wherof it was, it is not well knowne; but it is true, it was excellent faire worke, considering that which is yet to bee seene.

THis Figure here vnder set downe, showeth the manner of the Portall within, the which both on the sides and before is well set out with Marble, and also without, although by continuance of time is much defaced. The foure Pillars are caneled with such a number of Canels, as you see it here vnder set downe; and because this round Columne is thinner aboue then the Diameter, where the edge or border of the Architrabe is as thicke as the Columne: If a man would make the Architrabe equall with the foure cornered Pillars, which lessen not aboue, then the edge would haue had no Perpendicular, for it would haue wanted as much as the lessening of the round Columnes. Thus the skilfull workeman hath placed the Architrabe so much right aboue the the foure Pillars, because such things show well. Touching the doores, they are twenty Palmes, and two minutes wide, and fortie Palmes and foure minutes high. Of the other seuerall measures I will hereafter speake at large.





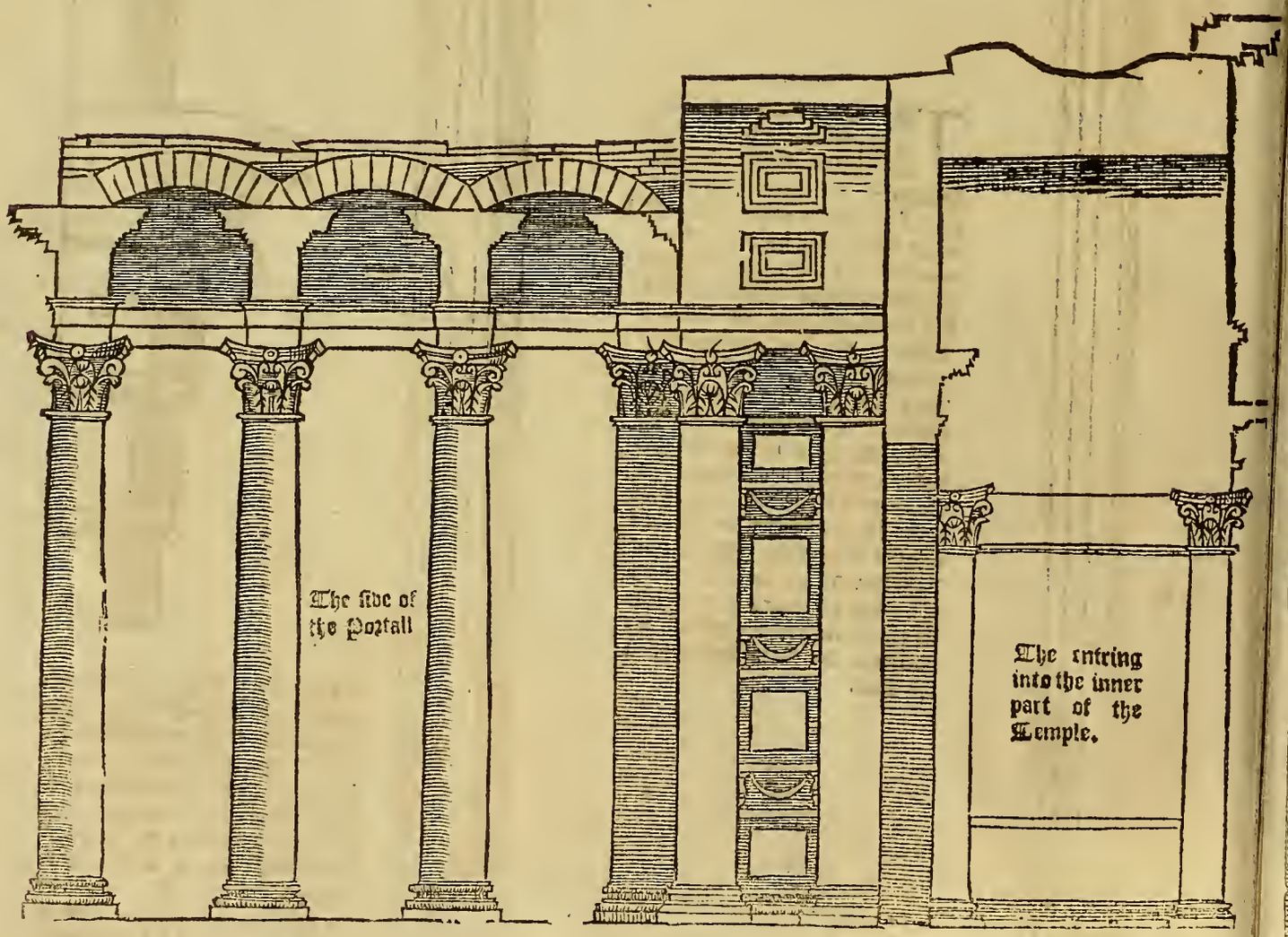
This Base is one of those which standeth fast to the flat Pillars, in the second order, which for that they stand farre from mens sight, haue one Astragelus for two, not to shorten the worke.



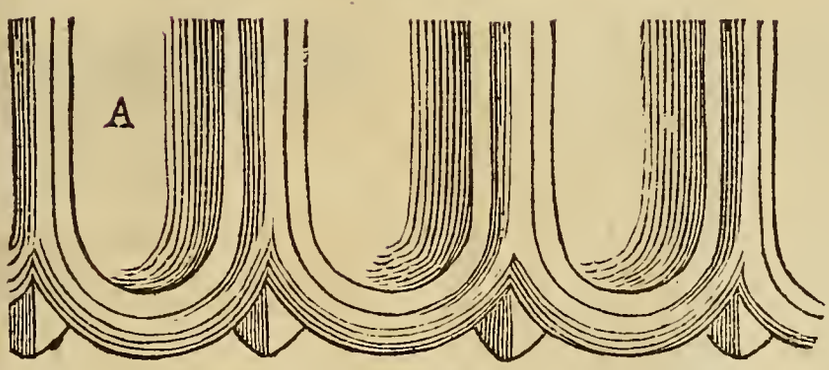
The proportion of this Dore is already set down touching bredth and height, but the Pilasters thereof is the eyght part of the bredth of the widenesse of the light: and although Vitruuius maketh ý Pilaster of Dorica and Ionica about the fire part, yet this is not onseemely, because it is Corinthe; for the Corinthian Columnes are more sightly then others, yet it seemeth to be so much thicker then the sides are of a good deepenesse, so that a mans sight beholding them all at one time, it seemeth not to be so small as in effect it is; the Pilasters on the sides and the Superficies or Architraue vpon them is said to be all of one piece, and I for my part haue seene no diuision or parting therein: the particular measures stand here on the sides.

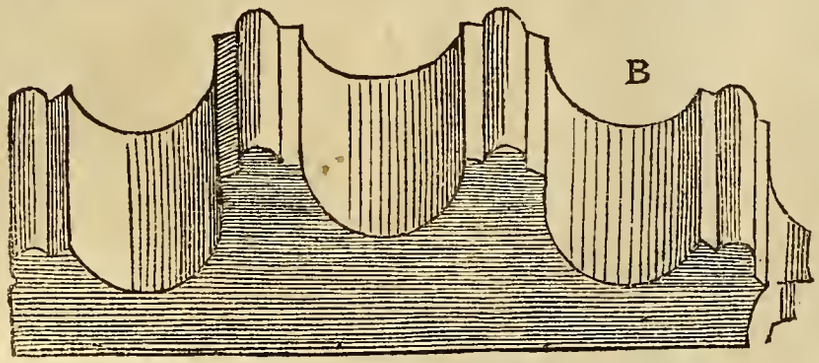
The Cornice, Freese, and Architraue stands aboue the Dore of the Pantheon, touching the measure thereof, the Architraue or Superficie is the eight part of the light; the Freese, because it is vncut, is a third part lesse then the Superficies, the Cornice is as high as the Superficie; the other members are proportioned according to the greatnesse, whereby a man may finde the rest with the Compasse.

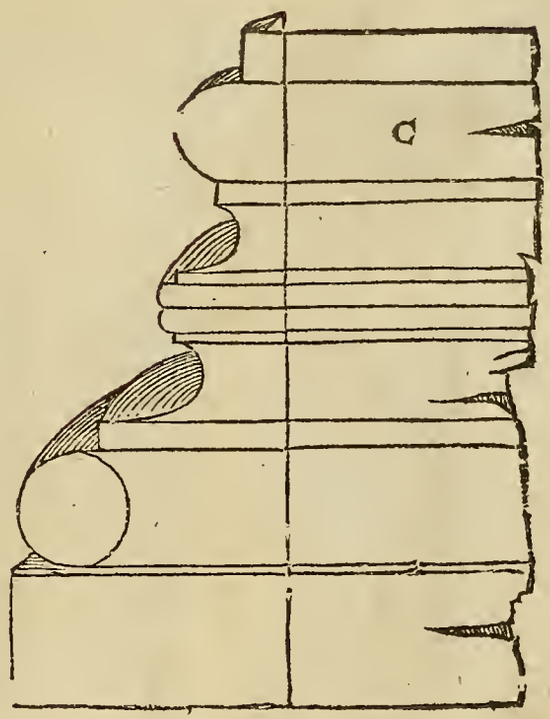
TO shew all the parts of this most excellent and beautifull piece of worke it is conuenient to turne it on euery side, and therefore hauing shewed the outside therof maiestically as it standeth, with all the things which you see before: now will I shew the lodge, the Portall and the entring into the Temple, side wayes as it standeth. Touching the measure, the thicknesse, and the height of the Columnes and the Pillars, it is before set downe, and therefore nãdelesse to be rehearsed, it sufficeth onely to see the disposition of the things within, which, although they be smal, they are drawne and proportioned in their measure according to the greatnesse. The small Pillars at the going into the Temple are foure square, in manner of Pillaisters, the measure thereof I will hereafter set downe, for they are also at the Corners of the Chappels within round about the Temple, and as much as the space of these three inter Columnes holds, so farre reacheth the Copper roofe, whereof I spake before.



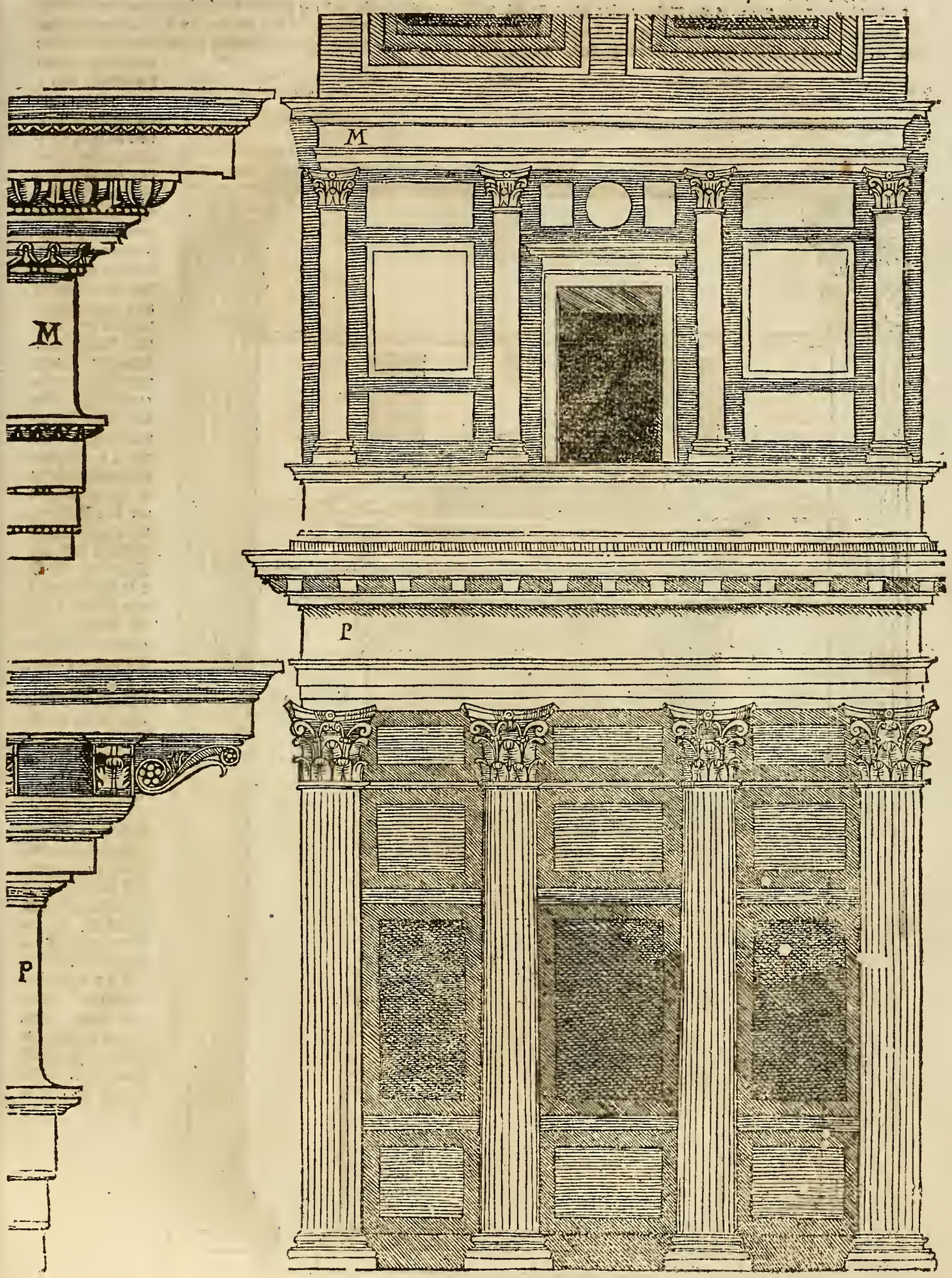
I Will not take vpon me to write of euery seuerall cutting or hollowing of the Columnes whereof there are many in the Pantheon, but onely of the Columnes before the great Chappell, because they are very fayre and excellent worke, I will shew something, to the which end the Figures marked with A. and B. shew the outward worke of the grauing of the Columnes of the great Chappell, that is, in the flat and in the vpright nesse and standing vp: touching the forme and the fashion it is sufficiently shewed in these two Figures; and thus will I shew you the measures thereof. The Canaels are foure and twenty in number, euery Canall being nine minutes and a halfe broad, the Thorus with the two Quadrats or lists are both together foure minutes and a halfe, for the Thorus is three minutes, and then there resteth a minute and a halfe, which deuided into two parts, euery Quadrate on either side is three quarters of a minute. This hollowing pleaseth the beholders passing well, and such worke is vpon the Basilica de foro transitorio, for the beautifying of a Gate, as it is shewed in the fourth Booke. The Base marked with C. is the Base of the sayd Columnes of the great Chappell in the Pantheon, whereof the height is two Palmes and eleuen minutes and a halfe, which is in this manner diuided, The Plinthus vnder is ninetéene minutes high, the vndermost Thorus is seuentéene minutes, and the Quadrate aboue it is three minutes and a halfe: The first Scotie or Trochile is eight minutes and a third part, the Quadrate vnder the Astragal is halfe a minute, so is the other aboue the Astragall, the two Astragals are fire minutes and a halfe, and so each Astragall is three minutes and a quarter. The second Scotie or Trochile aboue the Astragals is fire minutes, the Supercilie (so named by Vitruuius) or the Quadrate vnder the second Thorus is one minute: That Thorus is seuen minutes and two third parts high, the Cincte, that is the band of the Columne aboue the Thorus, although the Base be not one, is three minutes; the Proiecture of this Base is three and twenty minutes proportioned in manner as it is here vnder shewed.







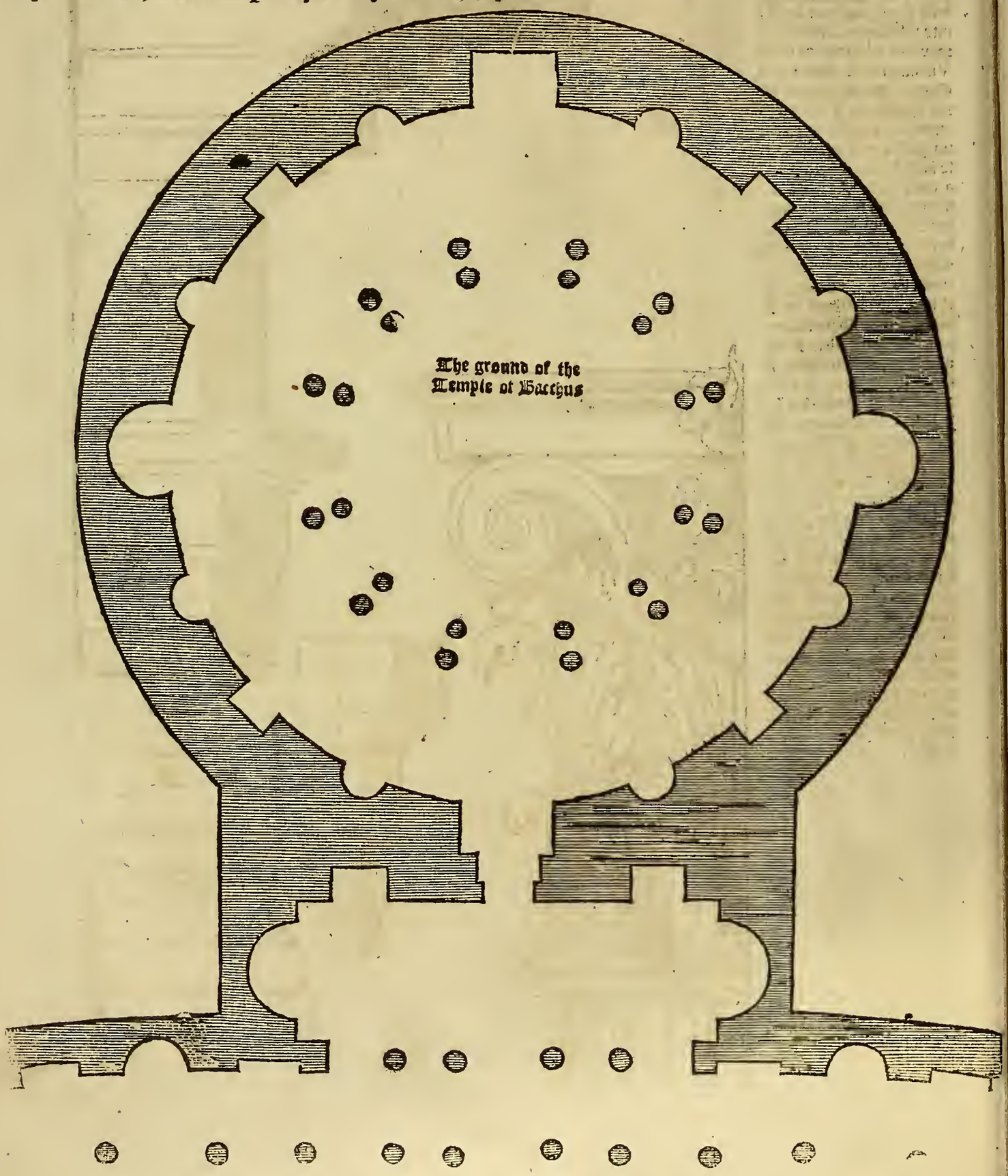
This Figure following representeth a part of the Pantheon within, that is, from the Pauement till you come vp to the second Cornice, which beareth vp the Tribune or the round roofe; and also aboue the Cornice you sée the beginning of the foure square hollowing of the said Tribune: This Figure also in the nether part sheweth the widenesse of one of the fire Chappels, whereof two are in forme of the halfe Circles, and the other foure in forme of a Quadrangle; yet in show they séeme all to be of one forme: each of these Chappels haue two round Columnes, and the corners haue their foure square Pillars, as you may sée in the ground of the Pantheon aforesaid, and in this Figure following. And although it be not set in Perspectiue manner, whereby a man might sée whether it were a rounde or foure square Chappell, that is omitted because of the measure thereof; notwithstanding this is made for a foure square, which you may sée by the forme of the blind windowes which are within the Chappell, for the other should runne more about. The thickenesse of these Columnes is fiue Palmes three minutes lesse, the height of the Bases is two Palmes and one and twenty minutes, the height of the Columnes without the Capitals is fourtie Palmes, the height of the Capitals is fiue Palmes and thirtie minutes; and so the whole Columne with the Bases and Capitals: is fourtie and eight Palmes high. The height of the Architraue, Fréese and Cornice, are altogether thirteene Palmes and a halfe, and this height in all is deuided into ten parts, whereof three parts are for the Architraue; the other three are for the Sophero or the Fréese, and the other foure parts are for the Cornice: Touching the rest of the other members, I set downe no measures, because this is proportionably declared touching the principallest of them that stand on the side thereof marked with P. And in truetly, a man in this Cornice may perceiue the indicious skill of the workeman, who therein touching the mutiles, would not cut any dentiles therein, thereby not to fall into that common errour, wherein so many ancient workemen haue fallen, and at this day more moderne workemen. The errour I meane is this, that all the corners wherein mutiles stand, and vnder haue dentiles cut in them are vicious, and by Vitruuius are reiected in the second Chapter in his fourth Booke: and although that in this Cornice the forme of denticles are, notwithstanding, because it is vncut, it is not to be condemned in this respect. Aboue this Cornice there is a Podium, or a manner of bearing out, whereof the height is seuen palmes and fire minutes, which commeth not farre out, for the Pillars stand not farre out from the Wall: the height whereof, together with the Architraue, Fréese and Cornice, is fourtie Palmes and fire and thirtie minutes, which height being deuided into fiue parts, the one part shall be for the Architraue Fréese and Cornice, the which Architraue, Fréese and Cornice proportioned according to the greatnesse, stands marked with the letter M. In this Cornice, and also in the Architraue, the members are so well deuided, part cut, and part vncut, that it darkeneth not the forme thereof, but rather the more, because vncut members are mixed with the cut members, and so you sée a wonderfull grace in them: the window aboue the Chappell is to giue light to the same Chappell, which light, although it be not principall, neuertheleste, because it is radially drawne vp from the vppermost open place, it giueth the Chappell the dewe light: betwéene the Pillars, and also aboue the windowes, there are many fine stones intermixed, and the Fréese of the first Cornice is fine porfill stone.


M
M
P
P

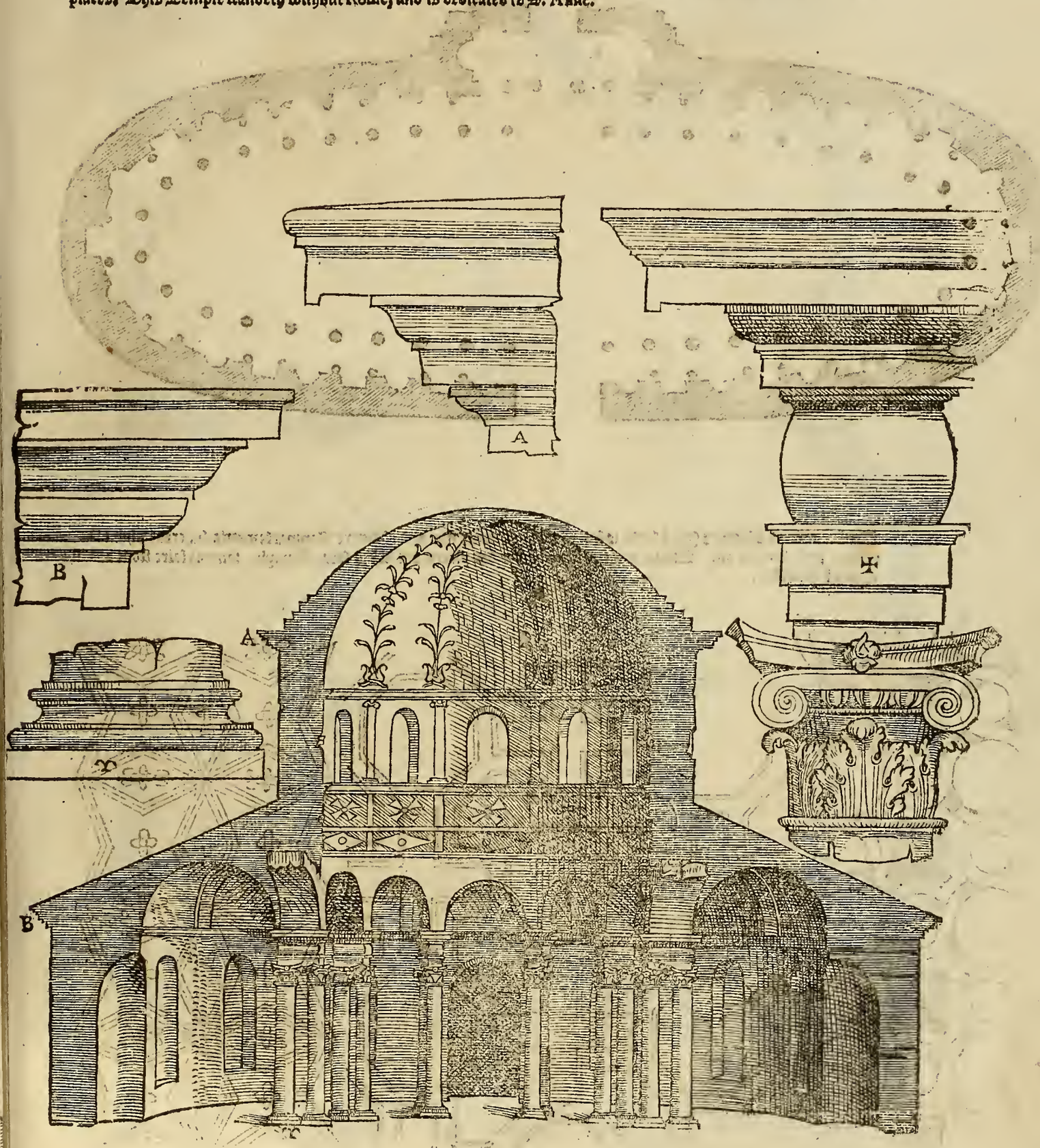
THis Figure sheweth one of the Tabernacles which stand betwéene the Chappels, and the Pillars on the sides represent the foure square cornerd Pillars of the Chapples, here againe you may sée the notable iudgement of this workeman, who séeking to ioyne the Architraue, Fréese and Cornice close to the wall, and marking that the foure square Pillars standing on the sides, were not so farre distant from the Wall, that a man might make the whole Proiecture of the Cornices therein: therefore hee made the Seine theron, and the rest of the other members hee turned into a Fascie, wherby the work was more semely and accompanied with order. The two blinde windowes are thought to haue beene placed for idols. The fote of the Tabernacle is 9. Palms and 11. minutes high, the thicknes of the Columnes are two Palmes, the height fréene Palmes without Bases or Capitals, the Bases are one Palme high, the height of the Capitals are two Palmes & a halfe; the Architraue is a Palme, ỳ Fréese also is as much, which is also of fine profil, but the height of the Cornice is a Palme & a halfe, the frontispice is 5. Palms high, ỳ Architraue aboue ỳ two greatest Pillars, is a Palme and thrée quarters, the otherme asures shal hereafter be shewed; & of these Tabernacles there are thrée with sharpe geuels, and thrée with round geuels, that is the fourth part of a Circle.

THese foure Figures hereunto annexed, are members of the Tabernacles in great; as the letters A. B. C. D. shewe them. Touching their measures in height, it is shewed before, and for the rest it is sufficient for the workeman that all things from member to member are set out in great, and proportionably with great diligence broght into this forme, although it may bee that such as study Vitruuius will thinke this Cornice to bee too high for the proportion of the Architraue and Frése; and I for my part would not make it so high, but to sée the same in a place that hath great distances, and which standeth not very high, it sheweth to bee in good proportion. The Capitall is farre from Vitruuius order of writing, for it is higher without the Abacus, then Vitruuius maketh it with the Abacus: notwithstanding, according to common opinion, they are the fayrest Capitals that are in Rome, (and not onely the Capitals of the Tabernacles) but they also of the Chappels are of the like forme, and those of the Portall also in such sort, that I iudge (as I sayd at the beginning) that I haue not found a building of greater obseruation of order then this: but if I should write all that are in it, both within and without, I should peraduenture be ouer tedious, therefore I will make an end of this wonderful Building, and speake of other Antiquities.

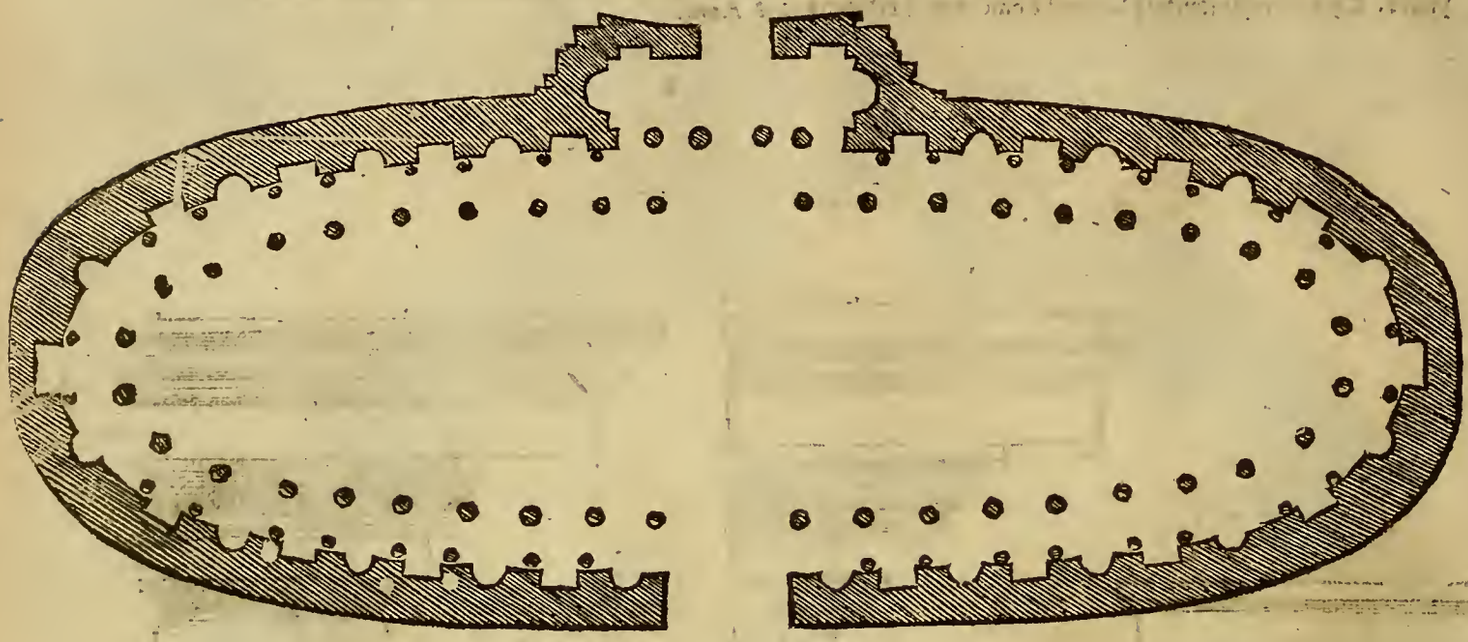
THis Temple of Bacchus is very ancient, and also whole inough, and also for worke, fayrenesse of stones, Plaister, both in the Paniment and in walles, also in the Tribunes or round roofes in the middle, and in the roofe of the round walke, made altogether after the order of Composita: the whole Diameter within from Wall to Wall, is 100. Palmes long, whereof the middlemost body set about with Pillars, containeth 50. Palmes: in the intercolumnes I find great difference to liken ỳ one to the other, because that the middlemost intercolumnes or spaces betwéne the Columnes where pen come in, and out of the Portall are 9. Palmes and 30. minutes; and the other right over against them are but 9. Palmes and 9. minutes: those that are over against the greatest Cheppel are 8. Palmes and 31. minutes, and the other foure Columnes resting hold 7. Palmes 8. minutes, and some 7. Palmes 12. minutes. The widenesse of the entry within and of the foure cornerd Cheppell over against it, follow the intercolumnes, and so doth the widenesse of the two great places or round Chappels their intercolumnes. The other places or Chappels are 7. Palmes and 5. minutes broad. The measure of the Portall before, may be taken by the measure of the Temple, which Portall is round Roofed: without before the Portall, there was a walking place made in forme of an Egge, which was 588. Palmes long, and in the middle it was 140. Palmes broad; and as it appeareth by the decayed monuments, it was full of Pillars, as it may be séene in the Figure.



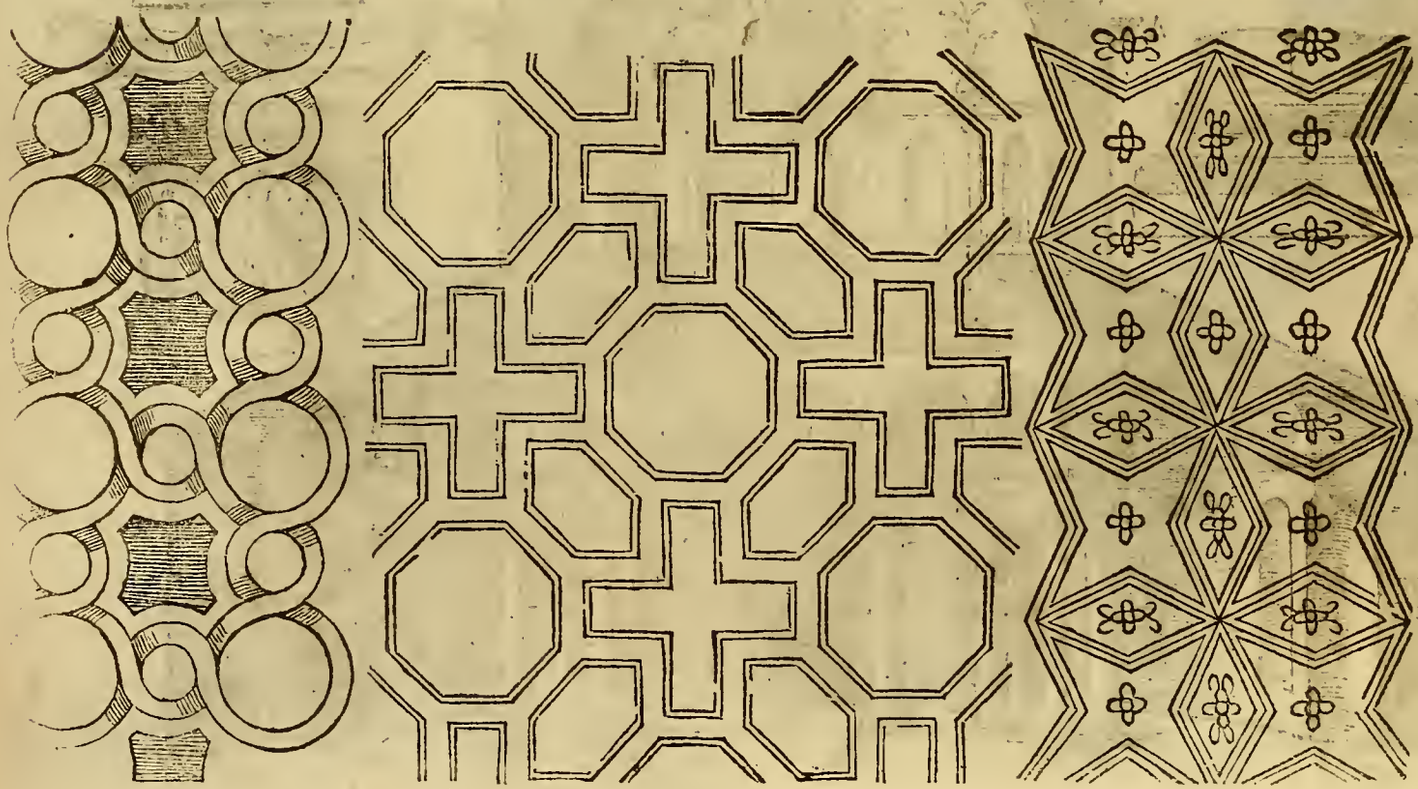
HEere before I shewed the ground of the Temple with the measure thereof, now in this Figure I will shew the Ortographie thereof within, for without it is wholy defaced; the height from the Pauement to the vppermost part of the roofe is 86. Palmes, the thicknesse of the Columnes is two Palmes and 14. minutes; the height of them is 22. Palmes and 11. minutes. The height of the Base is one Palme and 7. minutes. The height of the Capitall is 2. Palmes and a quarter. The height of the Architrane is one Palme and a quarter, so much also the Freese holdeth. But the height of the Cornices are two Palmes and a halfe. The particular members, as of the Bases, Cornices and Capitals, you sée here vnder proportioned, according to their greatnesse, and marked in their seuerall places. This Temple standeth without Rome, and is dedicated to S. Anne.



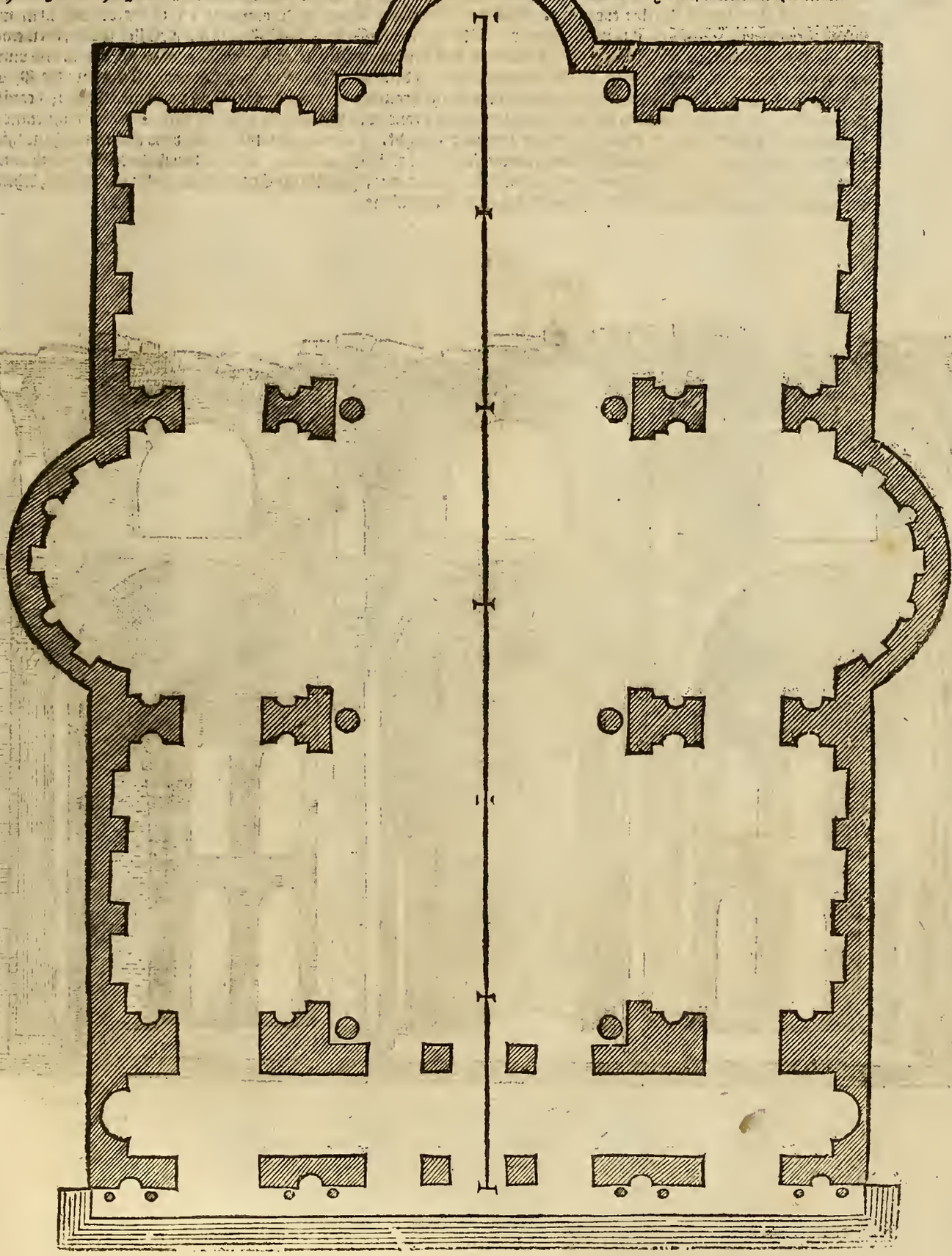
THE Ichnographie hereunder placed is the aforesayd walking place before the Temple of Bacchus, with a lodge round about it, as you may perceiue by some very ruinous places thereof, and all about betwéene each intercolumne there was a place or seat beautified with small Pillars, where it is thought a certaine Idoll stood, (and as it is sayd) this walking place was made Oviale wise, yet very long as of 588. Palmes and 140. Palmes broad.



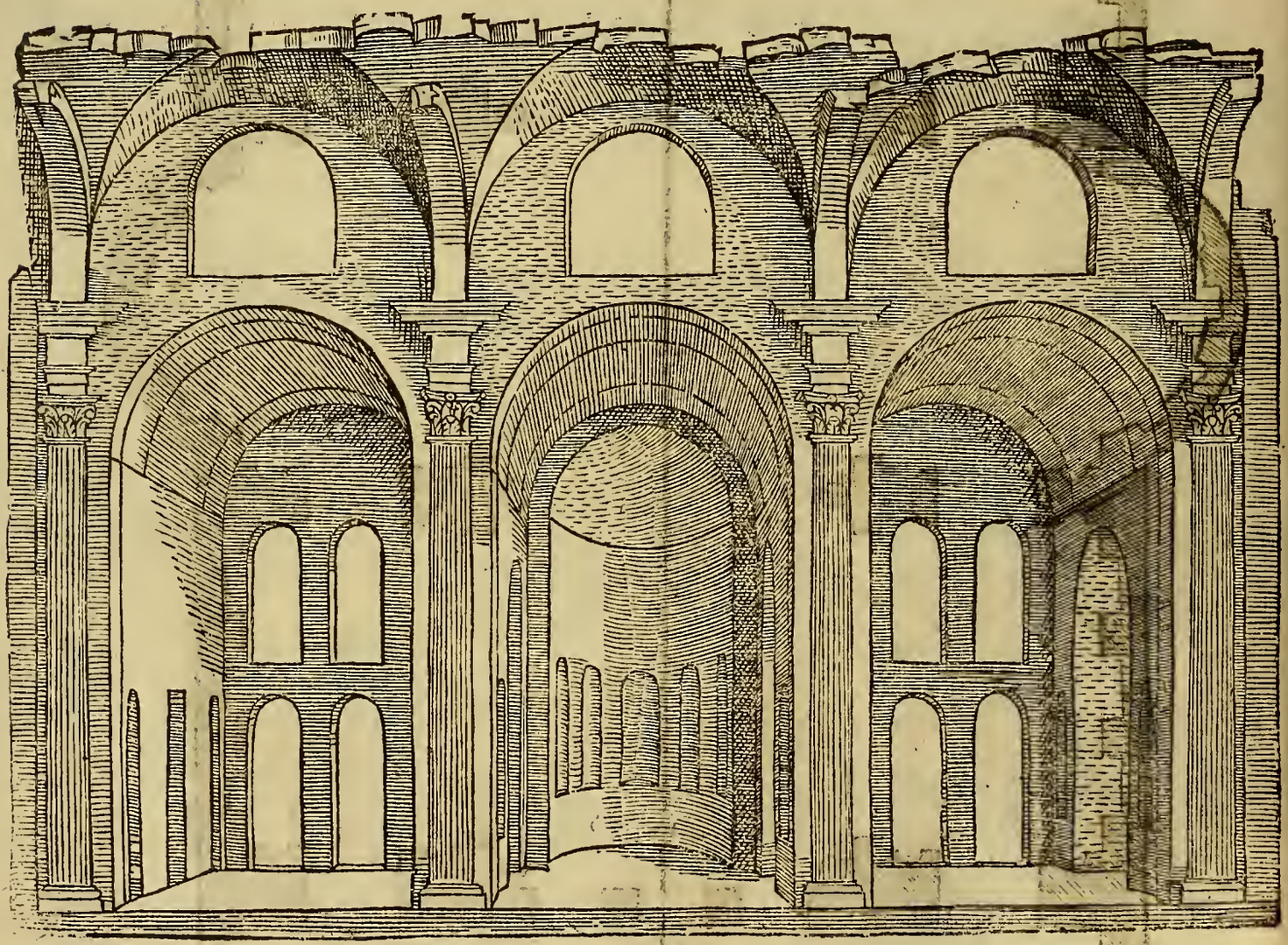
The Temple of Bacchus (as I sayd) is full of many Ornaments, and of diuers Compartements, whereof I haue shewed some part, but not all. The thrée inuentions hereunder placed are in the same Temple, some of faire stone and the other of Pilaster.



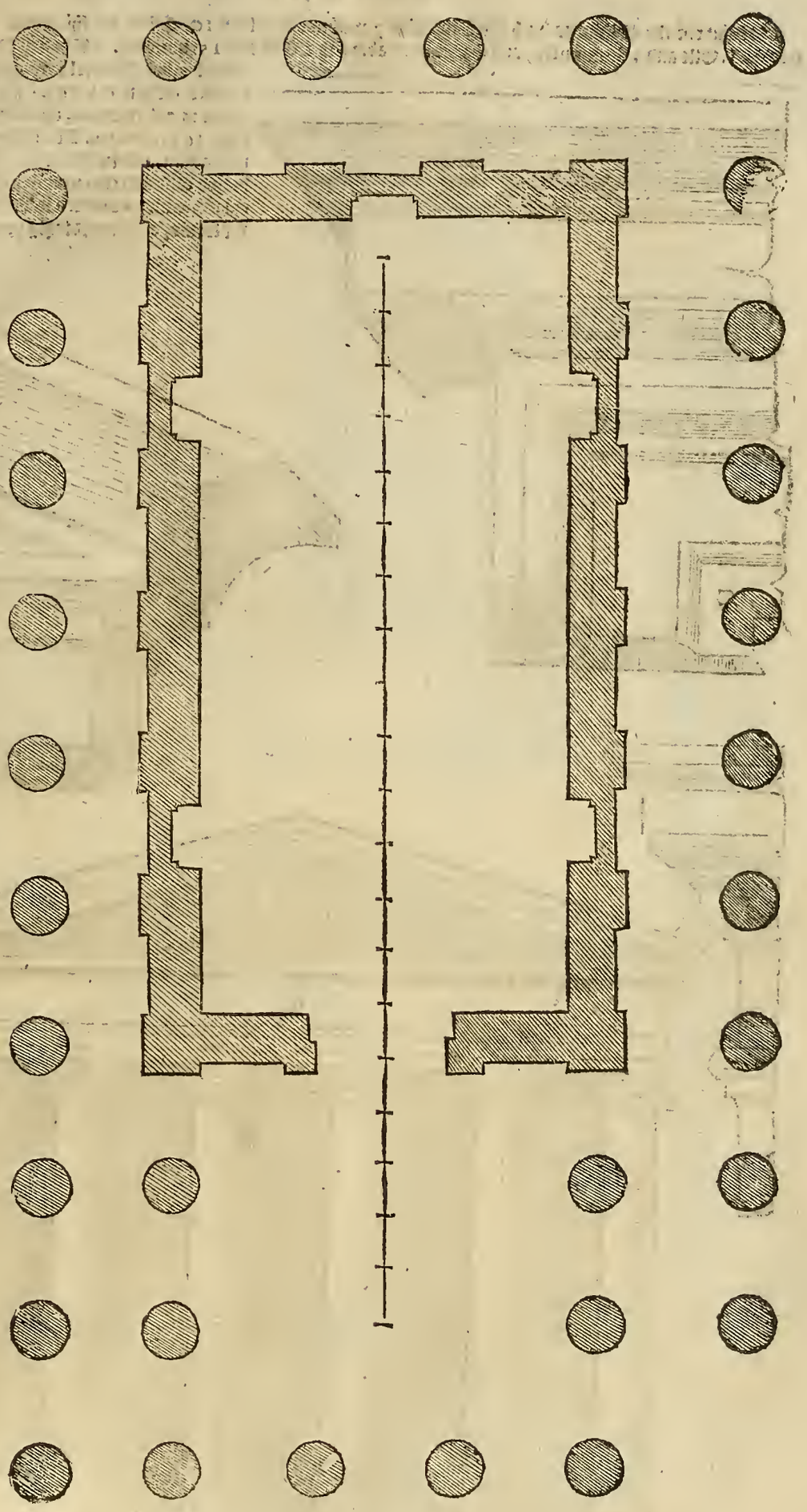
THis Temple of peace the Emperor Vespatian caused to bee made by the Market in Rome, which Temple is commended of Plinie, for it was much beautified with grauen worke and Pilaister of Stucco; and besides these Ornaments of the said Temple, after the death of Nero, Vespatian caused all the Images both of Copper and Marble to bee placed therein, which King Nero had gathered together out of diuers places, which were no small number. Vespatian also placed in it both his owne and his children Images made of a new kind of Marble brought out of Ethiopia, called Bassalto, being of an Iron colour, a kind of stuffe much commended in those times. In the said Temple and the principall Chappell thereof, there stood an Image of white Marble very great, made of many pieces; of which reliques there are many pieces yet to bee seene in Campidoglo; and among other pieces there is a foote, whereof the nayle of the great Toe is so great that I sate easily vpō it, wherby a man may guesse the greatnesse of the Image, and it was made by an excellent workman.



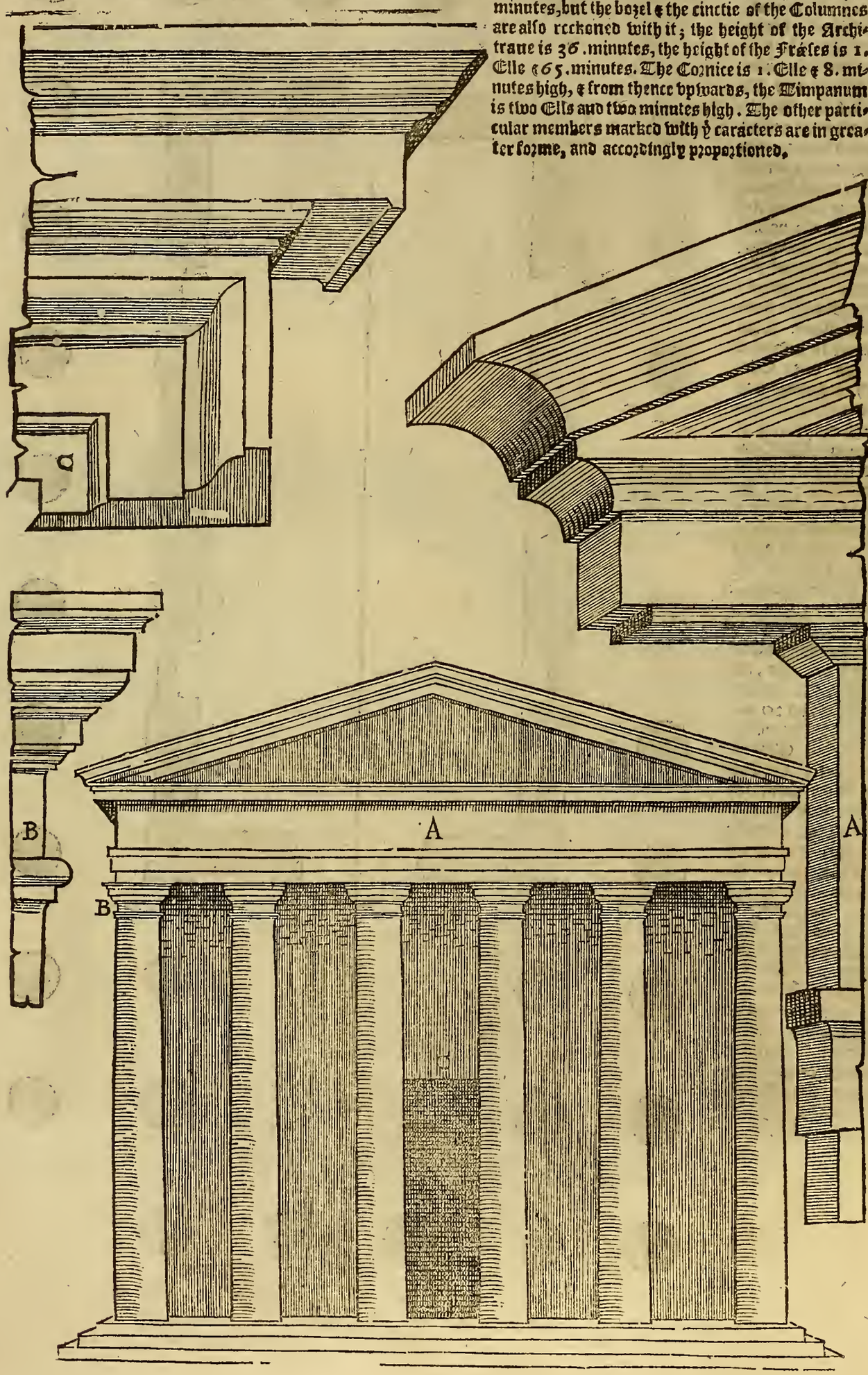
This Temple is measured with Elles, and the Elle is deuided into 12. parts, called ounces, the measure which standeth in the middle of the ground of the Temple is halfe an Elle: First, the length of the lodges about is 122. Elles, the bredth is 15. Elles, the widenesse of the places before in the lodgis containe 10. Elles, the thickenesse of the Pillars at the entrie is fiue Elles, and betwéne the one Pillar and the other is 10. Elles, the goings in on both sides, both of the Portall and of the Temple are 16. Elles wide, the length of the whole Temple is about 170. Elles, the bredth containeth 125. Elles; the principall place in the middle of the Temple is 35. Elles. The sides of the Pilasters against the which the round Columnes stand are 9. Elles and a halfe, and the thickenesse of these Columnes are 4. Elles, 4. ounces and a halfe, and they are canelert, euery one hauing 24. Canels: the caue or hollowing of each Canell is 5. ounces broad, and the lift thereof one ounce and a halfe; the bredth of the principall Chappell is about 32. Elles, and is halfe a Circle. Those on the sides marked A. B. are 37. Elles broad, and goe 16. Elles into the Wall, which is lesse then halfe a Circle: the thickenesse of the Wall round about the Temple is 12. Elles, altough in many places, because of the Bowes, it is much thinner. The Circumferences of the Chappels are 6. Elles thicke, betwéne the one Pilaster and the other, is 45. Elles; you may conceaue the quantitie of the measure of many places and windowes with other particular things, by the measures aforesayd, for the Figure is proportioned. Touching the Orto-graphie, which is the Figure hereafter following, because the ground is all couered ouer with the ruines thereof; I could not measure it from the ground to the top, but as much as I conceiued by that part of the ground, and also of the ruines which are there to be séene; I make this piece standing vpright. I am not certaine whether the Columnes haue this pedestall vnder them or not, because that men cannot sée the foot of the Columnes. And although that Plini much commendeth this Building, yet there are many vnhandsome things in it, specially the Cornices aboue the Columnes, which are not accompanied with any thing, but stand bare and naked alone.



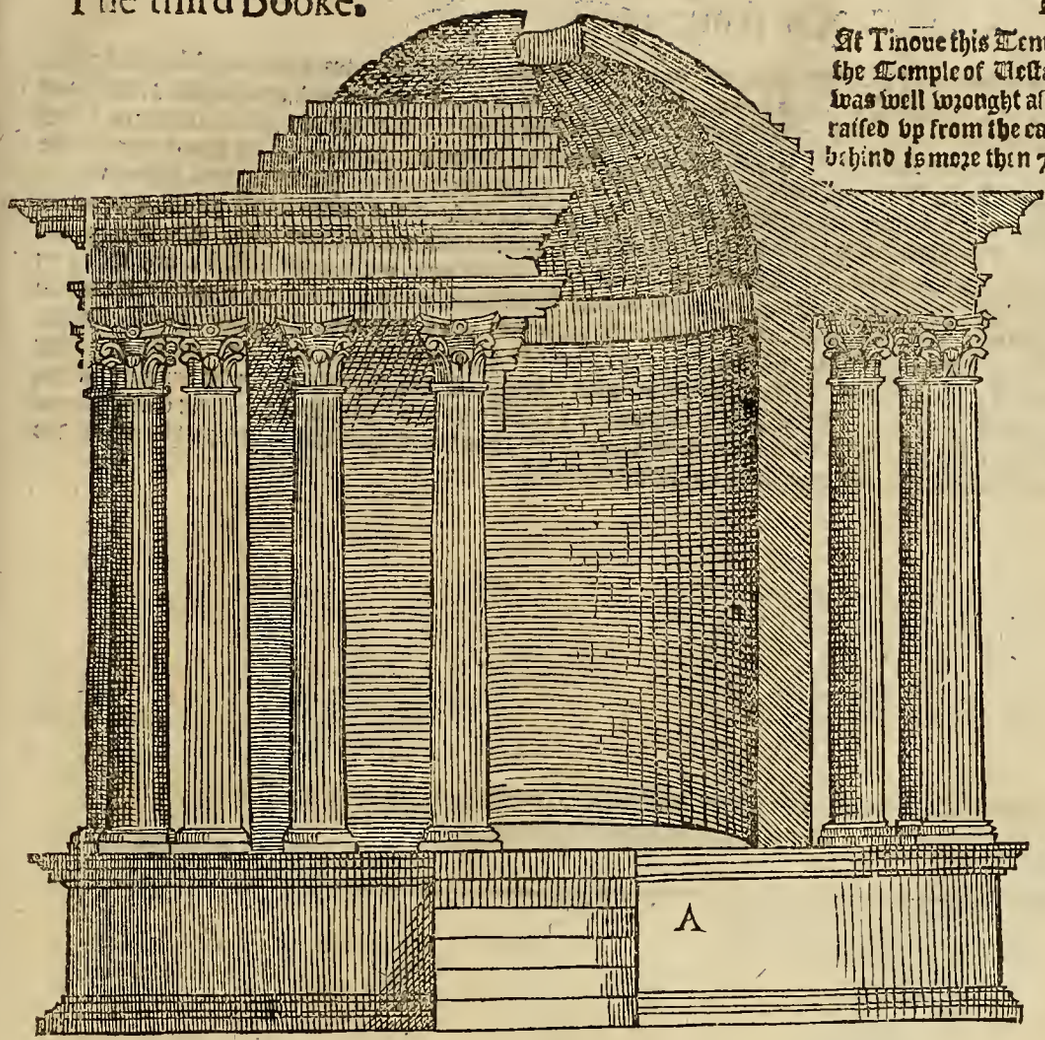
This Building is called Templum pietatis, it is made altogether of a kind of rough stone, which is there called Tiburtium, after the Riuer of Tiber; but for that the stone is spongie and ful of holes, it was couered all ouer with a kind of Plaister called Stucco, it is very ruinous, for therein you see no proportion of windowes: neuertheless, I haue placed them in the ground where I thought them fittest to stand. This Building is measured with an other Elle, which is deuided into 60. minutes; & the line through the middle of the ground of the Temple is the third part of the said Elle: First, the Columes are an Elle & 18. minutes thicke; the intercolumnes 3. Elles and 14. minutes, the breadth of the gates is 4. Elles and 14. minutes and a half, the thicknes of the wall is one Elle and 20. minutes, the length of ye Temple is 18. Elles and 20. minutes, the breadth of the Temple is 8. Ells and 30. minutes: the Gallery round about the Temple was flat rooted with foure square pearches: but how the broad place before the Temple was roofed I cannot cõceaue, because it is so ruinous. The columnes of this Temple haue no Bases nor any Cinthie, or Proiecture, but stand bare vpon their ground, & well made of Tiburtium, and couered ouer with Stucco. This Temple had the prõtespice both behind and before.

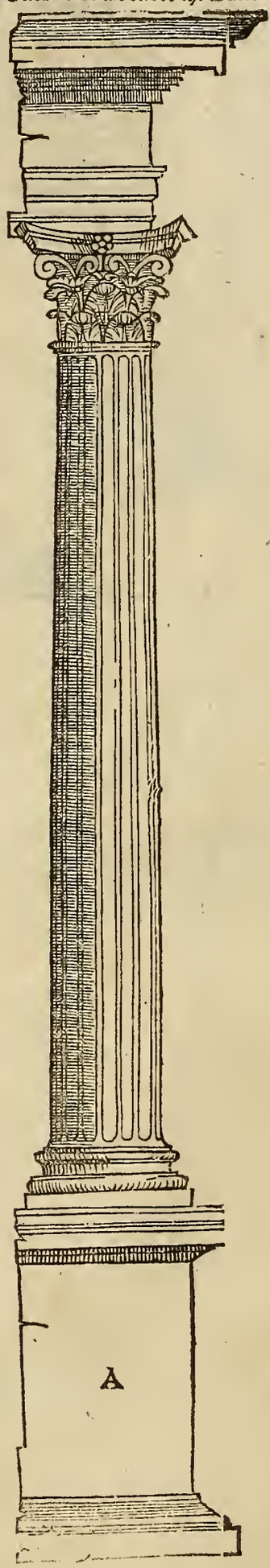


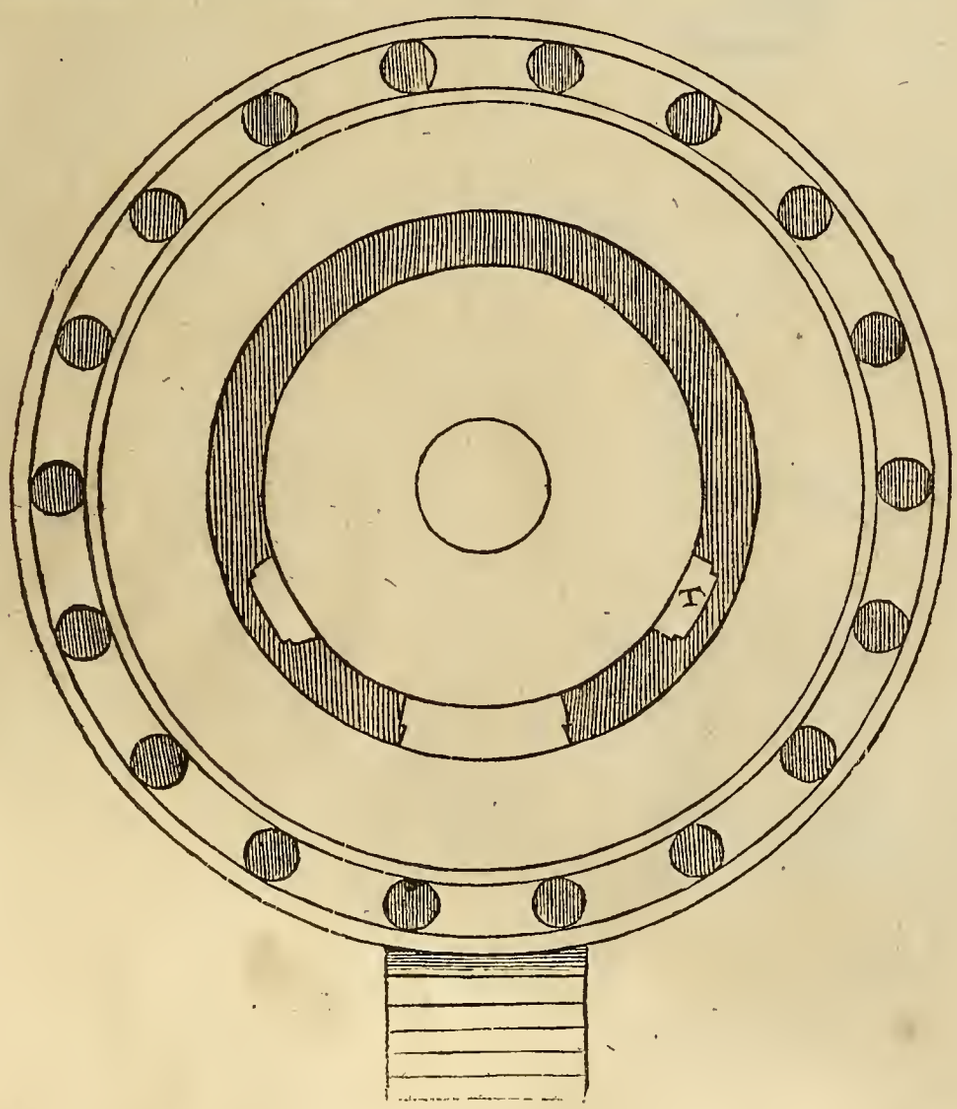
The height of the Columnes with the Capitall is 3. minutes lesse then 10. Elles, the thicknesse below (as I sayd before) is 1. Elle and 18. minutes; and the thicknes above is 1. Elle and 15. minutes. The height of the Capital is 47. minutes, but the bozel & the cinctie of the Columnes are also reckoned with it; the height of the Architraue is 36. minutes, the height of the Fráses is 1. Elle & 65. minutes. The Cornice is 1. Elle & 8. minutes high, & from thence vpwards, the Timpanum is two Ells and two minutes high. The other particular members marked with ŷ caracters are in greater forme, and accordingly proportioned.



At Tinoue this Temple standeth vpon a Riuer, & is called the Temple of Vesta, the most part thereof is ruinated; it was well wrought after ý Corinthia manner: before it is raised vp from the earth as the Base thereof standeth, but behind is more then 7. Elles of Wall vnder the Base.

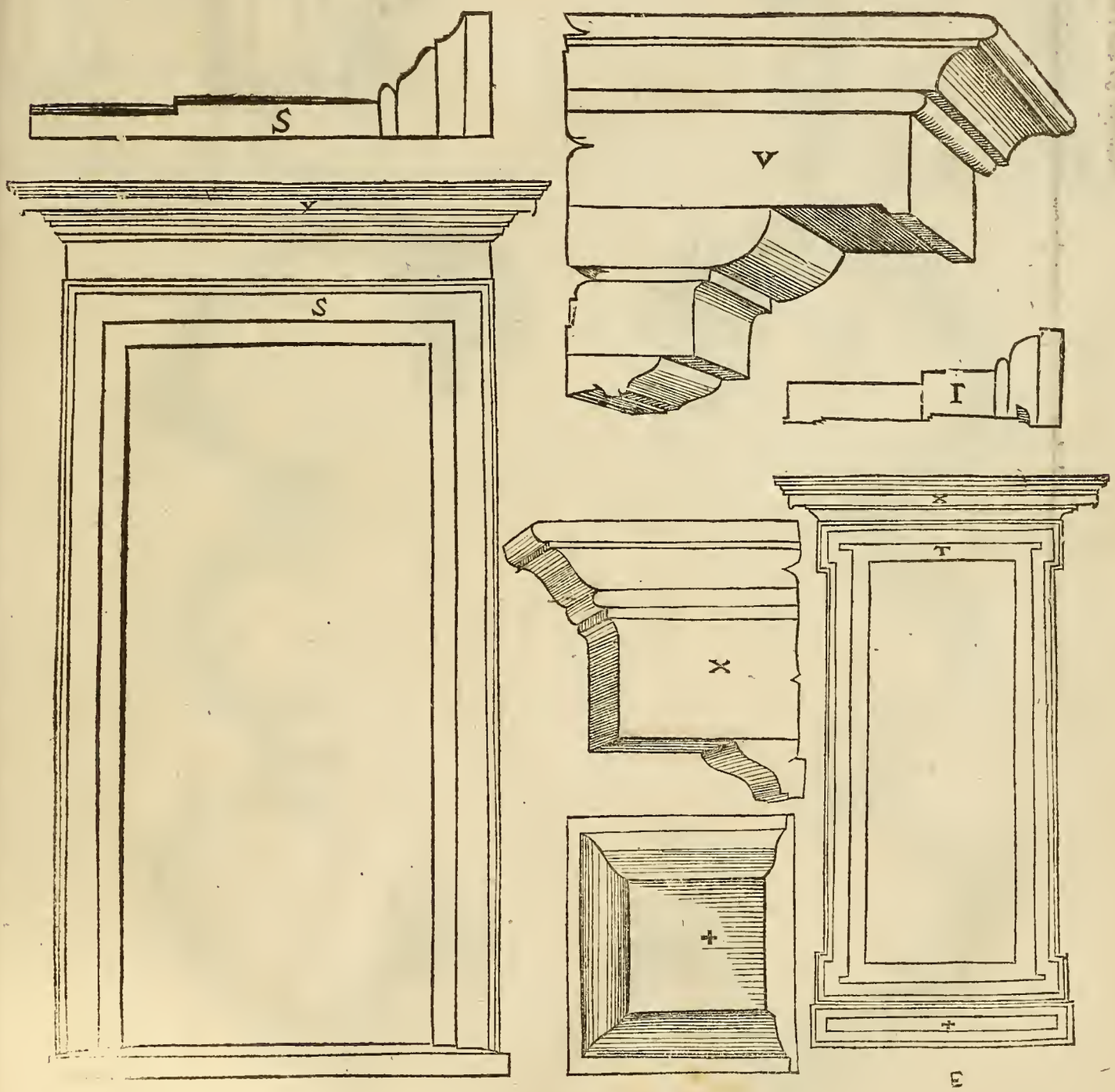




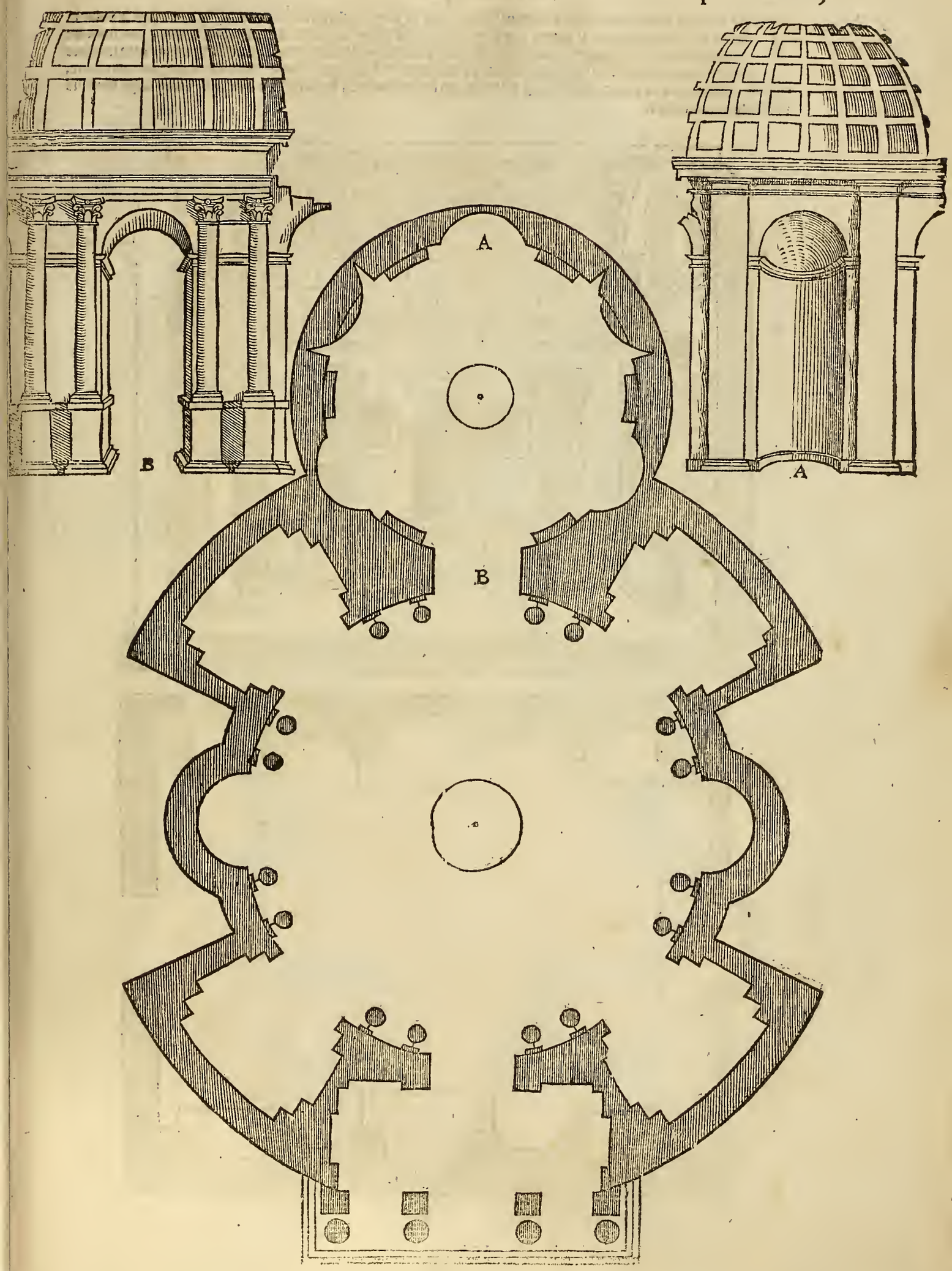


This last Temple is measured with the last Elle of 60. minutes, and first, the Columnes are one Elle and 17. minutes thicke, the intercolumnes 2. Elles and 34. minutes; betweene the Columnes and the Wall is 2. Elles and a halfe, the thicknesse of the Wall is an Ell and 13. minutes, the Pauement of the Temple within is 12. Elles and a halfe: the Pedestall marked A. with the Columnes and their ornaments serue for the whole order of the Temple. The height of the Base of the Pedestall is 45. minutes, and the ficlde of the Pedestall is 2. Elles and 48. minutes. The Cornice is 37. minutes and a halfe high, the height of the Base of the Columnes is 38 minutes and a halfe; the Trunke of the Columnes is 10 Elles high: the Capitall is an Elle and 24. minutes high. The Architraue, Frése and Cornice all together are about two Elles and a halfe high. The Doore marked with S. Y. is 9. Elles in height, the breadth of the light vnder is 4. Elles 4. minutes, but the widenes aboue is 3. Elles 54. minutes, the which is lessened aboue, according to Vitruuius doctrine. The Antepagmentum is 52. minutes and a halfe broad, but the Superficie (because of the lessening) is but 51. minutes; the Frése is 30. minutes high, and the Cornice 24. The Window marked with T. X. is one Elle 46. minutes and a halfe broad, the height containeth 5. Elles 3. minutes, and is lessened aboue, as the Doore is. The Antepagmentum is 31. minutes and a halfe broad, and the Cornices containeth as much, but the other particular members, are in greater forme marked with the same letters set by them, and well proportioned: This Window is wrought both within and without.

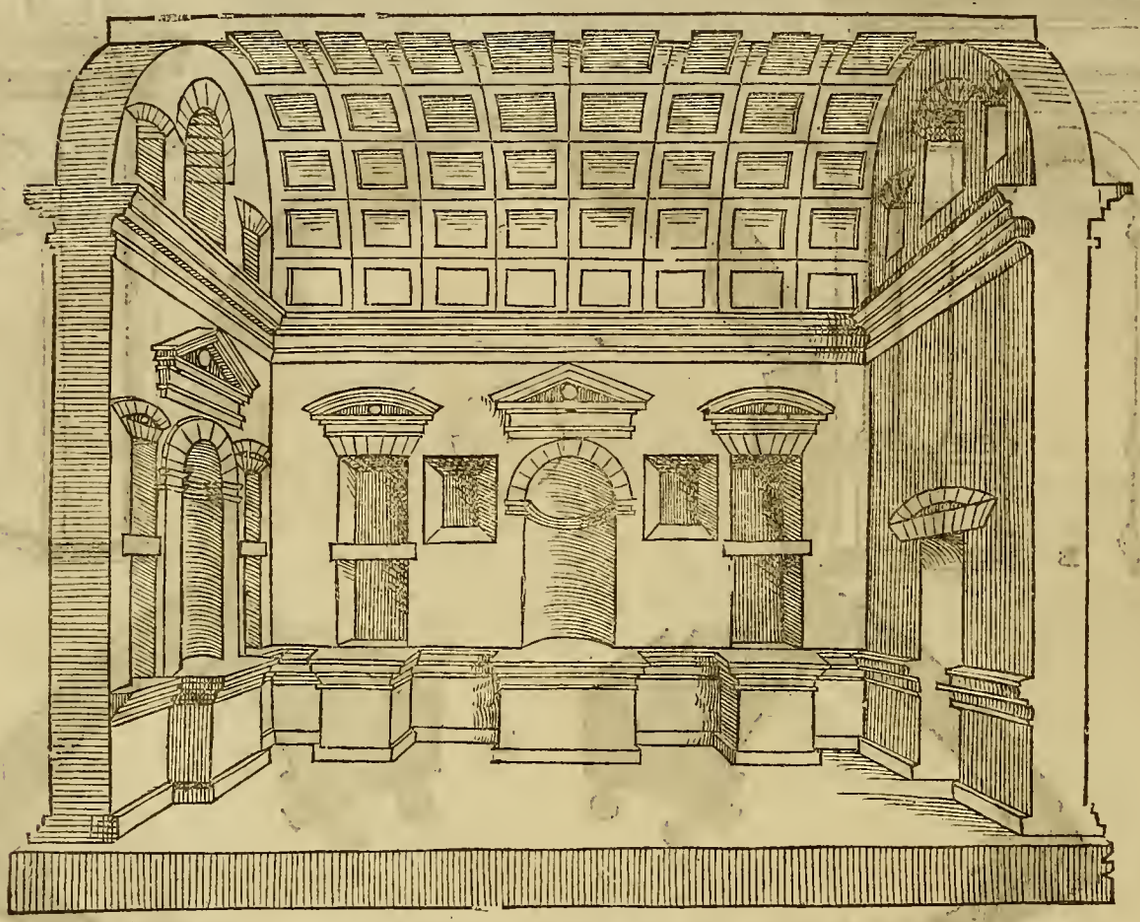
This is the third part of the common Elles of 60. minutes, wherewith the Temple aforesayd, and this also is measured.

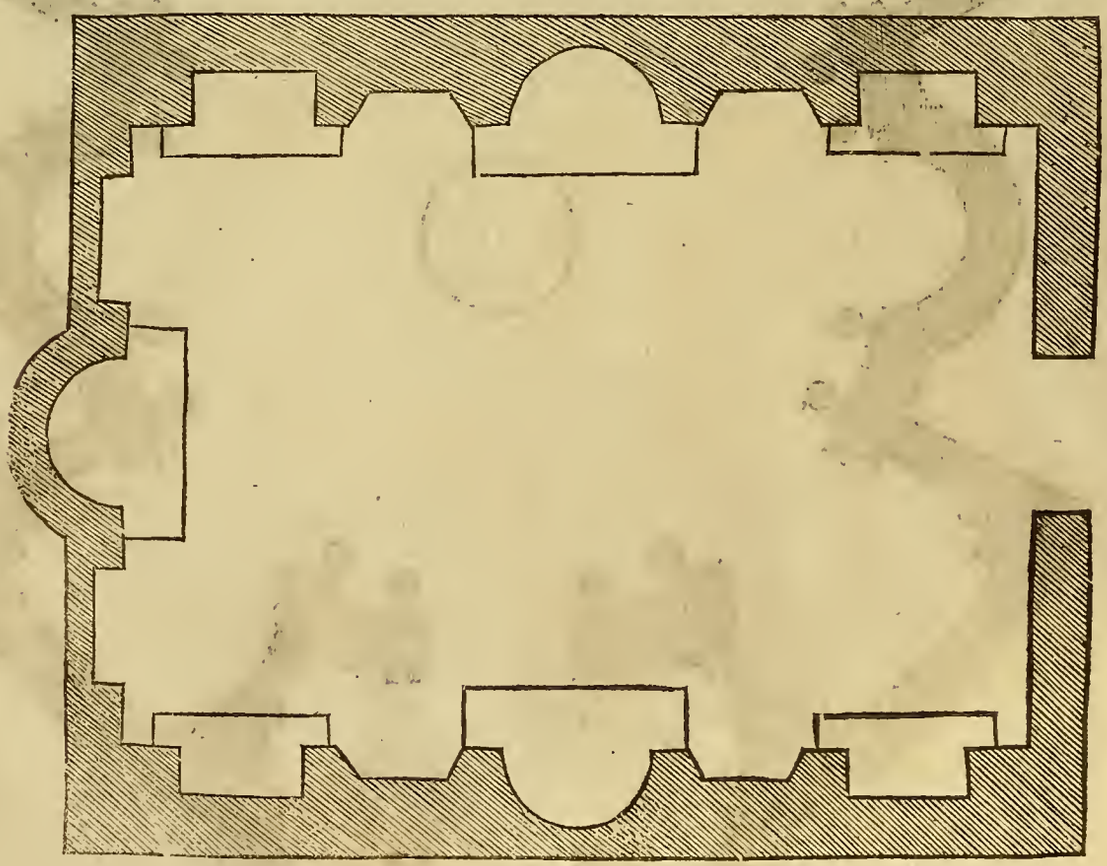

S
V
Y
S
I
X
T
X
+
+

WIthout Rome this ruinous Temple standeth, and for the most part is made of Bricke; you sée none of these ornaments therein which I haue here placed in Figure; but as it may be conceiued by the ground thereof, and also considering the proportioned height, it was made of that fashion as the pieces marked A. B. standing by the ground doe shew. Thus we haue the measure of the Ichnographie of the ground of the Temple, by the which measure a man may conceaue the worke of the Ortographie: This Ichnographie or platforme, is measured by the olde Romane Palme: and first, the doore of the Temple is 24. Palmes wide, the Diameter of this Temple is 69. Palmes and a halfe: the two places on the sides are as wide as the Doore; the Doore of the lesser Temple is also of the same breadth, so are the foure Chappels also where men goe in, of the same widenesse, but backward they are wider, because the walles of the side runne to the Center of the Temple, and those foure Chappels (as it may be conceaued) receiue their lights from the sides: the Diameter of the small Temple is 63. Palmes long; the little Chappels, both they that are hollowed out, and those that are eleuated, are 15. Palmes broad: but of those two eleuated or rayseed Chappels, I cannot tell how they ended aboue, for there standeth not so much vpright as a man may conceaue any thing thereof certainely, but onely a beginning aboue the earth; and (as I haue said) although a man cannot sée in what maner this Building stood aboue the ground, yet according to my conceipt, I haue made this Ortographie. And therefore on the one side marked B. representeth a piece of the great Temple, and the other marked with A. sheweth a part of the lesser Temple.

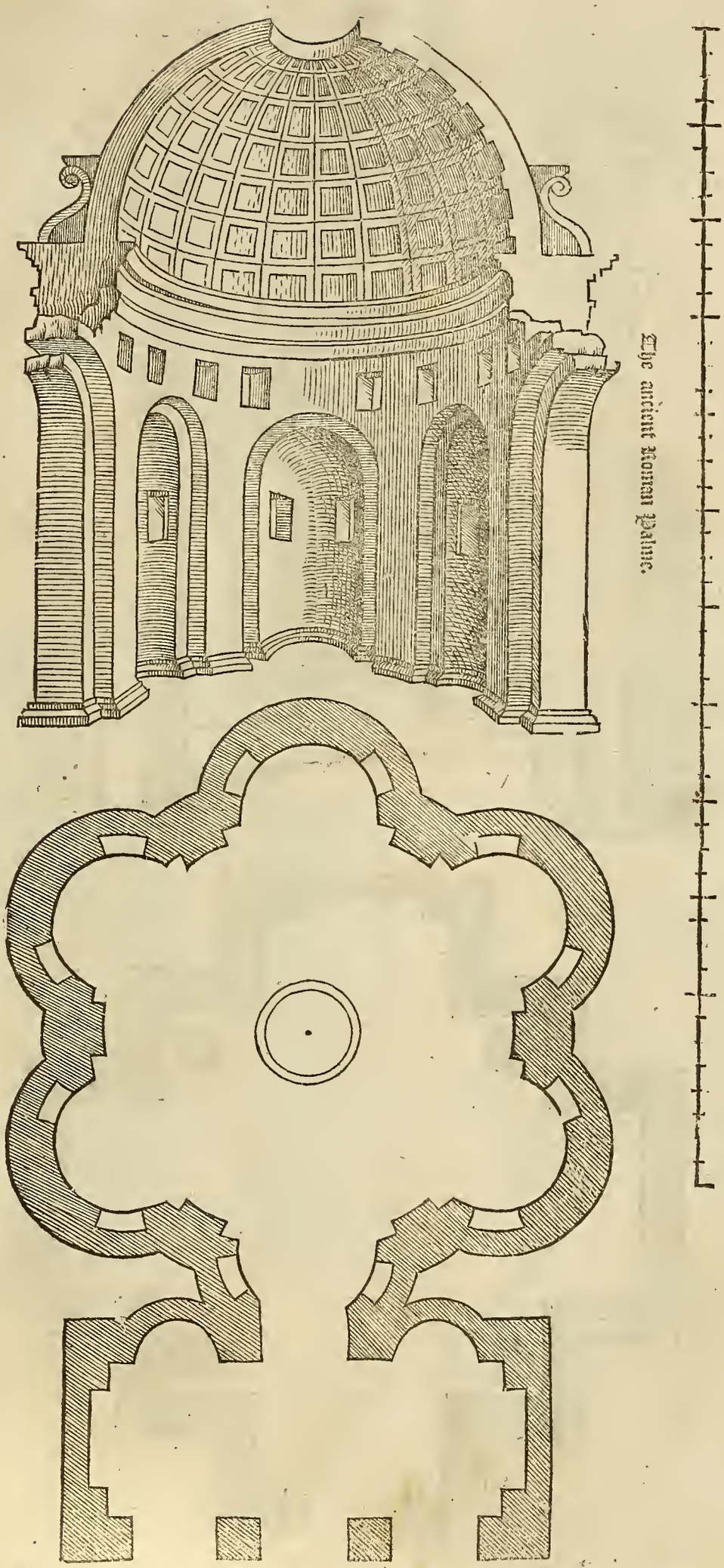

A
B
B
A

THis Temple placed vnder this is without Rome, and is very much ruinated, and for the most part is made of Wicke, it is not very great, it cannot also be discerned, that it had any light in it but at the doores, and from the windowes aboue the Cornices. And all the rest of the holes were placed for Idols or such like things; the measure of this Temple was lost by the way, but yet I remember well that the Temple was a full Quadrant and a halfe, as well on the ground as aboue, therefore I set downe no other measure, but a skilfull workeman may helpe himselfe therewith by inuention.

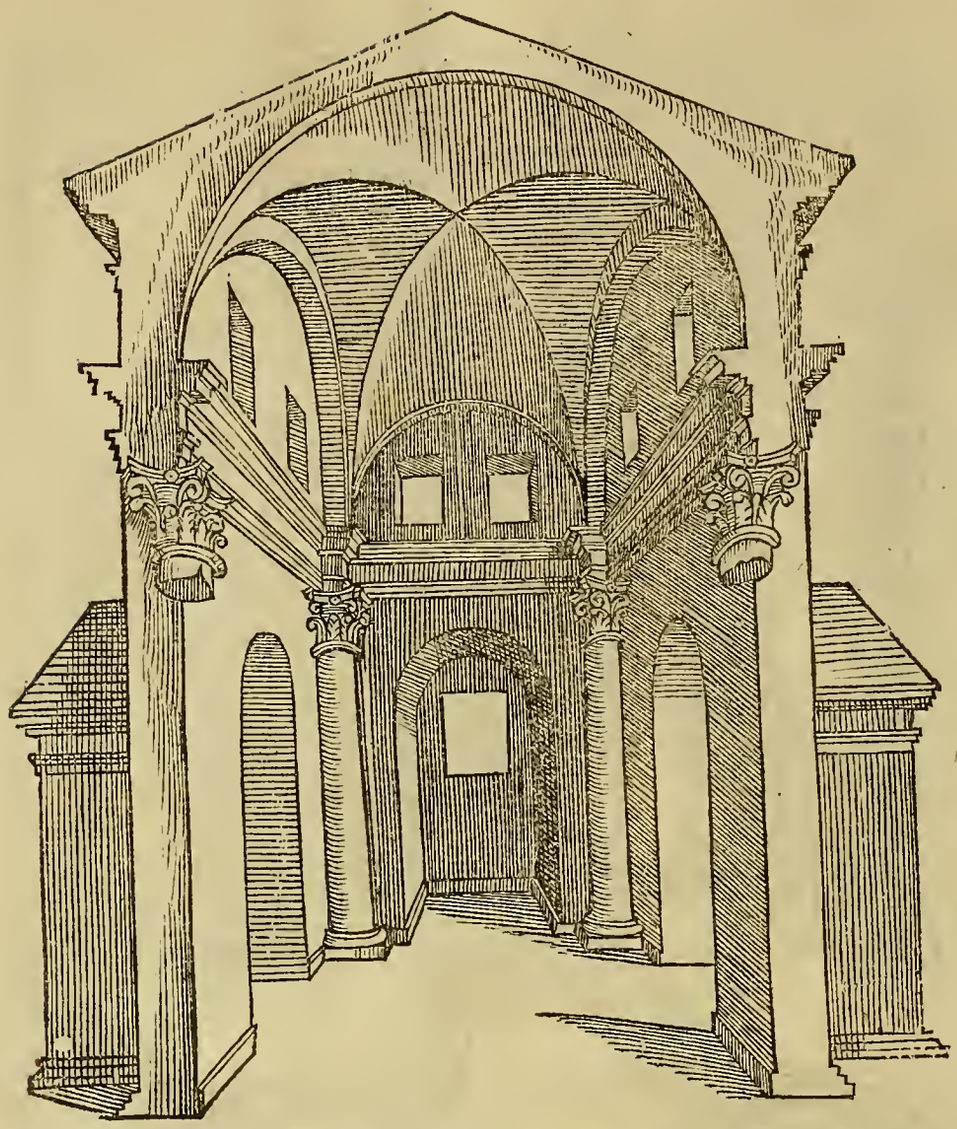




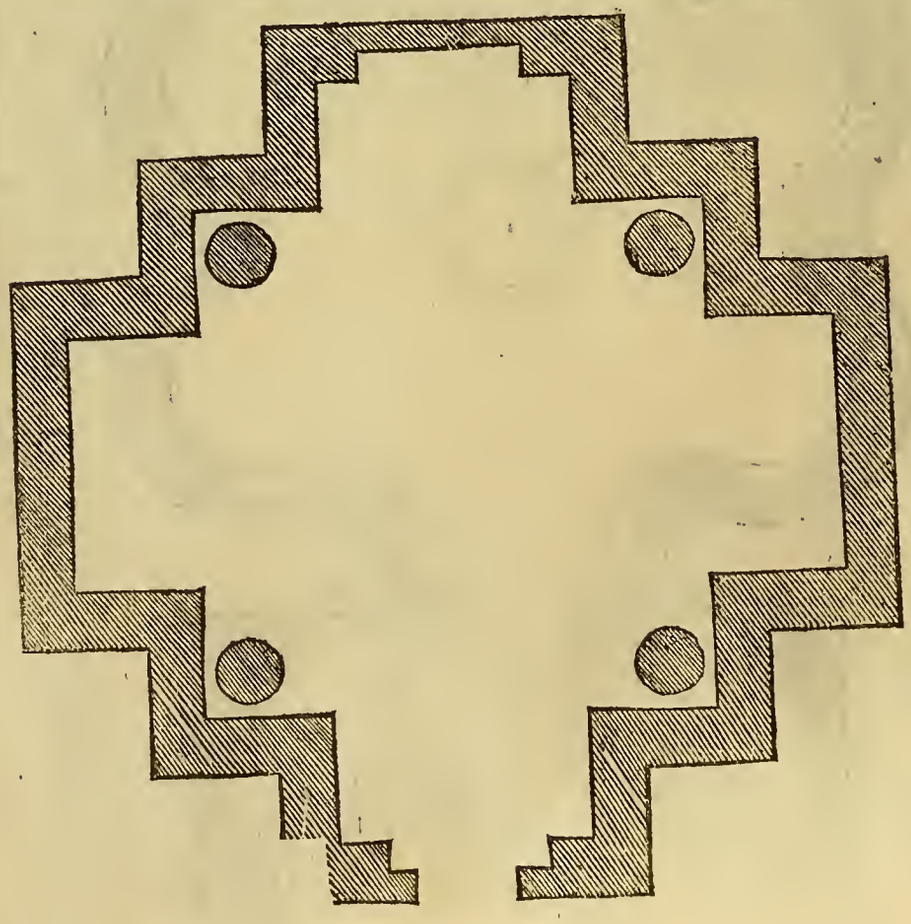
This small Tempel is of no great compas, and all made of Bricke; it is measured by the olde Romane Palme, the length of the lodge or Gallery is 40. Palms, the bredth therof is 16. Palmes, the Doore is 10. Palms, the places in the walles within, are all of one widenes, that is, 14. Palmes; the space betwéen them is 6. Palmes, the rest may bee guessed by sight; for I guess the height from the Pauement to the Architraue to be 40. Palmes, and the Architraue, Frése and Cornice to bee 9. Palmes: and touching the rest, I made accompt that if I allowed a Palme bright for the round roofe, then the whole Tempel should be about 70. Palmes.



The ancient Roman Palme.

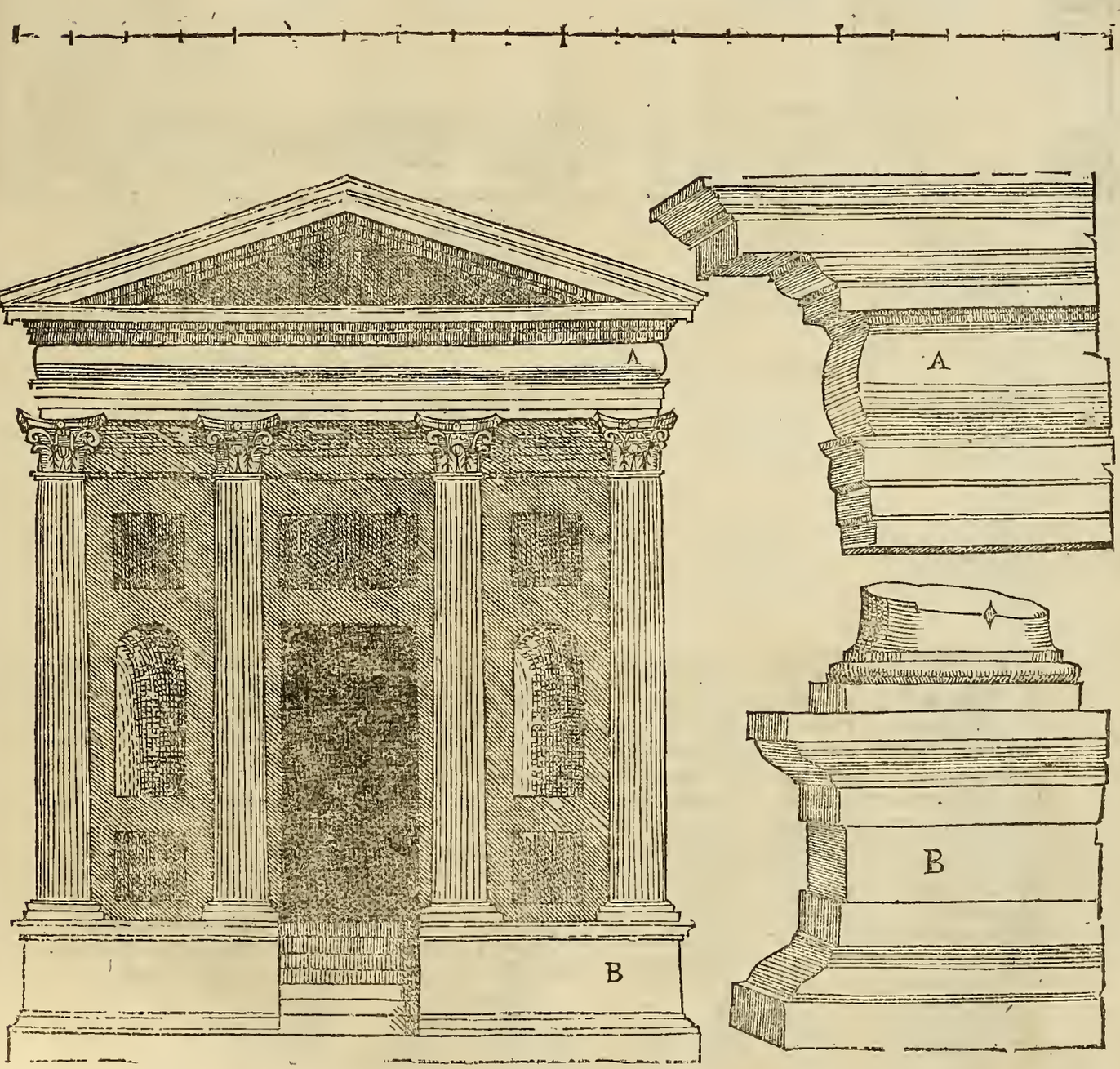


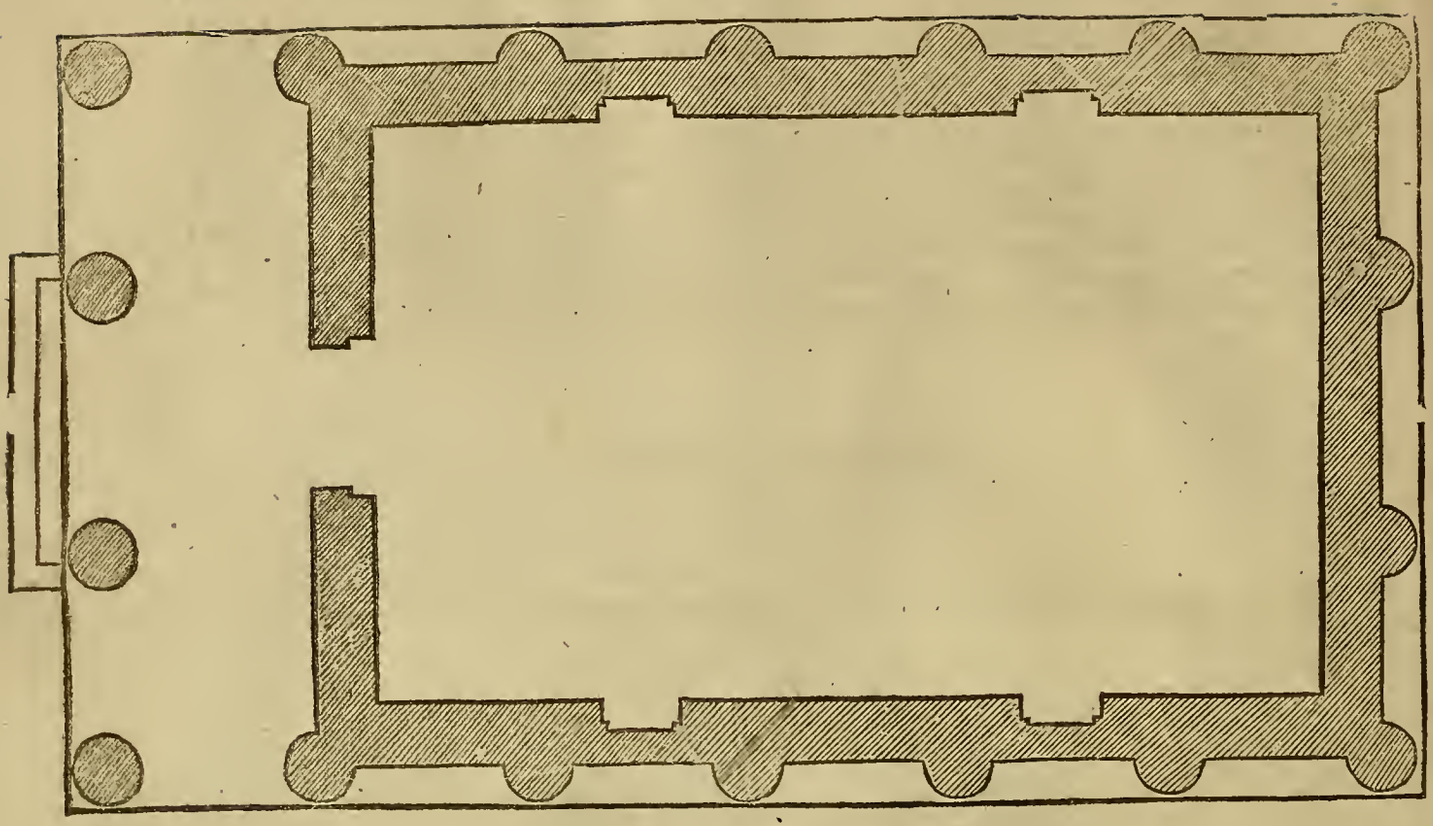
This Temple is without Rome, made part of Marble, and the rest of Brick, it is much decayed, it is thought that it was a Sepulchre, and on all sides it is right foure square; frõ the one Wall to the other is 30. Palmes broad, the thicknesse of the walles is 2. Palms and a halfe, the widenesse of the Chappel is ten Palmes, the Dore is fiue Palmes broad, the height of the Pillars with Bases and Capitals is 22. Palms and a halfe; the thickenesse of the Pillars is not much aboue two Palmes: The Architraue, Frãse & Cornice are 4. Palmes high, from the Cornice to the height of the roofe is 11. Palmes: the height of the Bowes of the Chappel is 20. Palmes.



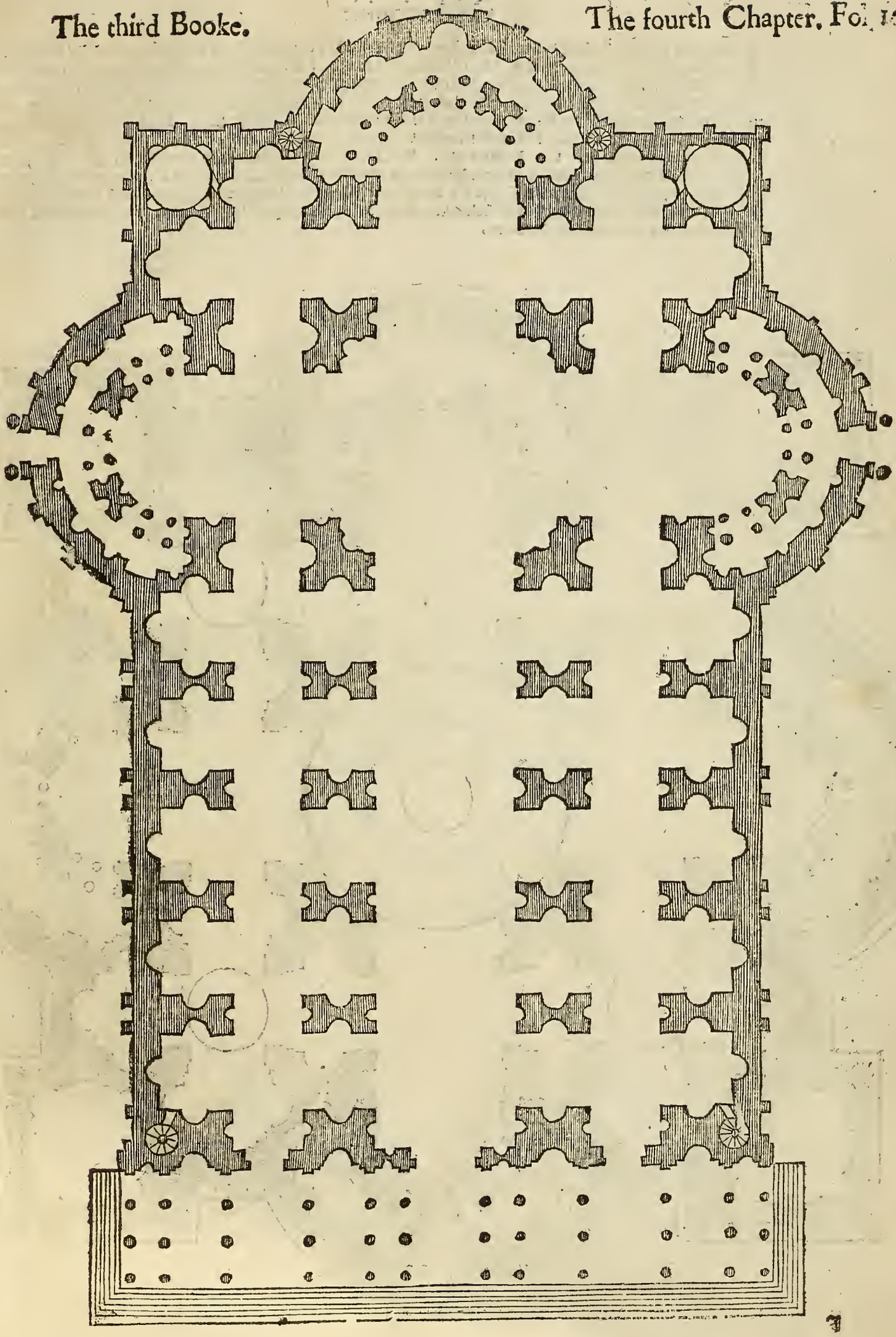
THis Temple hereunder set downe is A Tiuoli by the Riuer, much decayed, which had the frontispice before and behind the Columnes, on the sides are more then halfe without the wall; the widenesse of the Temple from the one wall to the other, is 11. Elles measure by the same measure that Templum precatis is measured withall, the length of the Temple is 8. Elles, the thickenesse of the wall is one Elle and 11. minutes, the thicknes of the Columnes of the Portall is an Ell and a third part, the height of them with Bases and Capitals is about 12. Elles, the height of the Architraue, Frése and Cornice is three Elles, the Frontispice from aboue the Cornice to the height is 3. Elles, the height of the basement is 3. Elles and a halfe. In the Fascie before, there is no show of a Doore, nor of any places in the Walles, by reason of the ruinousnesse thereof, but I haue drawne it out thus, to make the more show, because I iudge it had bene so; neither can you sée any windowes in the wales nor sides, nor yet behind, although I haue placed them here in the ground, where I thought best. The measure of the members both of the Basement and the Cornices aboue, I will not name particularly, for they are proportioned according to Antiquitie, whereof you may sée some parts.

The third part of the Ell aforesayd.

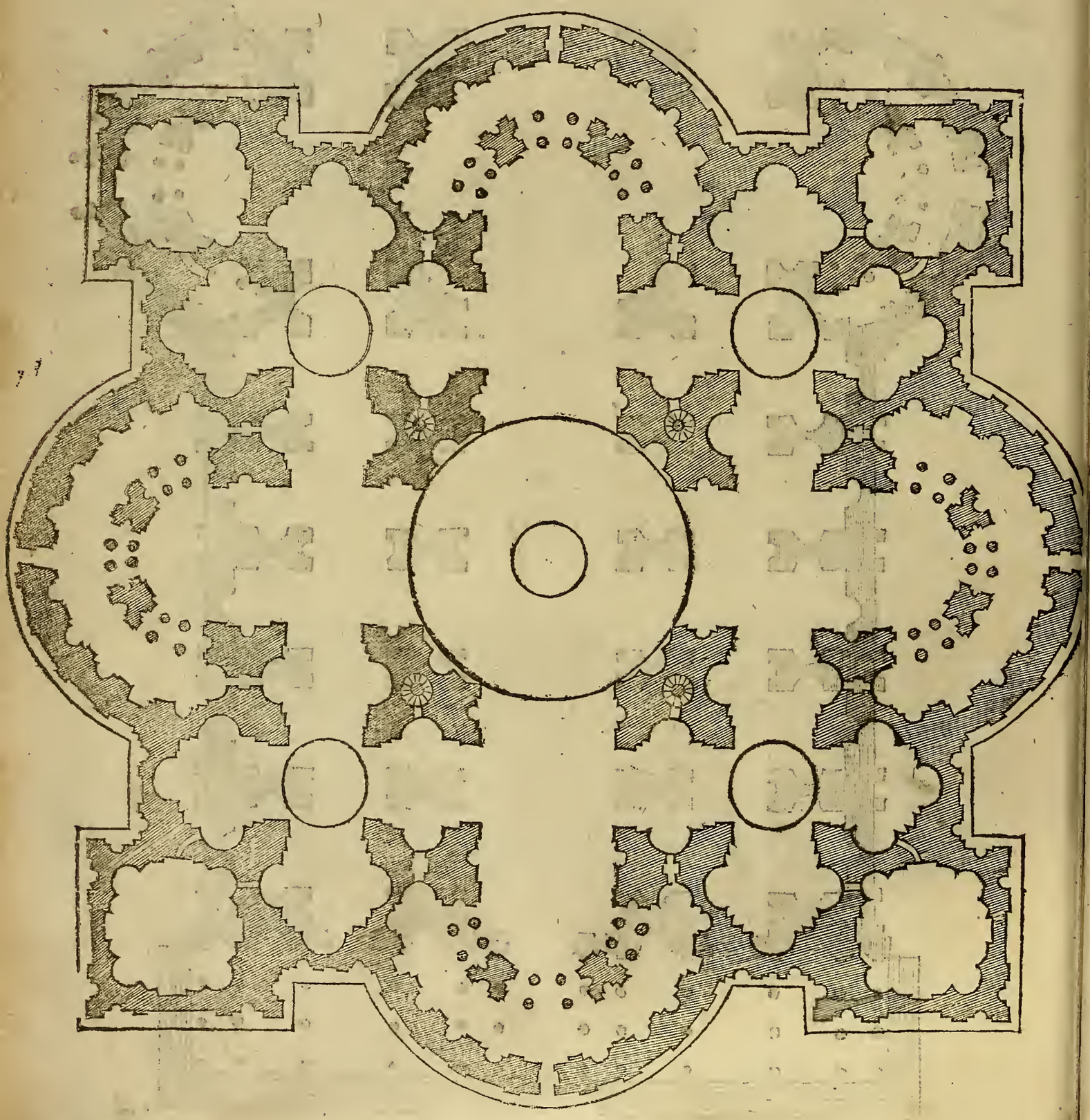




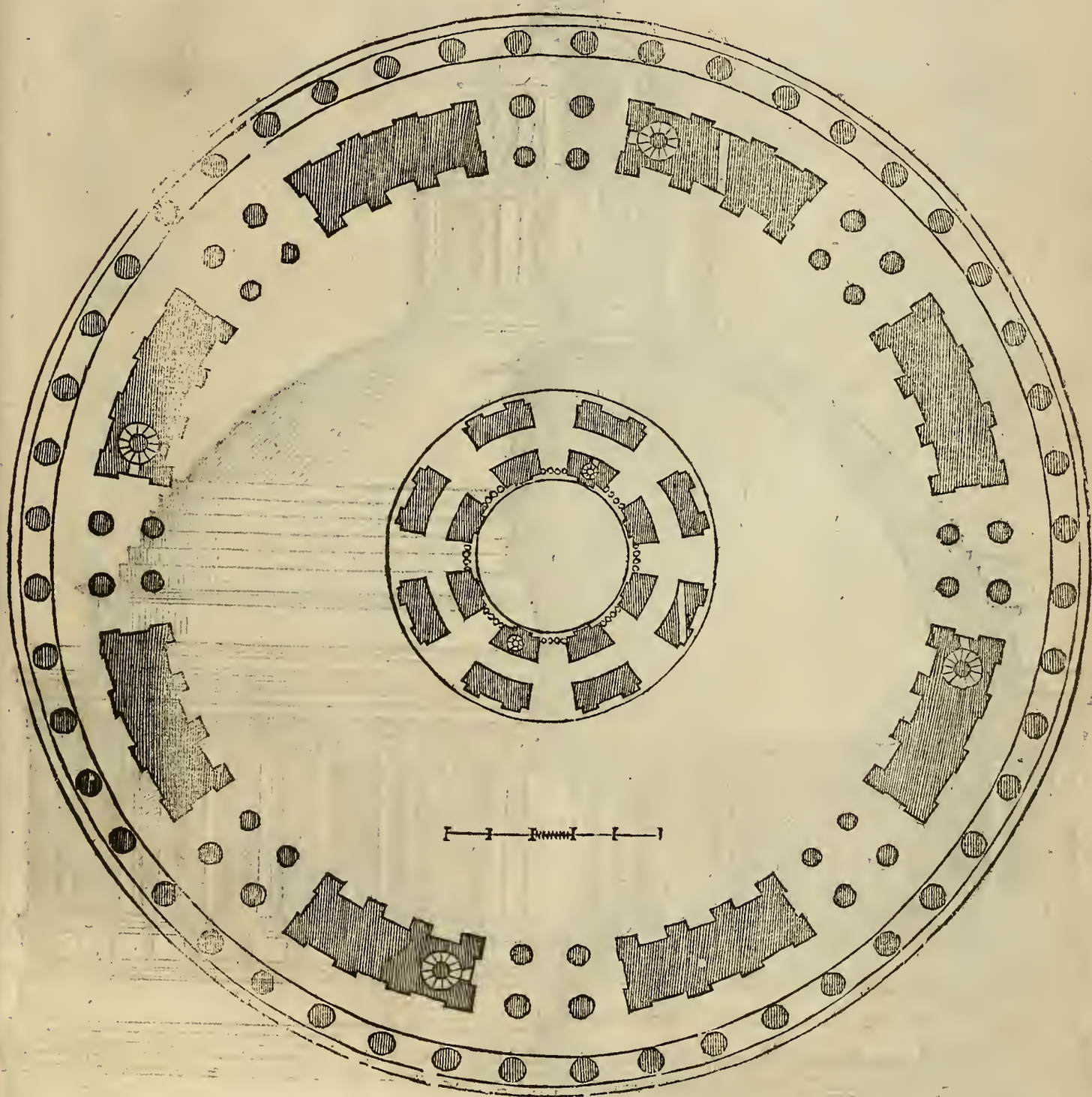
ALthough at the beginning of this Booke, I said I would speake onely of Antiquities, yet I will not omit withall to entreat of some moderne things made in our time, and specially, because our age hath flourished with so many good wits for inuention of Architecture. There was in the time of Pope Iulio the second, a workeman called Bramante of Castel durante in the Dukedome of Vrbin, who was a man of so great vnderstanding in Architecture, that it might be sayd (by meanes of the ayde and performents which the Pope gaue him) that hee rayse vp good Architecture againe, which from ancient time till then had bene hidden and kept secret: which Bramante in his time layd the foundation or beginning of the wonderfull worke of S. Peters Tempel in Rome, but being preuented by death, did not onely leaue it vnfinished, but the modell thereof also was left vnperfect, wherein diuers ingenious workemen sought to buste themselues both to perfect and finish it; and amongst many others Raphael Durbin, Paynter, a man also very skilfull in Architecture, following Bramants steps, made perfect this draught, the which in my opinion is one of the fayrest draughts that are to be found, out of the which the ingenious workeman may helpe himselfe in many things. I will not set downe all the measures of this Tempel (because that it is well proportioned) and a man may by part of the measure find out the rest. This Tempel is measured with the old Romane Palme, and the broadest walkes therein is 92. Palmes broade, those of the sides are but halfe as much: by these two measures you may guesse the rest.



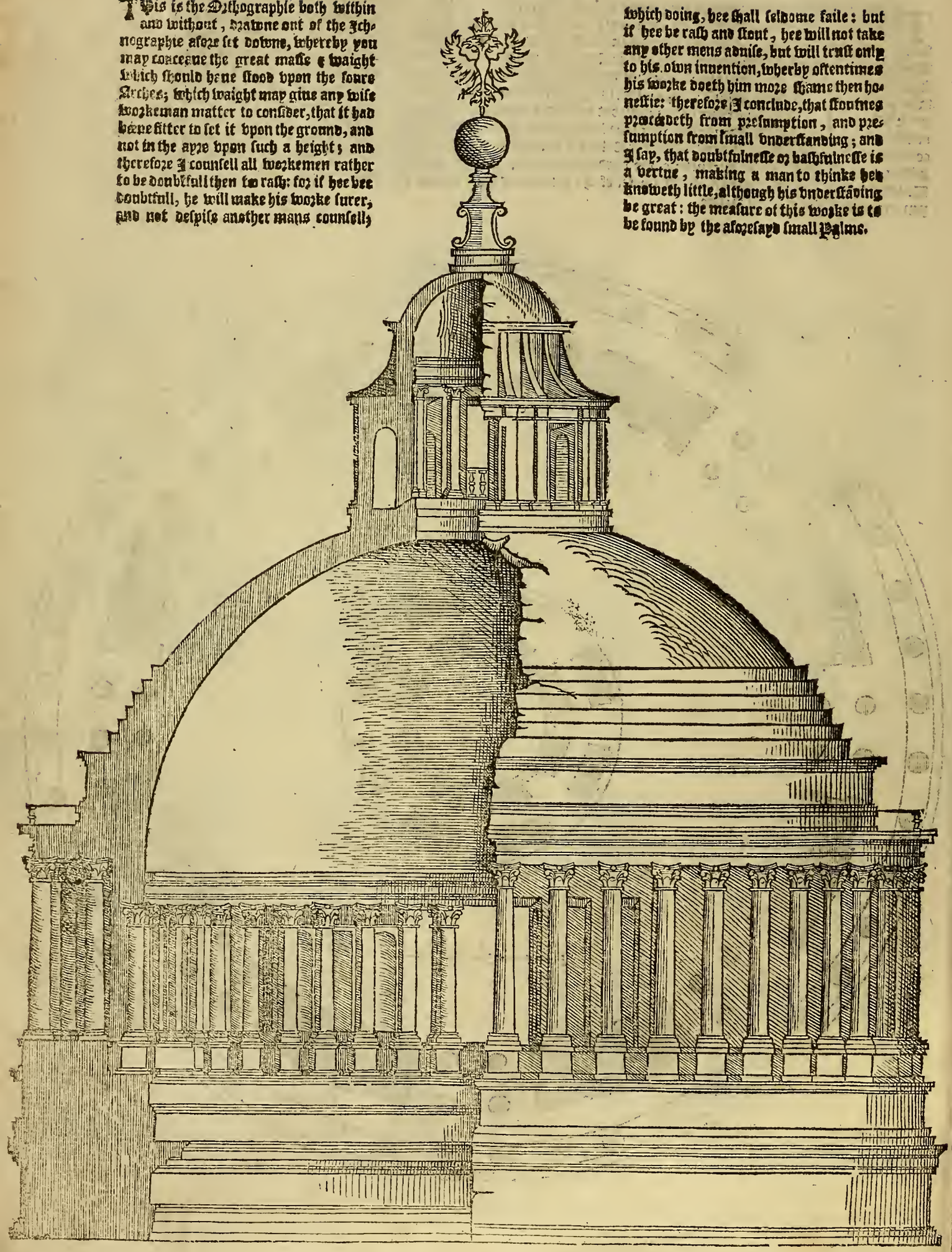
IN the time of Iulius the second, there was in Rome one Balthazar Petrucio of Sienne, not onely an excellent Painter, but also very skilfull in Architecture, who following the doctrine of Bramant, made a modell in forme hereunder set downe: whose meaning was, that the Temple should haue foure gates to go into it, and that the high Altar should stand in the middle thereof: at the foure Corners he made foure Sacristies, vpon the top whereof men might place the Clocke-towers for an ornament thereunto; and the first part or Facie thereof looked into the Citie. This Temple is measured with the olde Romane Palme, and first, it is in the middle from one Pilaster to another 204. Palmes, the Diameter of the Circle in the middle is 184. Palmes long. The Diameter of the foure small Circles is 65. Palmes. The Sacristies are 100. Palmes wide. The foure Pilasters in the middle make foure Bowes or Arches which beare vp the Lanthorne, and these foure Bowes or Arches are all full made, which are in height 220. Palmes, and aboue these Arches a Tribune excellently set forth with Columnes, with a round Roofe vpon it, which Bramant ordayned before hee died, whereof the ground is here set downe.



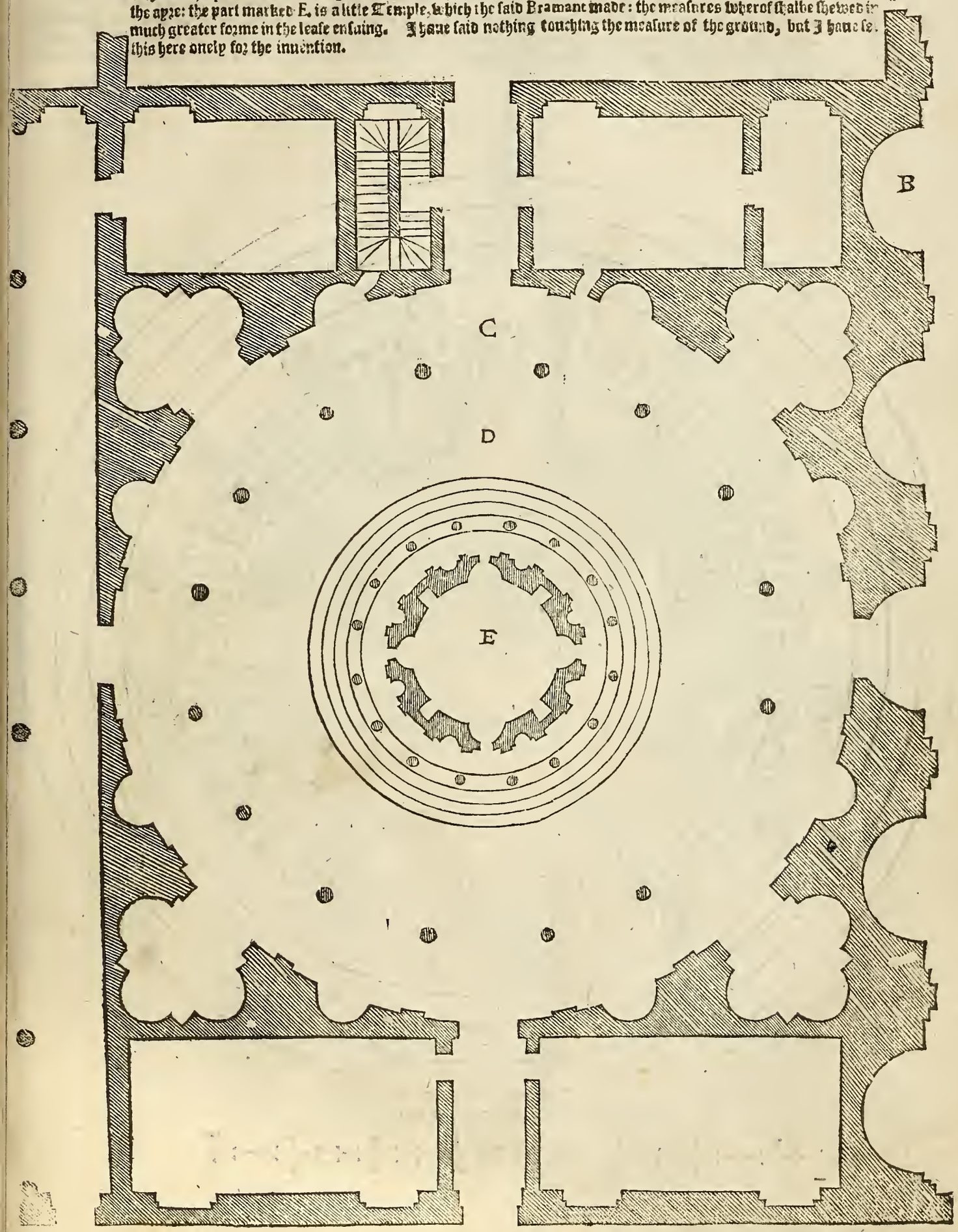
The Figure hereunder set down, is the ground of the Tribune that should haue gone aboue ouer the foure Bowes or Arches (as I haue before) whereby a man may perceiue, that Bramante in such case was bolder to draw a piece of worke, then [illegible] thereto; because so great and massie a piece of worke should haue an excellent foundation to stand very fast, and [illegible] made vpon foure Bowes or Arches of such an height. And for confirmation of my speech, the foure Pilasters [illegible] to the Arches without any other waight vpon them, are already settled and suncke, yea, and rent in some places: Nevertheless, because the inuention is fayre and costly, and a thing to giue good instruction to a worke-man: I thought good to place it here in a modell: but not to be tedious in setting downe the measures, I will shew some of the principall [illegible]; the rest you may finde with the small Palme which standeth here within the ground, which length containeth 50. Palmes: the thicknesse of the first Columne without, is 5. Palmes, the thicknesse of the second Columne within, is 4. Palmes, and the thicknesse of the third Columne is 3. Palmes and three quarters. The widenesse of the Tribune within, is 188. Palmes, the Diameter of the small Lanthorne within the middle, is 36. Palmes; the rest you may gueste by the small Palme.



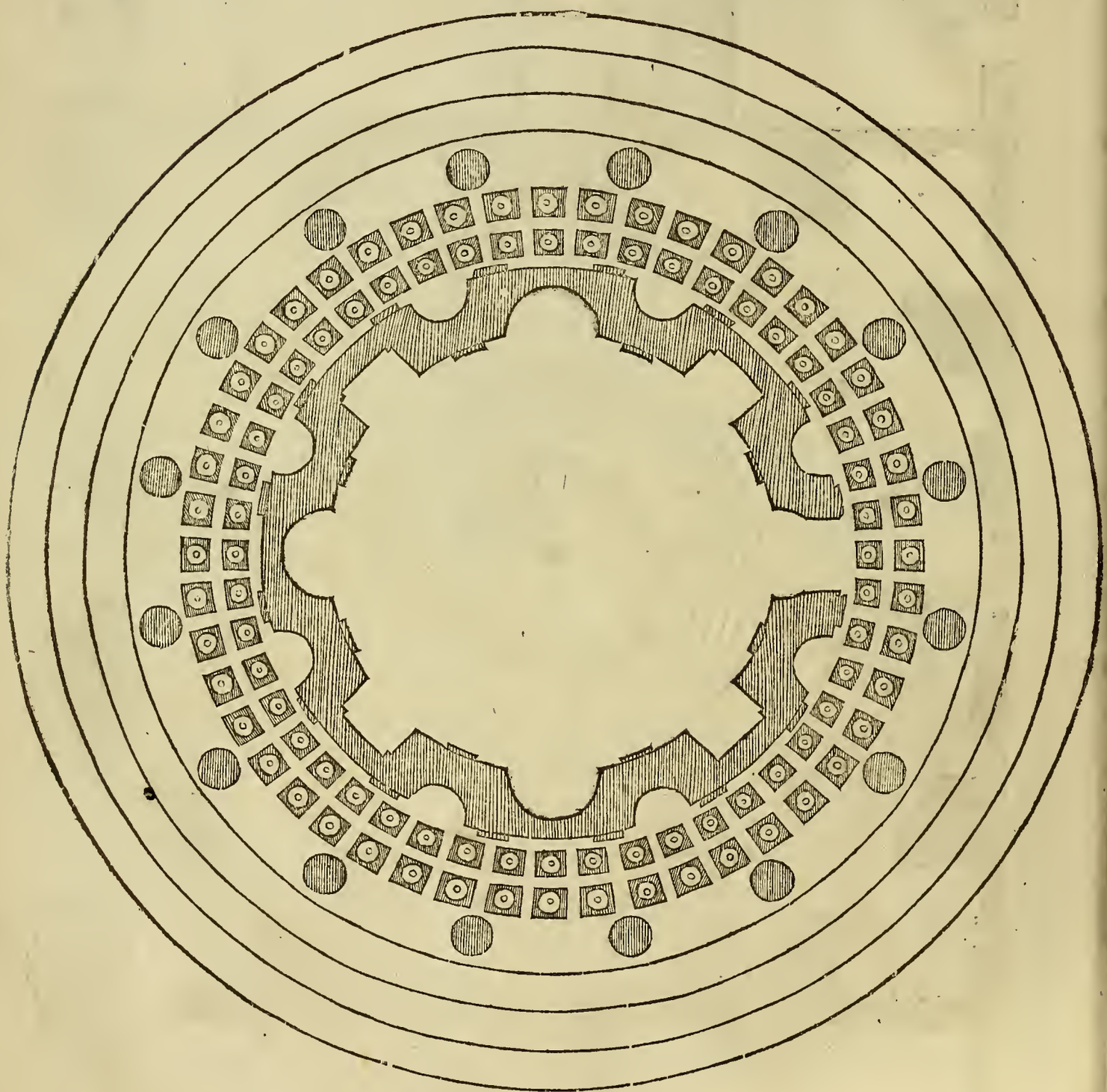
This is the Orthographie both within and without, drawne out of the Ichnographie afore set downe, whereby you may conceaue the great masse & waight which should heue stood vpon the foure Arches; which waight may giue any wise workeman matter to consider, that it had beene fitter to set it vpon the ground, and not in the aye vpon such a height; and therefore I counsell all workemen rather to be doubtfull then too rash: for if hee bee doubtfull, he will make his worke surer, and not despise another mans counsell, which doing, hee shall seldome faile: but if hee be rash and stout, hee will not take any other mens aduise, but will trust only to his own inuention, wherby oftentimes his worke doeth him more shame then honestie: therefore I conclude, that stoutnes proceedeth from presumption, and presumption from small vnderstanding; and I say, that doubtfulnesse or bashfulnesse is a vertue, making a man to thinke he knoweth little, although his vnderstãding be great: the measure of this worke is to be found by the aforesayd small Palms.



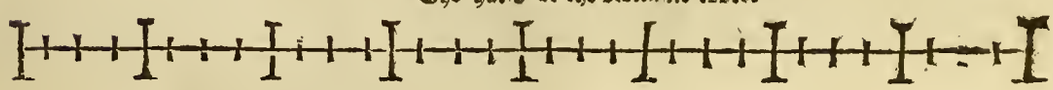
This ground set vnder this, is also an inuention of Bramant, though it was neuer made, which agreed with the old worke: that part which is marked with B. is S. Peters Church in Montorio without Rome; and that part marked with A. is an old Cloyster, but that part in the middle, Bramant ordayned, thereby to helpe himselfe with the old worke: the place marked C. signifieth a Gallery with foure Chappels in the corners. The place B. standeth vnder the ayre: the part marked E. is a litle Temple, which the said Bramant made: the measures whereof shalbe shewed in much greater forme in the leafe ensuing. I haue said nothing touching the measure of the ground, but I haue set this here onely for the inuention.



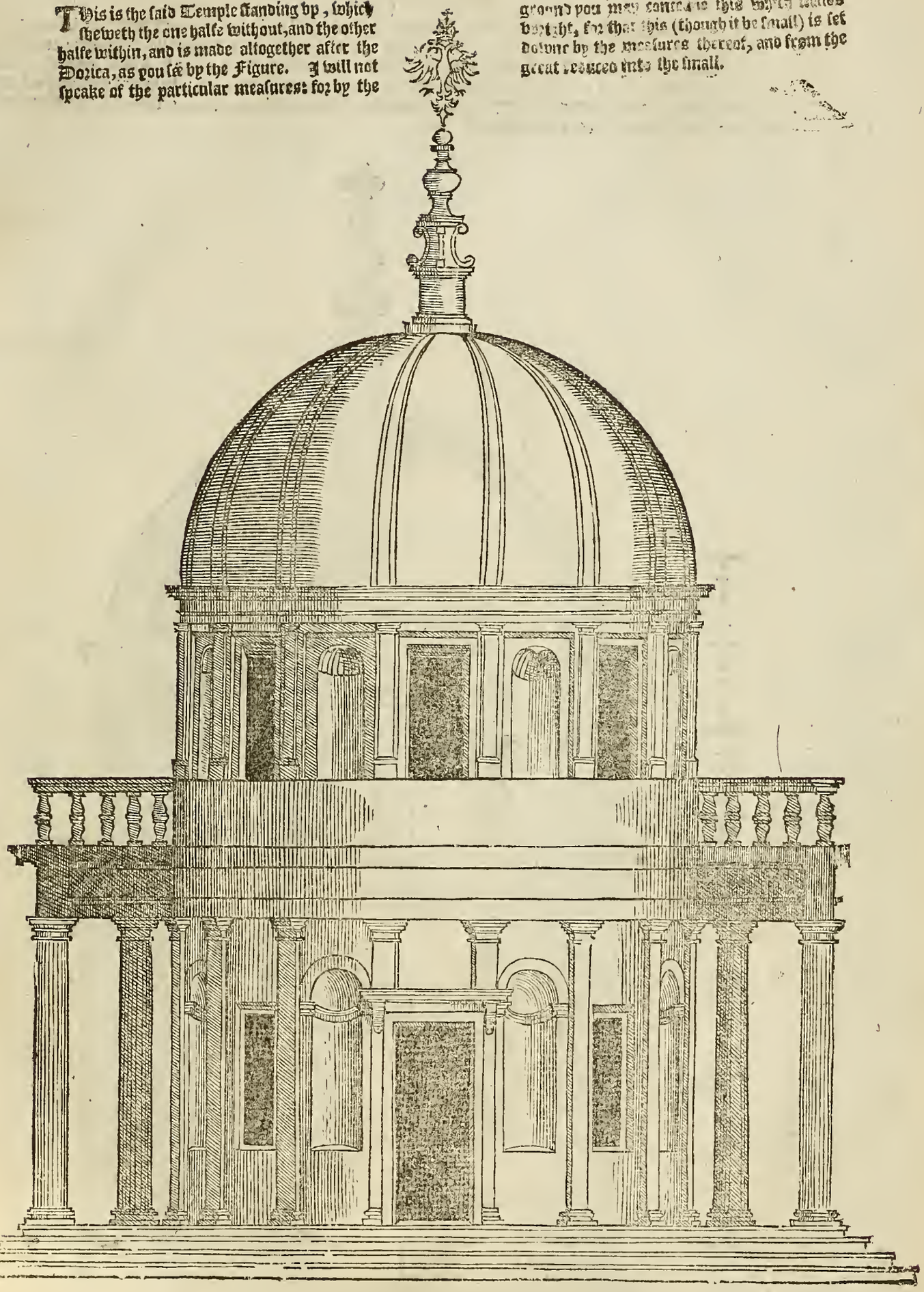
IN the last side I promised to shew Bramants Temple in greater forme, which is not very great, but was onely made in remembrance of S. Peter the Apostle, for it is said that he was crucified in that place: the sayd Temple is to bee measured by the old Romane foote, which foote is sixteene fingers; and euery finger is foure minutes: whereof also you shall finde the measure by the Romane Paime, augmenting the said foure fingers. The Diameter of this Temple is of fiue and twenty foote, and two and twenty minutes. The broadnesse of the walke round about the Temple is seuen foote, the thicknesse of the Columnes are one foote and 25. minutes. The widenesse of the Doore is three foote and a halfe: The Quadrants with the rounds within, which goe round about the Temple, shew the Lacunary of the Temple aboue the Columnes: the thicknesse of the wall is fiue foote; the rest of the other measures you may conceaue by the sight.



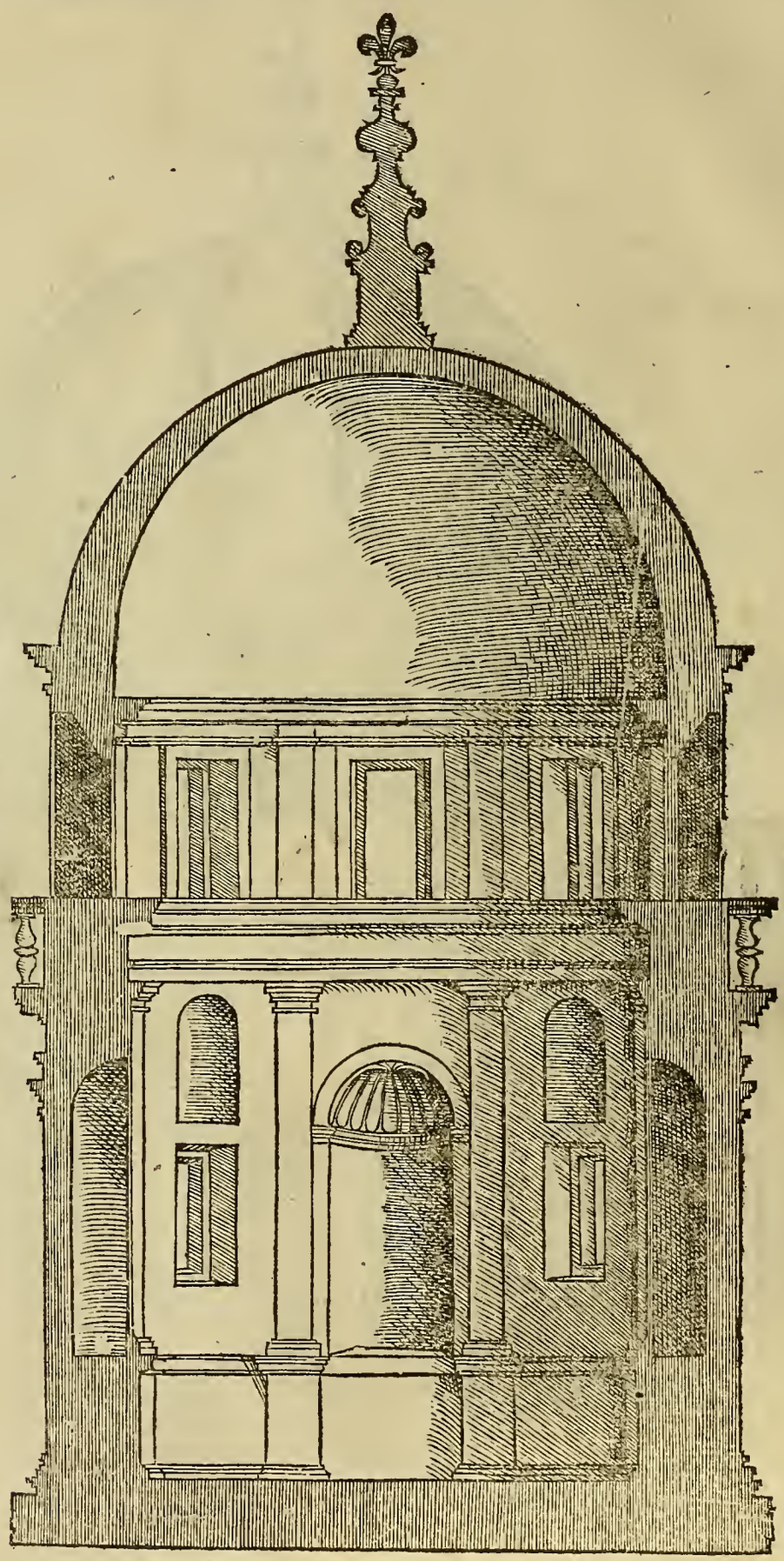
The halfe of the Romane foote.



This is the said Temple standing vp, which sheweth the one halfe without, and the other halfe within, and is made altogether after the Dorica, as you sée by the Figure. I will not speake of the particular measures: for by the ground you may conceiue this which stands vpright, for that this (though it be small) is set downe by the measures thereof, and from the great reduced into the small.

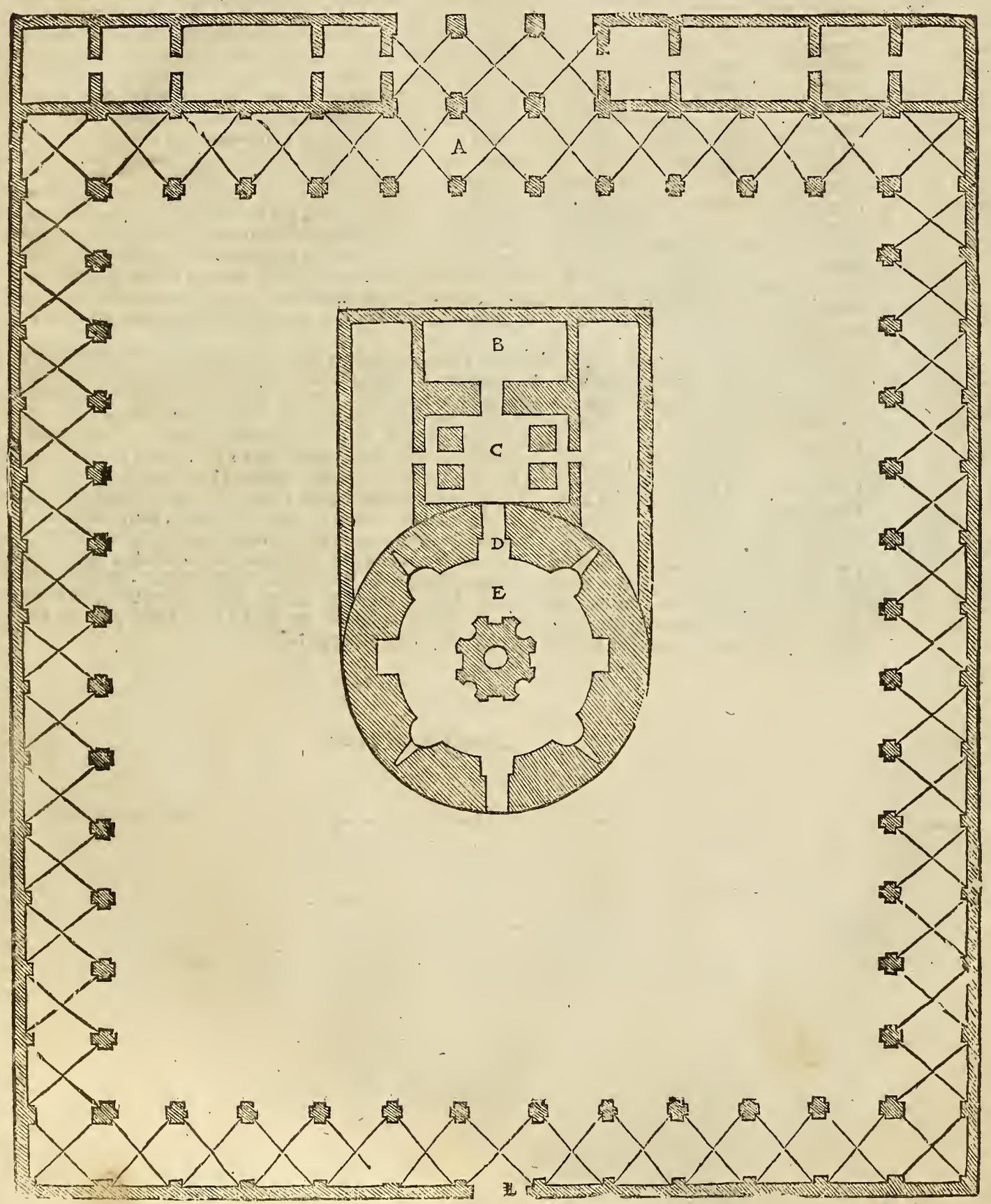


NOw I haue shewed the outside of S. Peters Temple, so this I will shew the innermost part, which is made with such proportion, that the workemen by the wideness of the ground, may finde all the measures: and although that this Temple sheweth to high for the bredth, for that it is thought and shewed to be as high as it is broad: Notwithstanding, by the openness of the windowes, and the Nichens or Chappels that are in it, the height thereof is not amisse, and especially by meanes of the double Cornices, which goe round about, and couer much of the height together with the Projecture, the Temple sheweth much more as it is.



The halfe of the Romane foote, wherewith this foresaid Temple was measured.

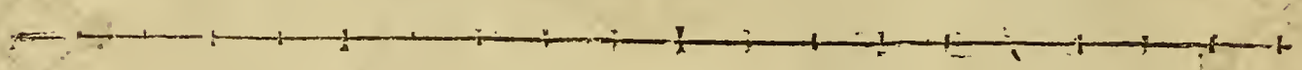
THis Building is without Rome, at S. Sebastians, and is all fallen downe to the ground, especially the walks about, but the Building in the middle (because it is very sure worke) is yet whole, and is made of Bricke: you see no ornaments in it at all, & it is darke, because it hath no light but at the Doore; and aboue the foure hollow places in the wall, some small Windowes. The ground of this worke is measured with the old Romish Palme, and the lengths with the breadths are measured with roodes, and euery roode is ten Palmes. First, the walke or Gallery marked A. is 49. roodes and 3. Palmes, the other two longer, are 56. roodes and 3. Palmes: the breadth of the walkes is 32. Palmes: the thicknesse of the corner Pillars, with all their members, is 12. Palmes: by the which measures you may conceaue the rest. Touching the Building in the middle, the place B. is vncouered, and is in length 7. roodes and 6. Palmes: the breadth is 3. roodes and 4. Palmes: the part marked C. is couered, and containeth 4. roodes in foure square. The foure Pilasters are ten Palmes thicke: the thicknesse of the wall round about the round Building, is 24. Palmes: the place marked E. is roofe: and that part in the middle is a masse, which beareth the roofe; in the middle whereof, there is an opening: and this masse is beautified with many hollow seates in it, which stand right, and accompany those that stand in the wall: touching the heights (because of the brokennesse) I measured it not; and especially, because there was no beautifulnesse of Building.

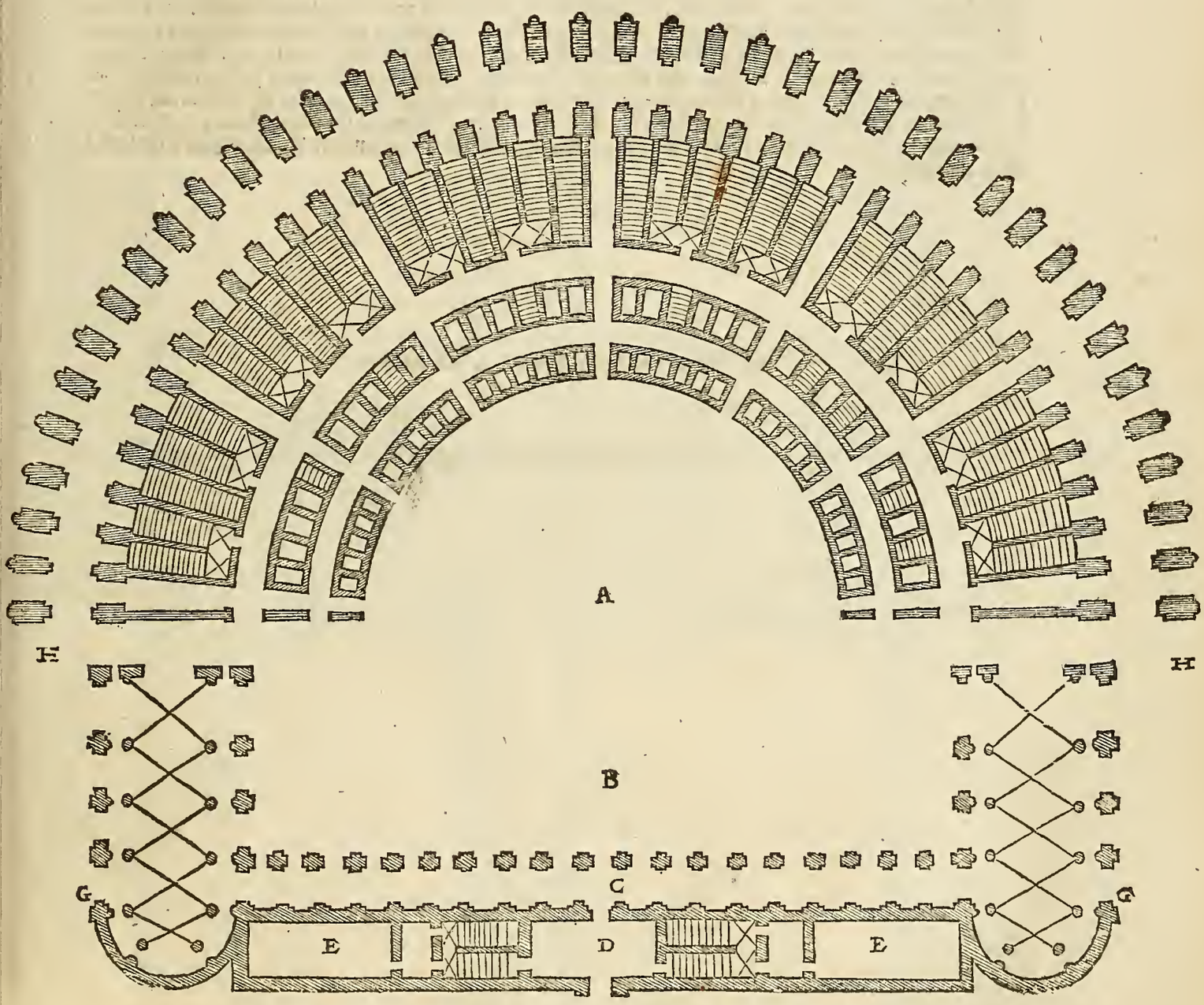


THis Theater Augustus made in the name of Marcellus his Nephew, and therefore it was called Marcellus Theater, it standeth within Rome, you may at this day see part of it standing vpright, that is part of the Galleries without: it is onely of two rules, that is, Dorica and Ionica, a worke, in truth, that is much commended, although the Dorical Columnes haue no Bases, nor any Cincte or Proiecture vnder them, but stand playnely without any thing vnder, vpon the flat ground of the Gallery. Touching the ground of this Theater, men could not well conceaue it: but not long since, the great Patrician of Rome, going to make a house, the scituation whereof was to be set vpon part of the Theater (this house was made by one Balthasar of Sienna, an excellent workman) and as he caused the foundation to be digged, there were found many reliques of diuers Cornices of this Theater, and a great part of the same Theater was discouered, whereby Balthasar conceyted the whole forme thereof, and measured it with great circumspection, placing it in the forme following: my selfe being at that time in Rome, saw many of the Cornices, and found friendship to measure them, and in truth, there I found as excellent formes as euer I saw in any old Ruins, and most in the Capitals of Dorica, and also in the impostes of the Arches, which, me thinks, agree well with the doctrine of Vitruuius. Likewise the Freese, Trigliphen, and Methopen, agree well inough: but the Dorica Cornice, although it be very full of members, and well wrought, yet I found it to differ much from Vitruuius instructions: for being licencious inough of members, was of such a height, that the two third parts of such height should haue bene inough to the Architraue and the Freese. But I am of opinion therefore, (by the licence of these, or other Antiquities) that a workeman in these dayes should not erre, (which error, I meane, is to doe contrary to Vitruuius precepts) nor to bee peremptory that hee will make a Cornice, or other thing iust of the same proportion as hee hath sene and measured, and then let it in worke; because it is not sufficient for him to say, I may doe it: for ancient workemen haue done it, without consideration whether it be proportioned according to the rest of the building. Besides, although an old workeman was so bold, yet we must therefore not bee so, (but as reason teacheth vs) wee should obserue Vitruuius rules as our guide, and most certayne and infallible directions: for that from that time of great Antiquity, till now, there is no man found to haue written better, nor more learnedly of Architecture then he: and as in euery Arte there is one more learned then another, to whom such authority is giuen, that his words are fully, & without doubt beleeued. Who then will deny (if he be not ignorant) that Vitruuius, for Architecture, is worthy of the highest degree? and that his writings (where no other notable reason or reuse is to moue vs) ought for the worthinesse thereof to be inuiolably obserued, and to bee better credited, then any works of the Romanes? which Romanes, although they learned the vpright maner of building of the Grecians, neuertheless, afterward when they became Rulers ouer the Grecians, it may be that some of them thereby became licencious: but certaynely, if a man might see the wonderfull works which the Grecians then did make, (which are now almost all spoyled and cast downe in time of warre) hee would assuredly iudge the Grecians worke to surpasse that of the Latines farre.

Therefore all those workemen that shall condemne Vitruuius writing, & specially in such cases as are clearely vnderstood, as in the order of Dorica, whereof I spake, should erre much in the Art of Architecture, to gainelay such an Author, as for so many yeares hath bene, and yet is approued by wise men, learned. Now hauing made this digression, which was necessary for the good of those that would not haue considered so much, turning againe to the purpose, I say, that this ground was measured by the old Romane foote; and first, the place in the middle, marked A. which is called Orchestra, is in the Diameter 194. foot, and is halfe a Circle from one corner to the other: of the stages or seates, marked H. it is 417. foete: the place marked B. called Proscenium, is very spacious; and where C. standeth, is the Gallery, which they call Porticus of the Scene, in the middle whereof stood the Pulpit: that part marked with D. was a Portall, with Stayres on both sides, which went vp to the places marked E. called Hospitalia: the two Galleries on the sides marked G. they vsed to walke in: Of which things men can see no more aboue the ground, for that they are couered with other houses. Touching the seuerall measures, as well of the Scene as of the Theatre, and of the degrees, I will say no more: for that in the Amphitheatre called Coliseo, I will declare it more at large, whereby a man may conceaue how this stood: but that part without, which went about the Theatre, I will shew in the second Figure, which was measured (before this) with a common Ell, which is deuided into twelue parts, which parts are called ounces: and euery ounce hath fiue minutes; of which Ell, this is a third part.

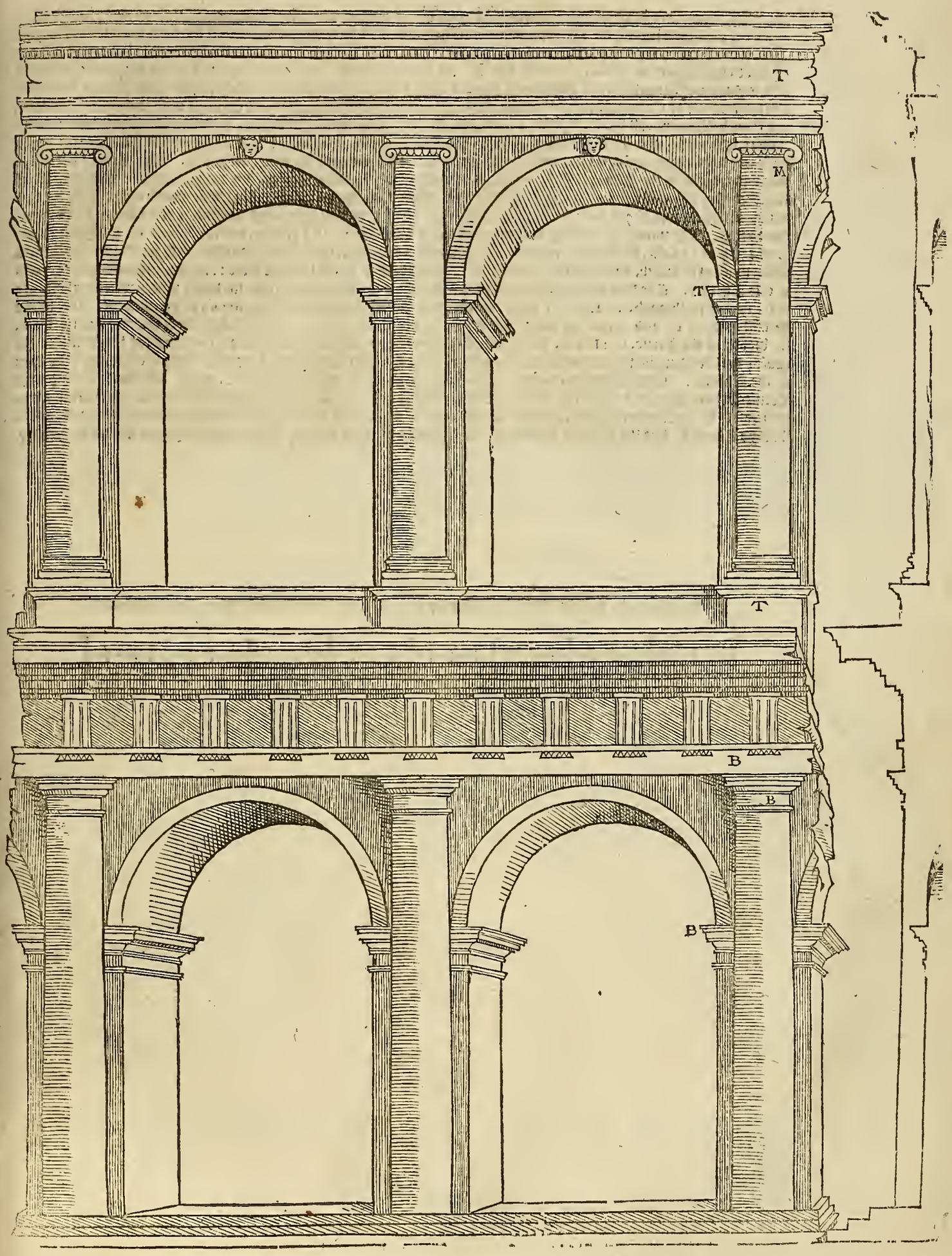
The third part of the Ell.




A
H
H
B
C
G
G
E
D
E

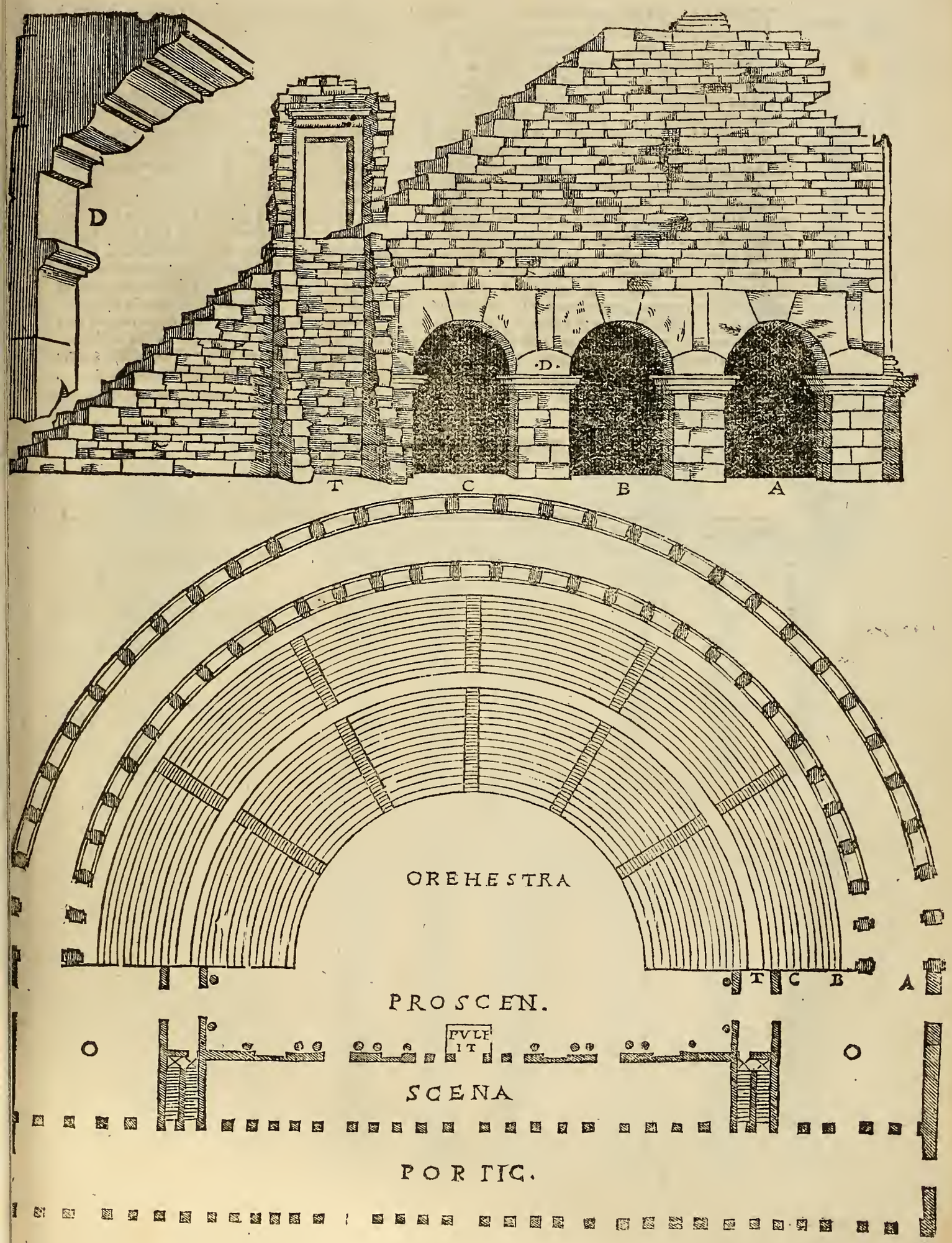
THis Figure following representeth that part without, of the foresayd Theater, and is measured with the Ell aforesayd: and first, the thickenesse of the Columnes beneath in the nether part of the first order, is an Ell and 43. minutes in Diameter: and the thicknesse of the Diameter aboue vnder the Capitall, is an Ell and 16. minutes: the height of the Capitall, is halfe the thickenesse of the Columnes beneath, the which Capitall is more perfecter marked in the fourth Booke, in the order of Dorica, in Folio E. 3. And the same Capitall is marked with B. Likewise also the impost, whereon the Arch resteth, is as high also as the Capitall, and standeth also in the same leafe E. 3. The Pilasters, beside the Columnes, are 19. minutes: the widenesse of one Arch, is 7. Elles and 9. minutes: and the height is eleuen Elles and fiftéene minutes; the height of the Architrane, is 49. minutes: the height of the Fréese is one Ell and eyght minutes. The height of the whole Cornice, is an Ell, and fourtie minutes: the widenesse of the second Arch of the second order, is as wide as that below; but the height is ten Elles and fourtie and eyght minutes: the height of the Pedestall vnder the Columnes of this second order, is an Ell and fourtie and eyght minutes: the thickenesse of the Columnes, is an Ell and twenty & foure minutes: the height of the said Columnes without Bases or Capitals, is 11. Elles, 27. minutes: the height of the Bases is 44. minutes: the height of the Capitall, that is within the Volutes, from the list of the Columnes, to aboue the Capital, is 36. minutes: but the Volute hangs ouer the Astragall or Bozell 20. minutes and a halfe, which in all, from beneath the Volutes, to aboue the Abacus, is 47. minutes and a halfe: the breadth of the Abacus of the sayd Capitall is one Ell and a halfe: but the breadth of the Volutes is two elles: the height of the Architrane is 59. minutes: the height of the Fréese is 58. minutes: the height of the Cornice is an Ell, & 48. minutes: which Cornice, in truth, is halfe so much more as it should be (if we will credit Vitruuius precepts.) But I pray you, gentle Reader, estéeme me not presumptuous, neither yet account me for a corrector of the works of Antiquitie, from whence men learne so much: for my meaning is onely, willingly to let you vnderstand and know that which is well made from that which is ill made: and that I will not doe after my owne conceite, as if you were taught by me, but by the authority of Vitruuius: and also of good Antiquities, which are those which best agrée with the doctrine of that Author. The Base of this second order, and the Pedestall vnder it, the Impost of the Arches, and withall, the Architrane, Fréese and Cornice, you shall altogether find in the fourth Booke of the order of Ionica in Folio K. the second, and are all marked with T. Likewise you shall find the Capitall in the same fourth booke, behind in the leafe I. the 4. marked with M.

The third part of the foresayd Ell, of 60. minutes.


T
M
T
T
B
B
B

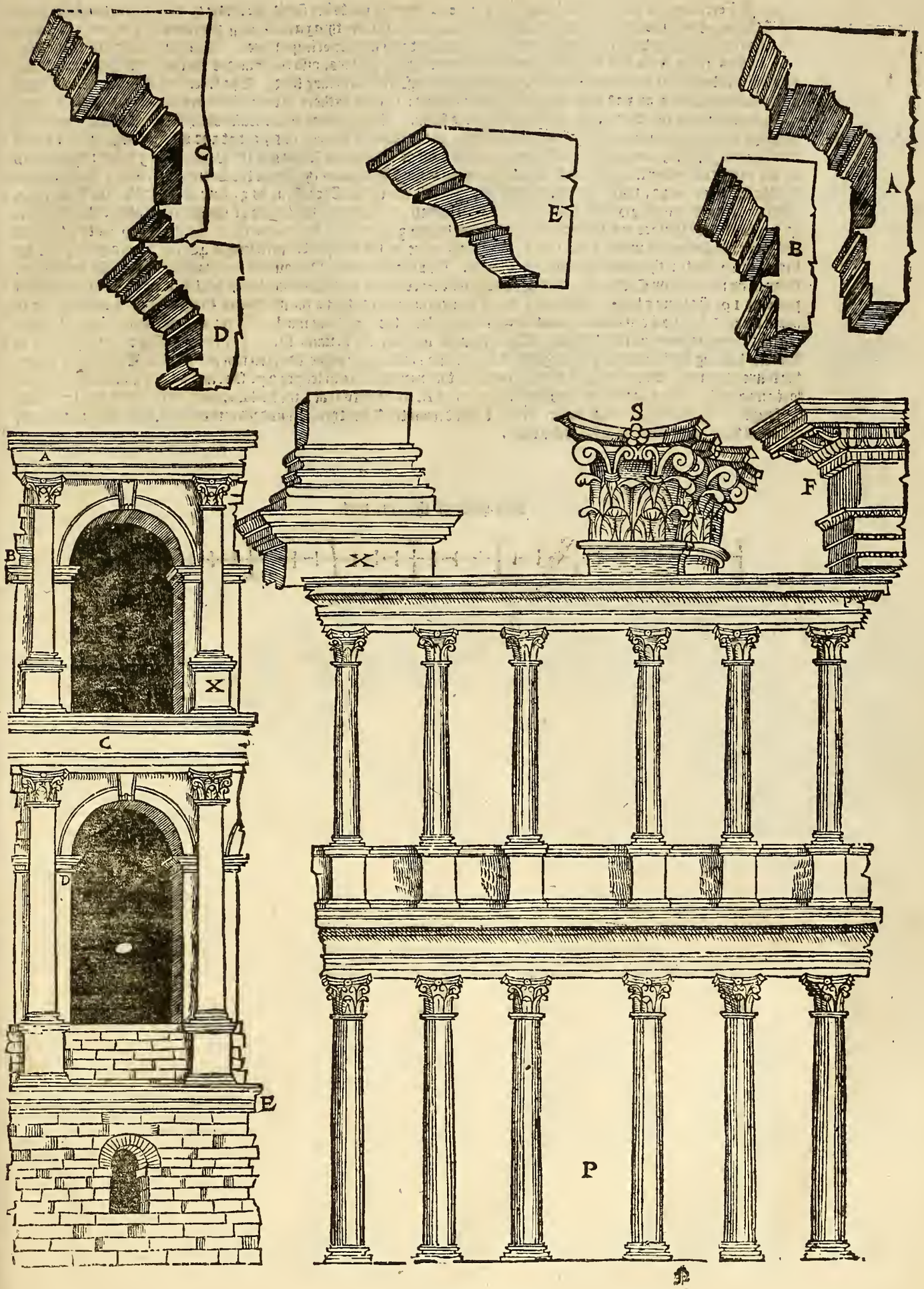
IN Dalmatia there is an ancient town called Pola, lying by the Sea side, wherin you may see a great part of a Theatre; in the making whereof, the expert workeman did helpe himselfe with the hill whereon it standeth, vsing the hill for part of the degrées or steps to goe vp, and in the playne below, he made the Orchestra, Scene, and other buildings belonging to such a piece of worke. And in truth, the ruines and the pieces which are yet at this day found, doe shew that it was a most beautifull and sumptuous piece of works of stone and workemanship; besides this, there you may see a great number of Columnes, some standing alone, others with Pilasters, and some Corners with foure square Pillars, and some halfe round, all bound together, and well wrought, after the Corinthia; for the whole work, both without and within, was made after the Corinthia manner. This Building was measured with a moderne or vsuall foote: which foote is deuided into twelue parts, named ounces, whereof the one halfe hereafter followeth. The Figure hereafter following, sheweth the Ichnographie, and also the Profill of the Theatre, whereof this is the measure: the widenesse of the Orchestra which is halfe a Circle, is in Diameter about 130. foote; the degrees or steps round about, with the two wayes or stratés, are of 70. foot: the way marked T. comes euen with the plaine of the Pulpit of the Scene to the foureteenth step. The widenesse of the Porticus round about the Theatre, is 15. foote, and the sides of the Pillars inward, is of 17. foot & a halfe; but the forestanche of the Pillars round about the Gallery, together with the Columnes, holdeth about five fot in breadth, and from the one Pilaster to the other, it is about 10. foot wide: and this is touching the ground of this Theater. The two greatest Quadrans marked O. are the Hospitalia, from the which places men went into the entry or passing through, marked T. which comes vp to the street, halfe way to the steps, as you may perceiue by the Profill marked T. and vnder the going through, is part of the going in. The Hospitalia is fiue and fourtie foote, the breadth of the Scene, is 21. foot, the breadth of the Porticus or Gallery before, is 27 foote, and the length is like the house; the Building which standeth aboue the ground of the Theatre, signifieth the Profill, which is cut through the sides of the Theatre. The Arch marked with A. signifieth the going in, the second Arch C. and B. are vnder the steps, the Cornice besides marked with D. is the impost of the Arches: there needed no going vp to this Theatre, for the hill aforesayd eased the workeman therein, and men might also goe vp to the Theatre from the Scene, because it was ioyned to the sayd Theatre: but the Theatre of Marcellus is seperated from the Scene, and therfore the goings vp were necessary.

This is the halfe foote of measure, whereby this Theatre was measured with all the ornaments.


D
D
T
C
B
A
OREHESTRA
T
C
B
A
PROSCEN.
FVLF
IT
SCENA
PORTIC.

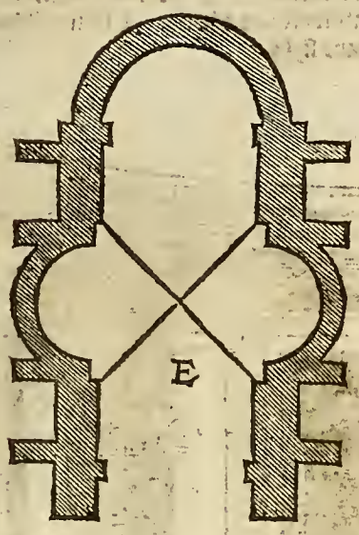
THis Theater (as I haue sayd) was very rich of ornaments, all of stone, and made of Corinthia worke, very well and richly wrought, and by as much as is seene by the ruines which lie scattering about the Scene, was very beautifull of Columnes vpon Columnes, both double and single, and also in the innermost and outtermost parts, with diuers ornaments of Doores and Windowes. The innermost part of the Building is much ruinated: and touching the measures, I can say little; but of the outtermost parts, I will say somewhat of their measures. The first, a rusticall or clownish order, wherein there is no Columnes, is elevated from the earth, together with the whole Cornice, marked E. about 16. foote: the height of the first Pedestall, is fiue foote, the height of the Columnes with the Bases and Capitals, is 22. foot; the thicknesse of the Pillars, with the Columnes, is 5. foote: the thicknesse of the Columnes alone, is two foote and a halfe: the widenesse of the Arches, is about ten foote: and their height twenty foote: the height of the Architraue, Frèse and Cornice, is about fiue foote; the second Pedestall marked X. is of foure foote and a halfe: the height of those Columnes are about sixteene foot, the Architraue, Frèse and Cornice, is foure fot high. I set not downe the measures of the particular members, but in the Figure you may conceaue them; for they are inst of the same proportion: I set not downe the measure of the Scene, nor of the other parts within: onely I haue here set forth a part of the Portices of the Scene, which is marked P. And also the Cornice, Frèse and Architraue marked F. was in the highest thereof: the Capitals marked S. stode within, with some halfe round Columnes, rayled out of some Pilasters, things that were very well wrought: all which things (as I sayd before) are so sumptuous, both for stone and workemanship, as they may well be compared with those of Rome: the Cornice, Frèse and Architraue, marked A. was in the highest part of the Theatre: the Cornice marked B. is the impost of the second Arch: the Architraue, Frèse and Cornice, marked C. is the Cornice aboue the first Arch, the Cornice marked D. is the impost of the Arch: the Cornice marked with E. goeth aboue the rusticall basement round about the Building: this line hereunder is halfe a foote, of the whole foote wherewith this Building was measured. And wonder not, gentle Reader, that I set not downe all the measures more precisely; for these things of Pola, were measured by one that had more vnderstãding in talking, then in measuring.

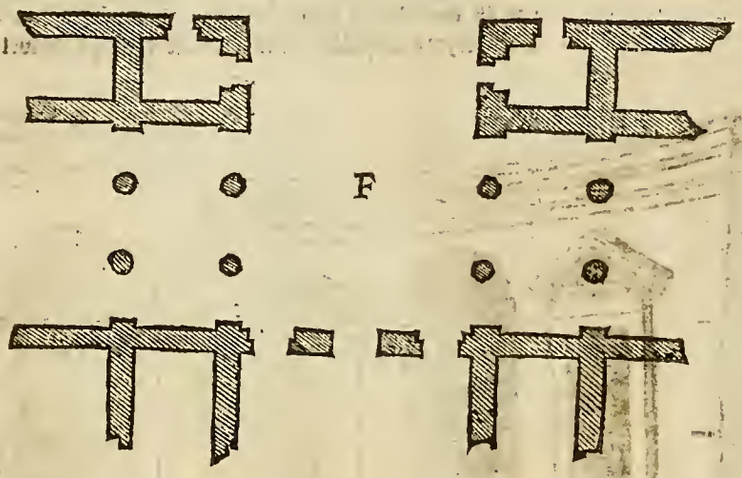
The halfe foote, whereby this is measured.

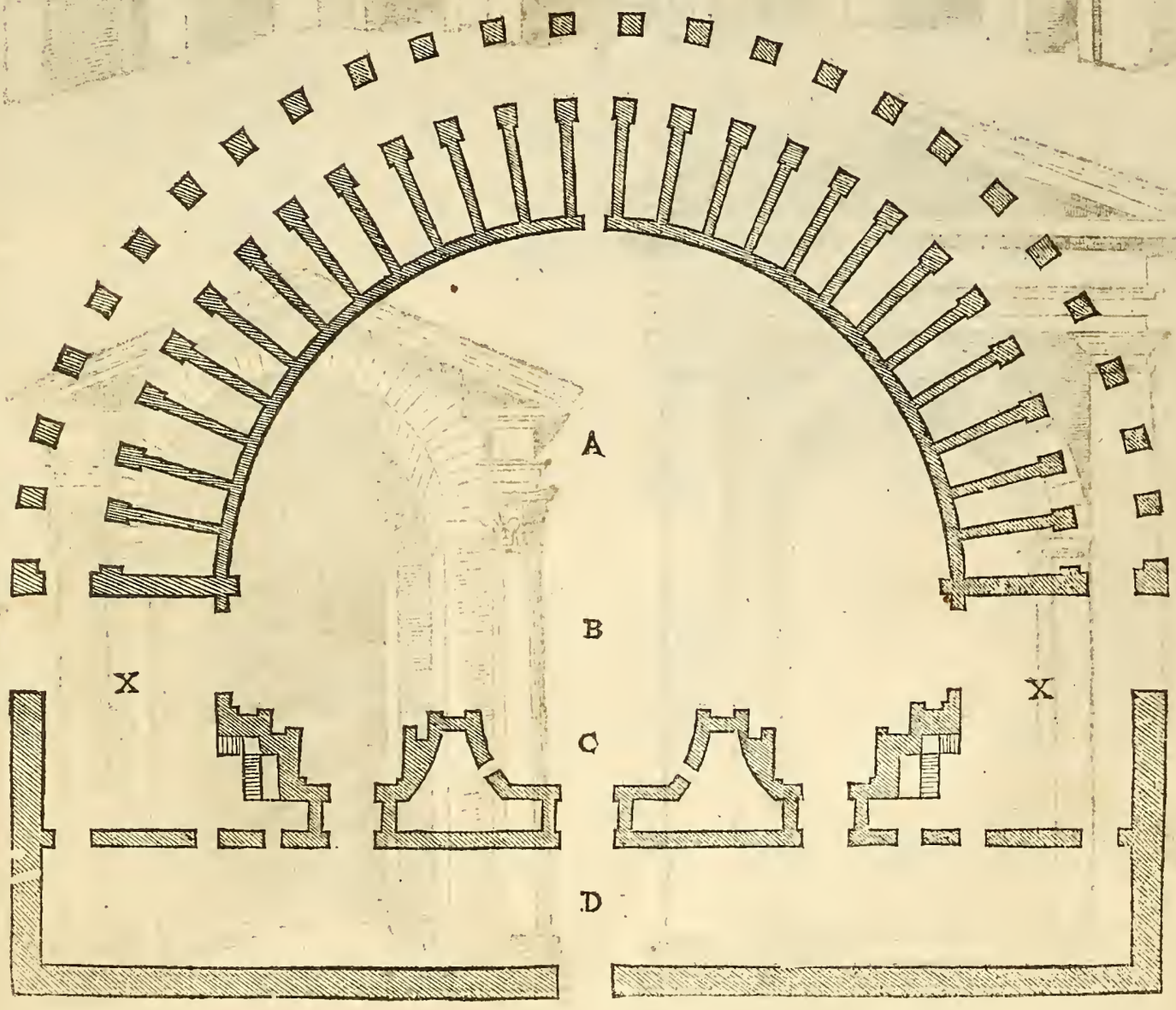

C
D
E
B
A
A
B
X
C
D
E
X
S
F
P

AT Ferenten, an old Towne lying by Veterben, there is yet to bee seene the forme of a Theatre, much decayed, being of no great worke manship, and lesse ornaments, for any thing a man may perceaue by the same; for there are no pieces to be seene whereby a man may conceyt any matter of importance. But you may yet see in the Porticus going from the Theatre, there were foure square Pillars, also the Stayres thereof were very simple and playne: and because it is so much decayed, you can hardly discerne how they stood. The Scene of this Theatre is much different from others, as you may see in the ground thereof: neither is there so much standing aboue ground, that a man may perceaue how the Scene and the Pulpit thereof stood. This ground was measured by the ancient foote, and first, speaking of the Orchestra A. which is halfe a Circle, the Diameter thereof is 141. foot and a halfe long. The body of the Theatre, that is, from the Orchestra, to the outtermost of the Corner Pillars of the Porticus, is 35. foot: the Pillars of the corner on eyther side, is 5. foote broad: the entry of the Porticus on the side of the Scene, is 8. foote: the vault vnder the Stayres, is 22. foote: the thickenesse of the Wall about the Orchestra, is 3. foote and a halfe: the Hospitalia, marked X. is in length 40. foot and a halfe; and in breadth 30. foote: the widenesse of the Porticus about the Theatre, is 11. foote: the Pillars are thicke and broad, 3. foote and 3. quarters: the widenesse of the Arch, is 9. foote: the iust breadth of the Orchestra marked B. is 20. foote: the place of the Pulpit C. is in length 40. foote and a halfe; but the breadth is 12. foote: the going through, is 9. foote. The place marked D. should be the Porticus behind the Scene: yet there is no shew of any Columnes; but it sheweth that there was a wall standing by the water side. The breadth of this place, is 19. foot and a halfe. Without this Theatre there standeth the foundation of two Buildings, but they are so much decayed, that you can find no end of them: neuertheleſſe, the Building marked F. for as much as you see of it, sheweth that it was ioyned to other things. The widenesse wherein the F. standeth, is 31. foote. The 2. small places or stancies holding vp the one side, are eyght foot and a halfe; and on the other side, ten foot and a halfe. The Arches where the foure Columnes stand (which I take be made in that manner) are in length 27. foot and a halfe, and in breadth ten foot and a halfe. The breadth of the Building marked E. is twenty foot: the hollow places in the sides, are 17. foote: the length of all together, is 60. foote, and is distant from the Theatre one hundred and one and fortie foot; and from the other Building, seuentie foote and a halfe.

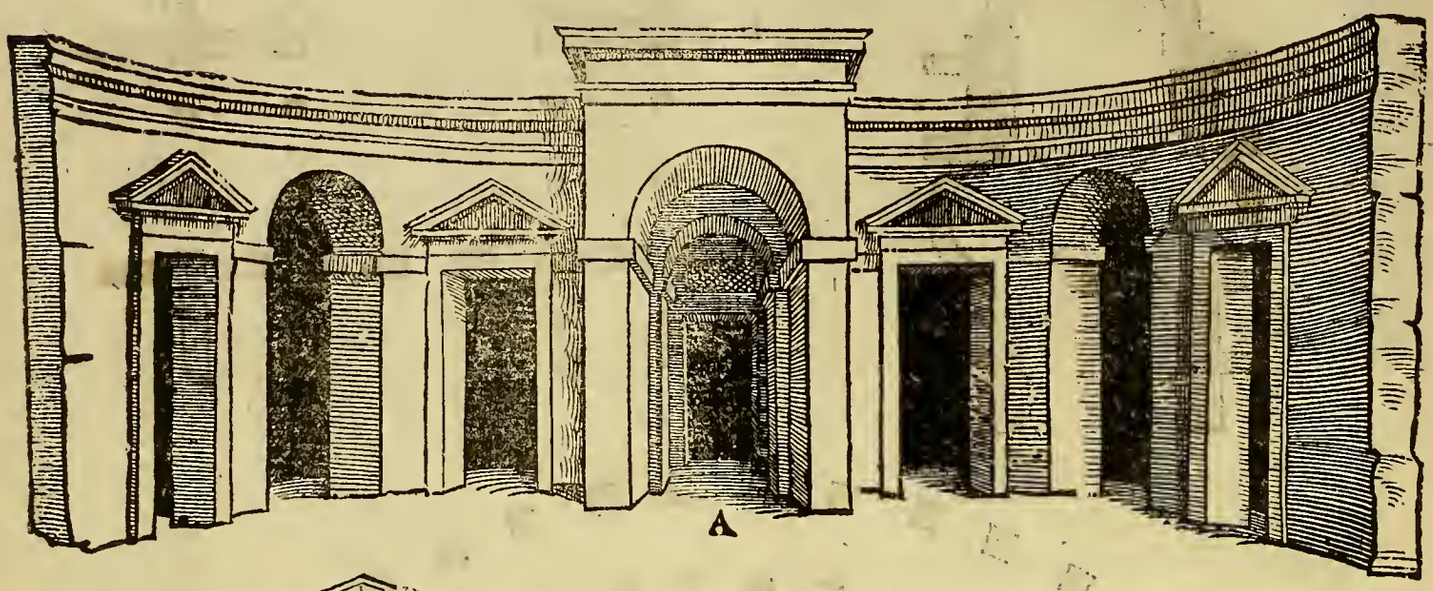
The halfe of the olde foote.


E

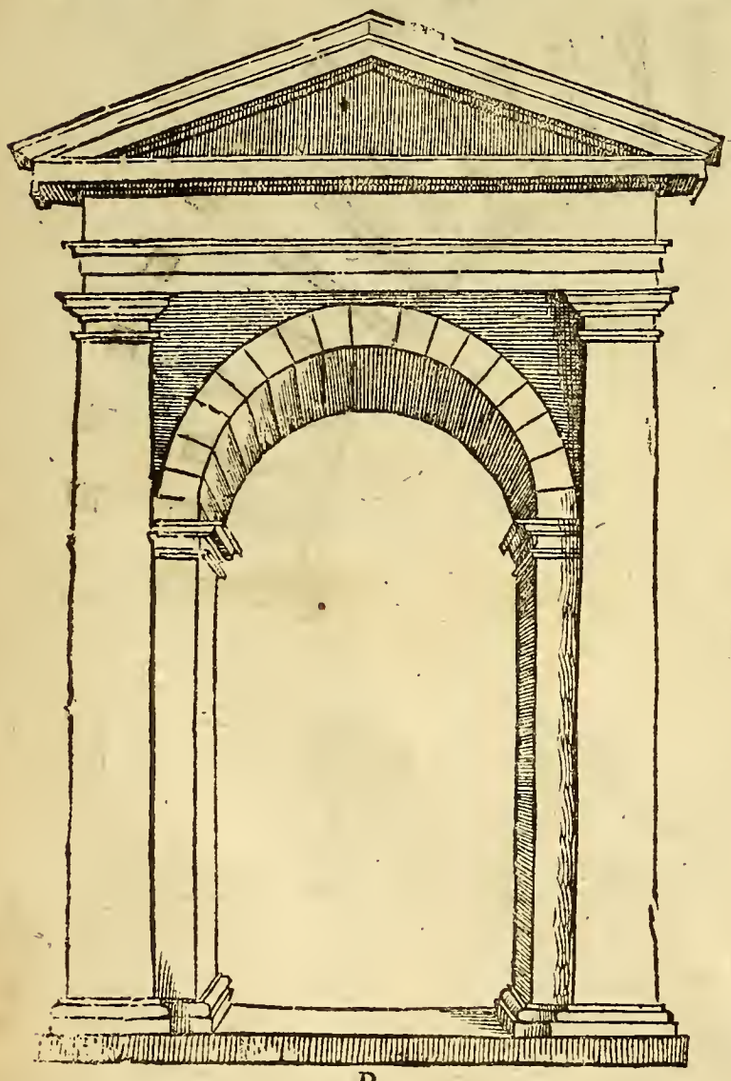

F


A
B
X
X
C
D

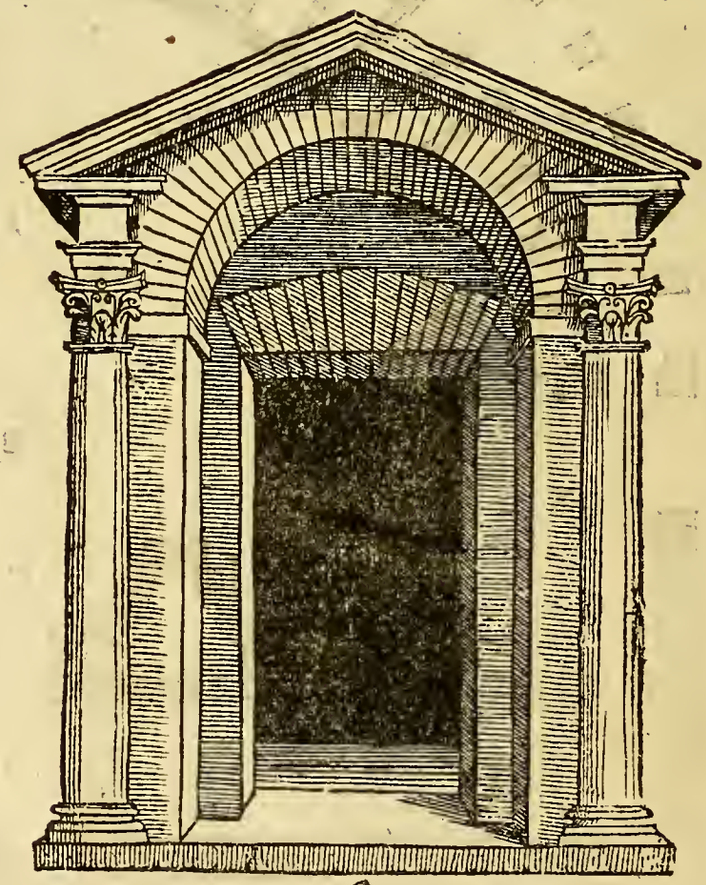
THE Figure vnder this, marked A. I thinke to haue bene the Scene of a Theatre, it standeth betwéene Fondi and Terracina; but there is so litt'e to be séene of the Theatre, that I measured it not: neither did I measure this part of the Scene, which is more decayed then it sheweth here: but as I sate on horse-back, I made a slight draught thereof. The Dore marked B. standeth at Spoleta, and is very olde, made after the Dorica maner, which likewise I did not measure, but made onely the inuention and forme thereof. The Gate marked C. is betweene Foligus and Rome, out in the feild: and although it séeme a licentious and vnsémely thing, that the Arch should breake the passage of the Architraue, Frieze and Cornice; yet nevertheless, the inuention disliked mee not. I measured onely the breadth and the length, the which I found to bee eighteene foote, and one and twenty foote and a halfe. I thinke it had béene a small Temple, or a Sepulchre; but be what it will, it sheweth well to a mans sight.



A

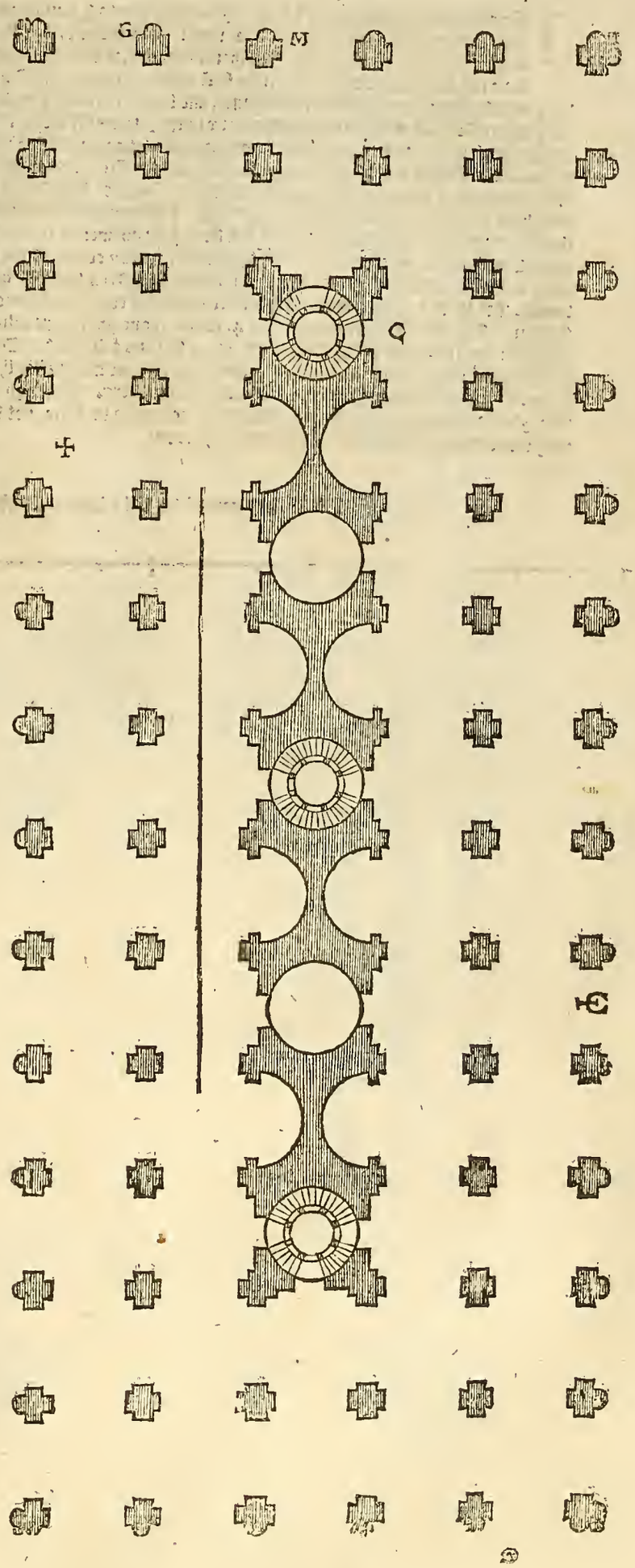


B



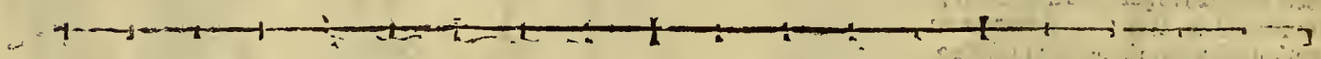
C

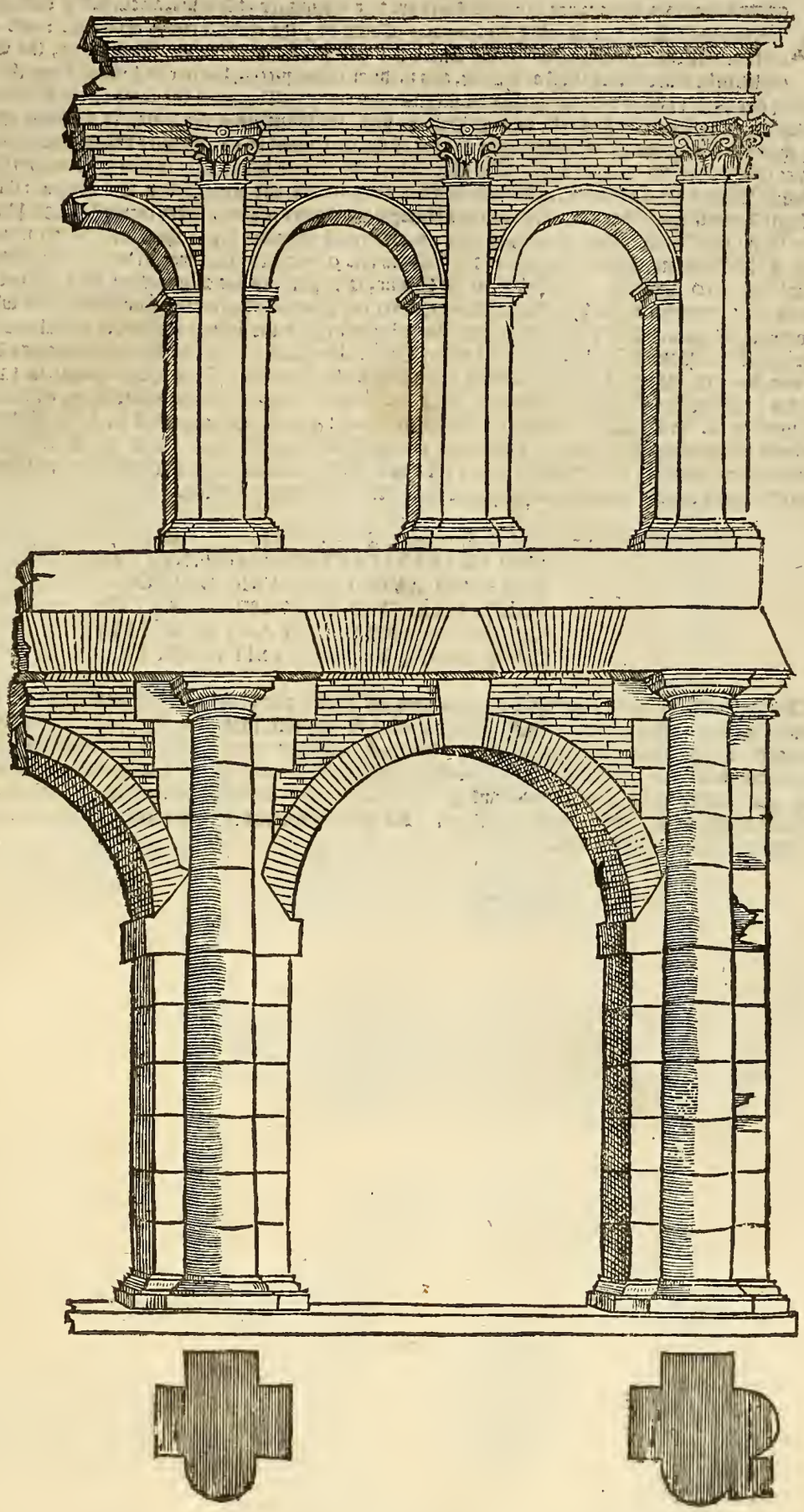
IT is sayd, that this building was called, Porticus, of Pompeo: others say, that it was the house of Mario: but it is called by the Common people, Carabario: which building, as farre as I can learne, was onely made for men to ease themselues in: for there is no dwelling in it at all: and although this building at this day is almost decayed, yet it was very great, and contayned many places, as you see by many houses of this building which are found in the earth. Where the Line standeth, is now the way to goe from Campo Floro, to the Iewes place: and where the Crosse is now, the houses of Sancta Crose stand: where G. stands, is the Iewes place: where the M. standeth, bee the Parcellarii: where the C. standeth, is the Church yard of S. Salnatorie: and where the E. is cut through, is the Fore-front of the houses of Celsis: so that thereby you may see the great compas thereof. The three round things were Stayres to goe vp to the two emptie Roundles. And for that there is no shew of Stayres to be seene in those two, it is to bee conceaued, that they were open places to make water in, (for such things are necessary.) The ground of this worke is measured by the same Ell that the Theater of Marcellus was measured withall: which measure you you shall finde here, after the Obliscen, and (halfe an Ell shalbe thirty minutes.) And first, the thicknesse of the Pilasters is three Elles and a halfe: the thicknesse of the Columnes is two Elles: the Intercolumnes, are on all sides, nine Elles and a halfe: the Pilasters of the foure Corners, are so much more the the outermost Corners stand ouer them: which Corners were made with good iudgement, for they vphold the Corner by strength, and with beauty of worke. Thereby workemen may learne how to make Corners with Columnes, and with Pilasters bound together, that the Corner may also be foure square, as the Columne is, which giueth the Corner more fastnesse, then if the same Corner were drawne along the Pilaster: and for the Corners which are drawne in, if you see them ouer the side in Diagonall maner, where the two round Columnes couer the Corner, then they will seeme vnperfit Corners, and specially, because they are seene on all sides.



TOuching the Ichnographie, I haue sayd inough; now I must speake something of the forme aboue the ground, although there is not much thereof to be séene: neuertheless, there is yet so much standing vpright (although it be hidden) that thereby the backe part thereof without, is to be conceaued, which, in truth, is an ingenious inuention, for a fast worke, and especially in the first order, which you call Dorica, although it hath neyther Architraue, Triglyphs, nor Cornice: But yet there is the forme, and that very subtilly made, with great strength and fayre Building (as well of hard stone as of Bricks) as you may sée in the Figure following. The thicknesse and breadth are shewed before: the height of the Columnes with Bases and Capitals, seuentéene Elles: and the height of the Arches, fiftéene Elles. The height of the Cuneo, that is, the shutting stone aboue the Arch, is 2. Elles: the height of the binding, which is in stead of an Architraue, is 2. Elles, and so much is the Facie aboue it. The second order seemeth vnsupportable, for that there is a waight of Pilasters standing aboue an open hole: a thing which in trueth is false & erroneous to speake in reason. Neuertheless, for that the first Order is so fast and strong, by meanes of the shutting stone aboue in the Arch; as also with the crosse stone vpon it, with the fast Facie vpon that, and by reason of the good shoulders of the Arch, which altogether shew to be such a strength (as in effect it is) that the Pilasters that rest vpon it, séeme not to oppresse the worke, as they would, if it were a simple Arch, with an Architraue, Fréese and Cornice: for which cause I blame not this inuention therein. The widenesse of this Arch is 4. Elles: the height is nine Elles: the breadth of the Pilasters, is two Elles and an halfe: the thicknesse of the Columnes, is an Ell and a fift part in Diameter: the height of the Columnes is eleuen Elles and an eyght part with Bases and Capitals, and are made after the Corinthia manner. The height of the Architraue, Fréese and Cornice, is two Elles and thrée quarters. Although I can giue no particular measures of this Cornice, Fréese and Architraue, because such things are not to be séene, yet there is onely so much wall, that thereby a man may conceaue the Freeses, Cornices and Architraue.

The third part of the Ell, wherewith this is measured.

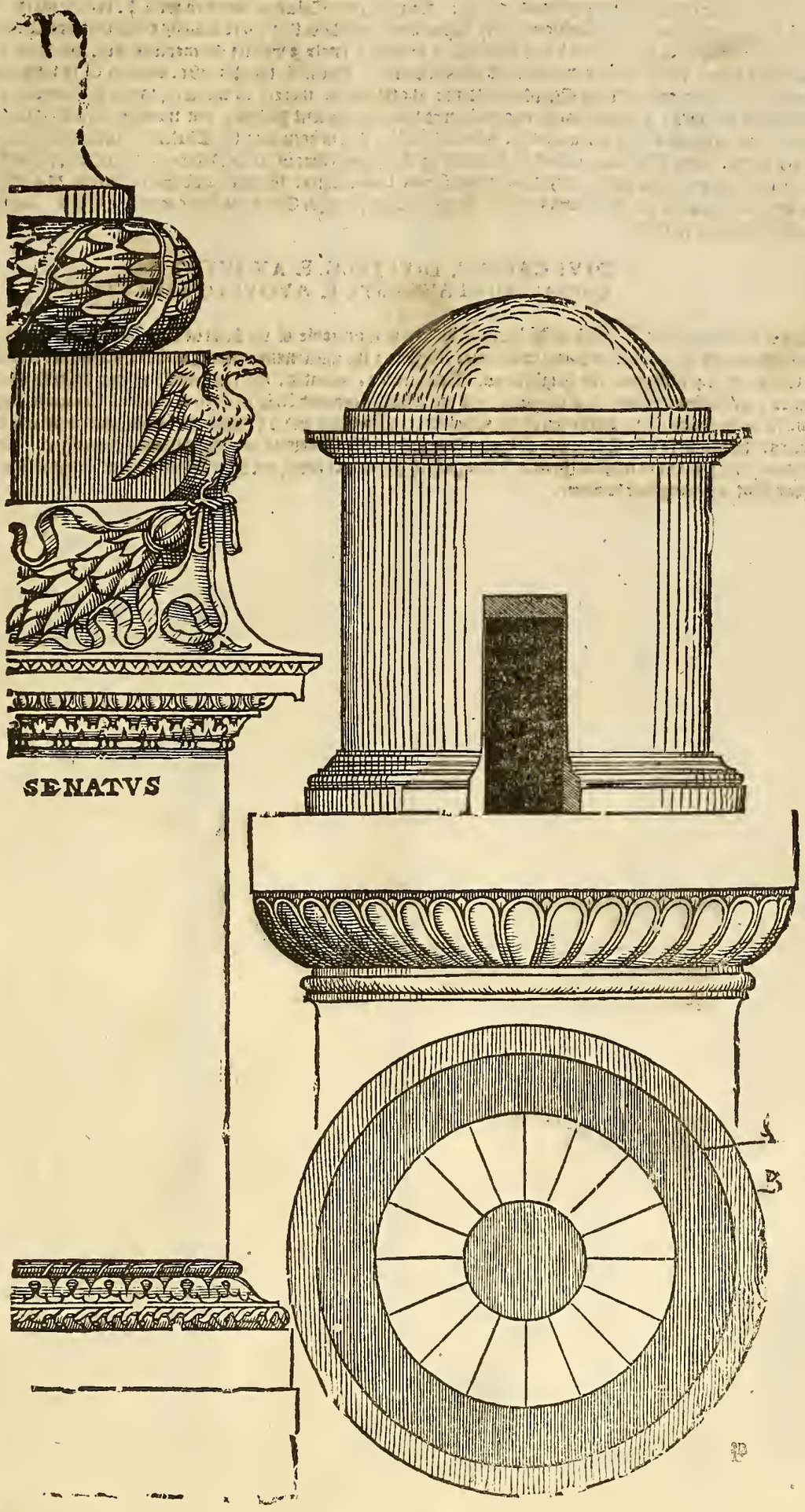




AMong other faire Antiquities in Rome, there are two Columnes of Marble, all cut full of Histories, very good imbost worke. The one is called Antonianas Columne, the other Traians Columne: and for that Traians Columne is the wholest, I will speake somewhat thereof. This Columne, as men say, the Emperour Traian caused to be made, which is all of Marble, and made of many pieces; but so closely joyned together, that they seeme to bee all one piece: and to give the particular measure thereof, I will begin at the foote of the Basement thereof: And first, the degree or step in the first rest, is three Palmes high, the Plinthus of the Base, is a Palme and eyght minutes high; the carued or graven Base is as much: the flat of the Basement is 12. Palmes and five minutes high: the graven Cornice is a Palme and an halfe high. The place where the Feston hangeth in, is two Palmes and ten minutes high: the whole Base of the Columnes, is five Palmes and 28. minutes, and is deuided in this manner: the Plinthus where the Eagle standeth vpon one corner (but you must imagine that there is one at euery corner) is three Palmes and ten minutes high: the Thorus above it, is three Palmes and eyght minutes high: the Cincte is ten minutes high. The height of the Columne, that is, the body, is 18. Palmes and 9 minutes: the Astragall with the Quadrants or lists vnder the Echine, is 10. minutes. The height of the Echine, is 2. Palmes and 2. minutes: the height of the Abacus, is 2. Palmes & 11. minutes: above vpon this Columne, there is a Pedestal of a round forme, through the which men crept frō the winding Stayres, and may goe easily round about, because the plaine ground thereof, is 2. Palmes and a halfe broad: the height of this Pedestall is 11. Palmes; but the Base is two Palmes, and the Cornice above, is a Palme high. The Crowne above the Pedestall, is three Palmes and a halfe high: the thickenesse of this Pedestall, is 12. Palmes and ten minutes: the thickenesse of the Columne above, is 14. Palmes, and the thicknesse below, is 16. Palmes: the roundnesse marked A. in flat forme, sheweth the thicknesse above: and the Circle marked B. is the thicknesse below. The wideneesse of the winding Stayres, is 3. Palmes, and the Spill foure Palmes. The breadth of the Basement, is 24. Palmes and 6. minutes; in the which space are cut two Compartements, wherein is contained an Epitaph, vnder which many Trophees are cut: and in the Epitaph are these letters hereunder written.

S. P. Q. R.
IMP. CAESARI DIVI NERVAE. F. NERVAE,
TRAIANO AVG. GERMANIC. DACICO
PONT. MAX. TRIB. POT. XVII. COS. VI. PP.
AD DECLARANDVM QVANTAE ALTITVDINIS MONS ET LOCVS SIT EGESTVS.

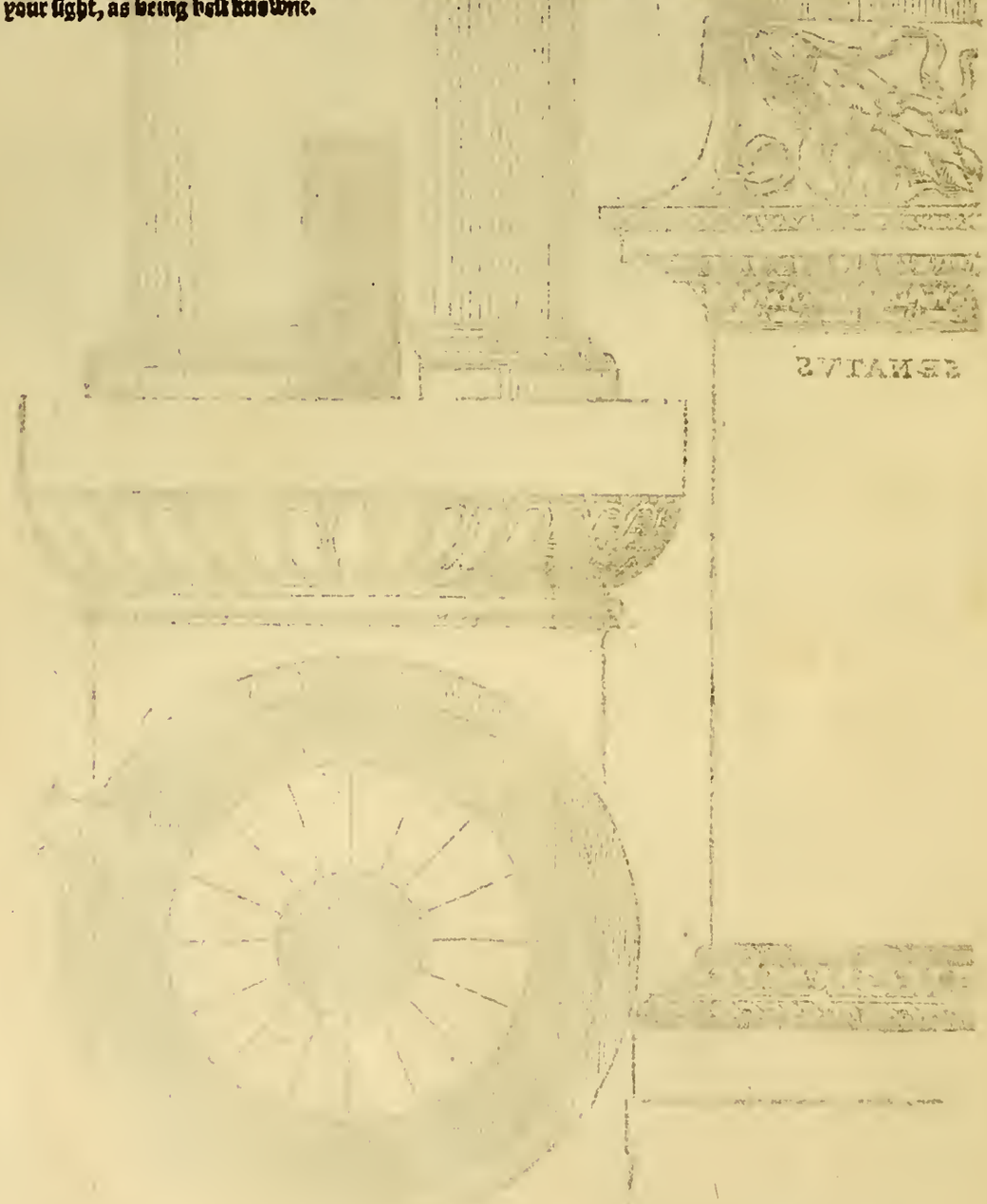
This Columne is historiographied with excellent good cut worke, and drawne along with Berries; it is also flinted in Dorical manner: in the flintings the Figures are made in such sort, that rising vp or bearing out of the Figure, the forme of the Columnes and flinting, is nothing disparaged; betwene which Figures there stand some Windowes, which give light to the winding Stayres: and although the said Windowes are placed orderly, yet they hinder not the Historie at all, and yet they are 44. in number, and I will shew the whole Columne in the Figure following: but these are the members thereof, openly written and set downe. All these members are measured with the olde Romane Palme, as you find it before vpon the round.

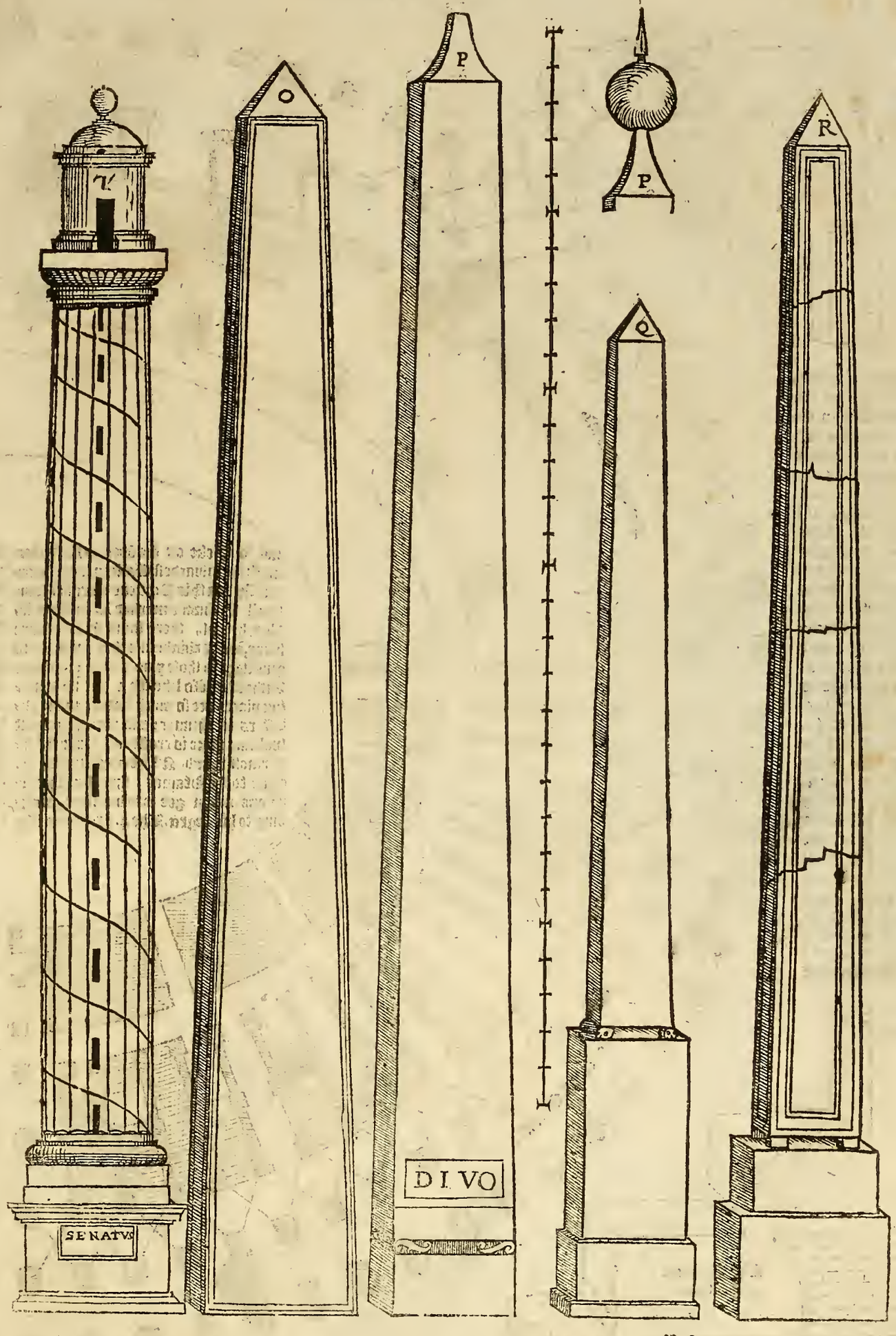

SENATVS
A
B

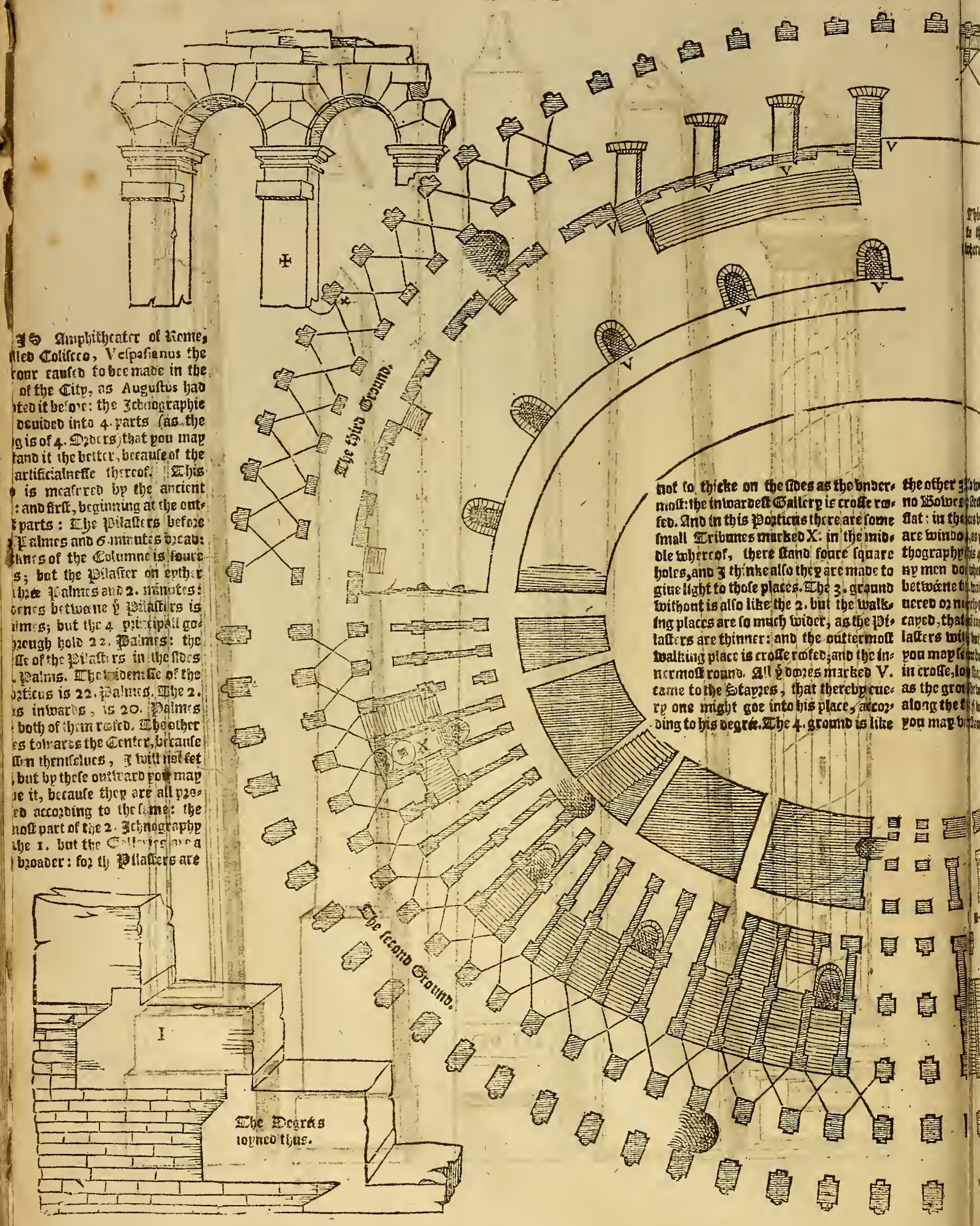
I haue before sufficiently spoken of the breedth of Traians Columne, and of the particular maner thereof, now I will shew the whole Columne proportioned as it is: So then, the Columne marked with T. representeth Traians Columne: but from whence the Obelisces spring or proceede, and how they were brought to Rome, and to what end they serue, I will not speake of, for that Pliny declareth it at large: onely I will set the measure here, and shew the forme of some things which I haue seene and measured within Rome: And first, the Obelisce, marked O. is without the Capena, and is all grauen and cut with Egyptian letters: the thicknesse thereof in the foote, is ten Palmes and a halfe: the height is 80. Palmes: and this onely was measured with the ancient Palme: but the other three by it were measured by a moderne or vsuall Ell of 60. minutes, whereof the line that is betweene the Obelisces, is the halfe, and is deuided into 30. parts. The Obelisce marked P. standeth in Vaticano (that is) at S. Peters, and is of Egyptian stone: in the top whereof (they say) the Ashes of the Emperour Gaius Cæsar stand: the thicknesse thereof below, is 4. Elles and 42. minutes: the height is 42. Elles and a halfe: the part aboue, is three Elles and foure minutes thicke: and vnder at the foote standeth these letters.

DIVI CAESARI. DIVI IVLII. F. AVGVSTO. TI.
CAESARI DIVI AVGVSTI. F. AVGVSTO SACRVM.

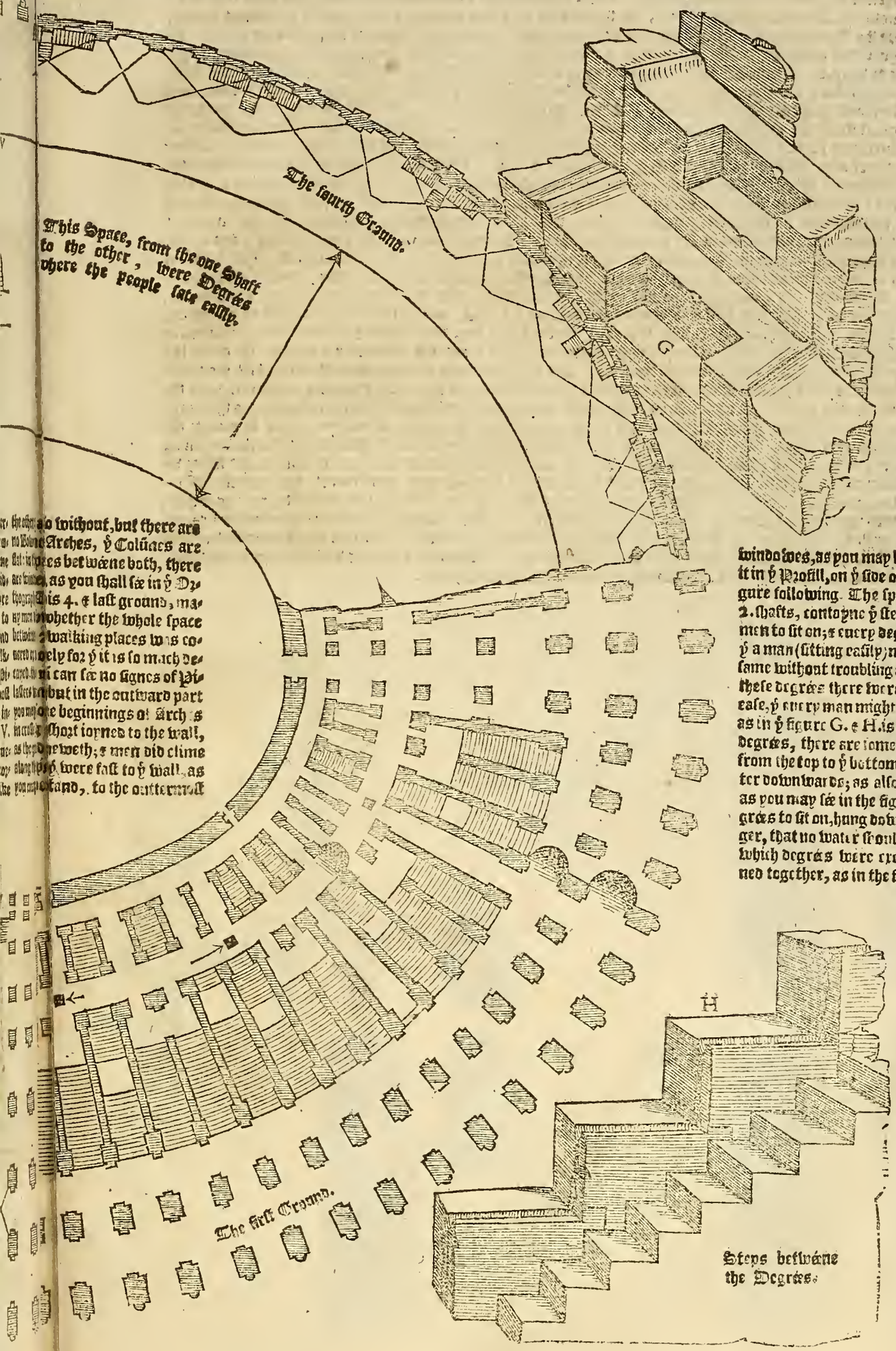
The Obelisce marked Q. lyeth at S. Rochus, broken in the middle of the street in three pieces, and men say likewise, there lyeth buried in the earth a Ladie called A la Augusta: the thicknesse beneath of the said Obelisce on each Facie, is two Elles and 24. minutes: the height is 26. Elles and 24. minutes: the thicknesse aboue, holdeth an Ell and 35. minutes: the Basement was all of one piece, and the Obelisce marked R. is in circo Antonino Caracalla, and is broken, as you see in the forme. The thickenes of the Obelisce, is two Elles and 25. minutes below, and aboue one Ell and 33. minutes: the height is 28. Elles, and 16. minutes: and all the Pedestals are proportioned thereafter. And although (peraduenture) there are more of them in Rome, which I haue not seene, yet these which I haue seene, are here set downe to your sight, as being best knowne.




N
O
P
P
Q
R
SENATVS
DIVO



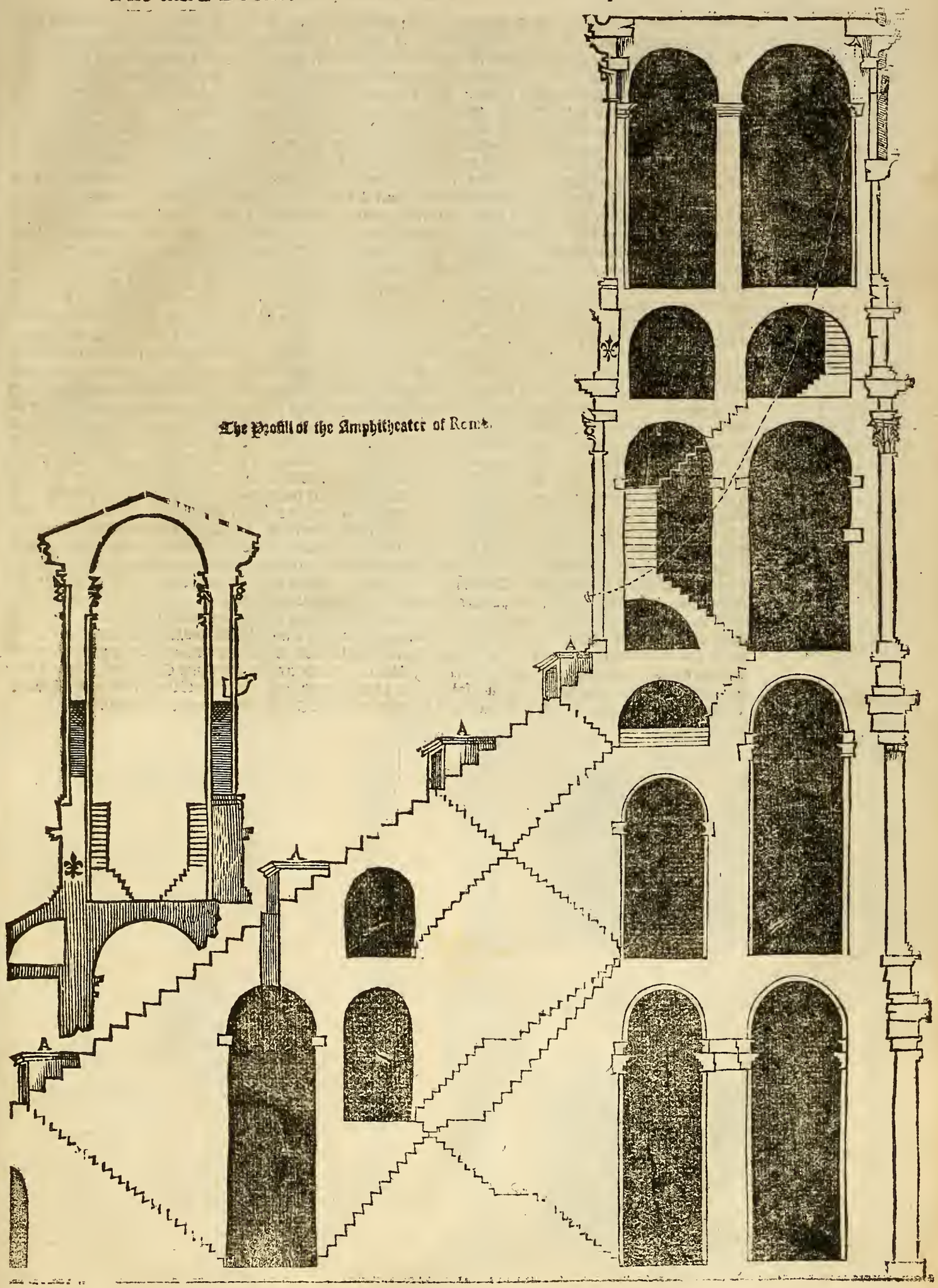
IS Amphitheater of Rome, lled Coliseo, Vespasianus the tour caused to bee made in the of the City, as Augustus had ted it before: the Ichnographie deuided into 4. parts (as the g is of 4. Orders) that you may tand it the better, because of the artificialnesse thereof. This is measured by the ancient : and first, beginning at the out- parts: The Pilasters before Palmes and 6. minutes broad: kness of the Columne is foure s; but the Pilaster on eyther three Palmes and 2. minutes: ones betweene ẏ Pilasters is imes; but the 4 principall go- ough hold 22. Palmes: the sse of the Pilasters in the sides Palms. The widenesse of the orticus is 22. Palmes. The 2. s inwards, is 20. Palmes both of them roofed. The other es towards the Center, because ten themselues, I will not set but by these outward you may e it, because they are all pro- ed according to the same: the most part of the 2. Ichnography the 1. but the Galleries are a broader: for th Pilasters are not so thicke on the sides as the vnder- most: the inwardest Gallery is crosse ro- fed. And in this Porticus there are some small Tribunes marked X: in the mid- dle whereof, there stand foure square holes, and I thinke also they are made to giue light to those places. The 3. ground without is also like the 2. but the walk- ing places are so much wider, as the Pi- lasters are thinner: and the outtermost walking place is crosse roofed, and the in- nermost round. All ẏ doores marked V. came to the Stayres, that thereby eue- ry one might goe into his place, accor- ding to his degrée. The 4. ground is like the other 3 no Bowes flat: in the are windo thography ny men do betwéene t nered or n cayed, that lasters wit you may s in crosse, lo as the gro along the t you may v



...o without, but there are ... Arches, ŷ Colũnes are ... betwéne both, there ... as you shall sée in ŷ Dr... This 4. & last ground, ma... whether the whole space ... walking places was co... ely for ŷ it is so much de... can sée no signes of Pi... but in the outward part ... beginnings of Arches ... short ioyned to the wall, ... weth; & men did clime ... were fast to ŷ wall, as ... and, to the outermost

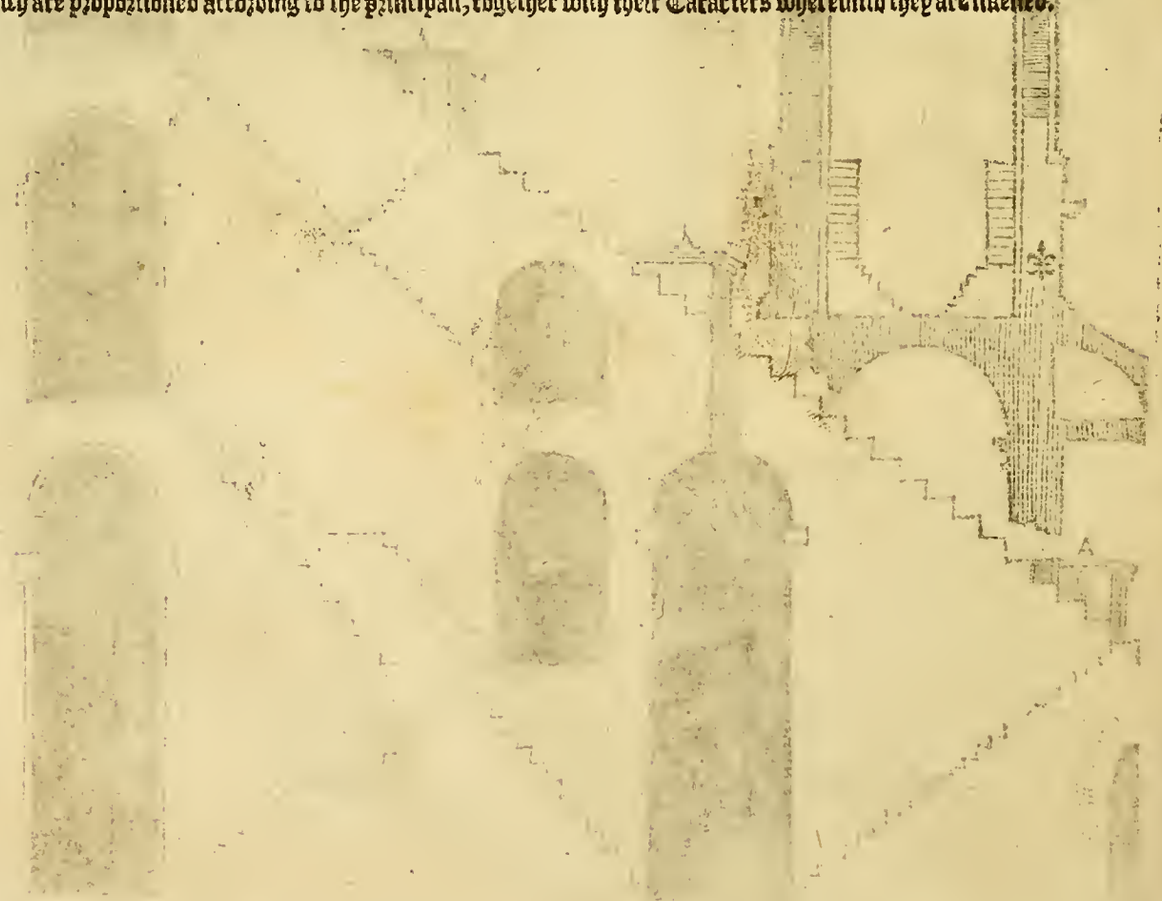
windowes, as you may better conceine of it in ŷ Profill, on ŷ side of ŷ stayres in ŷ figure following. The spaces, as well as ŷ 2. shafts, contayne ŷ steps or degrées for men to sit on; & every degrée was so broad ŷ a man (sitting easily) might go vpon the same without troubling another: within these degrées there were lesse steps, for ease, ŷ every man might go into his place, as in ŷ figure G. & H. is shewed: in which degrées, there are some hollow Channels, from the top to ŷ bottom, to auoid the water downwards; as also for mens water, as you may sée in the figure H. These degrées to sit on, hung downward a good finger, that no water should stay vpon them: which degrées were excellently well ioyned together, as in the figure I. shewth.

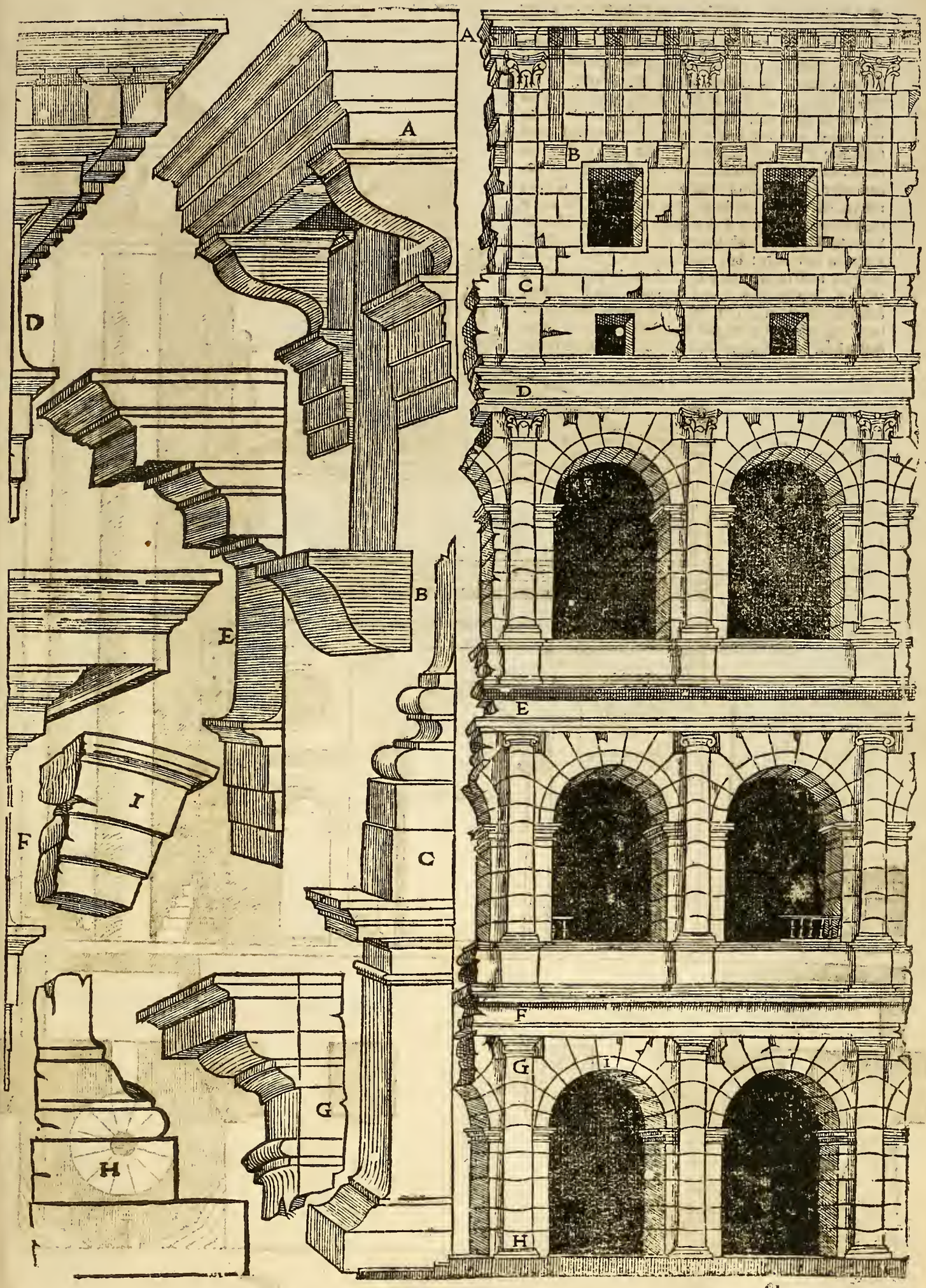
I haue shewed the Ichnographie of the Romish Colisco, in foure sorts, euen like as the building is of foure sorts or orders: now I must shew the Profill thereof, by the which a man may conceaue a great part of the inward things: therefore the Figure following sheweth the whole building aboue ye earth, as if it were cut through in the middle. In which Figure, first you sée all the degrées whereon the Spectators sate: there also you may perceiue how many wayes the goings vp were, which (in truth) were very easie to go vp & downe, so that in short time the Amphitheater was filled with a great number of men, without hindrance one of another. You may also sée in the outward part, how the thicknes of the Pilasters, and the walles vpwards lessened, which on the inside are drawne in, and being so drawne in, giueth the building great strength: and to shew it to be true, you may sée there, at this day, some part of the Facies without, yet whole, from the top to the bottome, and yet the inward parts are decayed, and that hath the drawing inward of the Centrée done, which made the worke lighter, taking, as it were, a forme of a Piramides. But this is not obserued in the common building in Venice, but rather the contrary, because the walles without are in Perpendicular maner, and lessen inwards: and this they doe (for want of ground) to get the more space vpwards, but that which helpeth such buildings, is, that there are no Arches in it, nor Rofes, of any maner, that force the walles to gine out, but the number of Beams which are layd and fastned in the walles, bind the walles and the romes of the house together, and so such buildings stand fast so long as the Beames indure, which men from time to time renue: nevertheless, these kinds of buildings last not so long as the ancient buildings did, made in such order as you sée in the Colisco, whereof I will speake agayne. And withall, (as I sayd) the innermost part being so ruinous, that men sée no part of the innermost worke, which is cut off by the line that hath Shafts or Arrowheads at the ends: and for that you sée no parts thereof at all, whether that the vppermost parts of the highest steps, vpwards to the top, were all couered with double Galleries, or that the Porticus was alone, and the other left open: therefore I haue made it in two maner of wayes: the one is (as you sée in the same Profill) ioyned with all the worke: and the other maner is, which standeth without the degrées or steps, which order also agreeth with the other, if you set it so, that the two Lists in the Pedestals méte each with the other: but for that you sée some remaynders of the crosted Rofes, which yet hang within on the walles, as the fourth ground sheweth, the which, I iudge, was onely a Porticus, and that the other part was vncouered to receiue the people, and being so, must receiue them better then if the Galleries had béne double: Now to turne to the beginning of the degrées or steps, that I leaue nothing vntouched, as nére as I can, I say, by meanes of the ruines, and filling vp with matter fallen, the playne, or the place in the middle is so filled vp, that a man cannot marke how high the first degrée of the playne were eleuated: but by the instructions of those that haue séene the end, the first degrée was so high, that the wild and vntamed Beasts could not hurt the beholders: and there was also a Bortswering, and other streetes, of a reasonable bredth to go round about, as it is shewed where it is marked with C. The two open places, the least and the greatest Arch, were to bring in light. The places standing vp aboue the degrées or steps which are couered and marked A. are Dores, whereby men went without, vp the Stayres to the Theater.



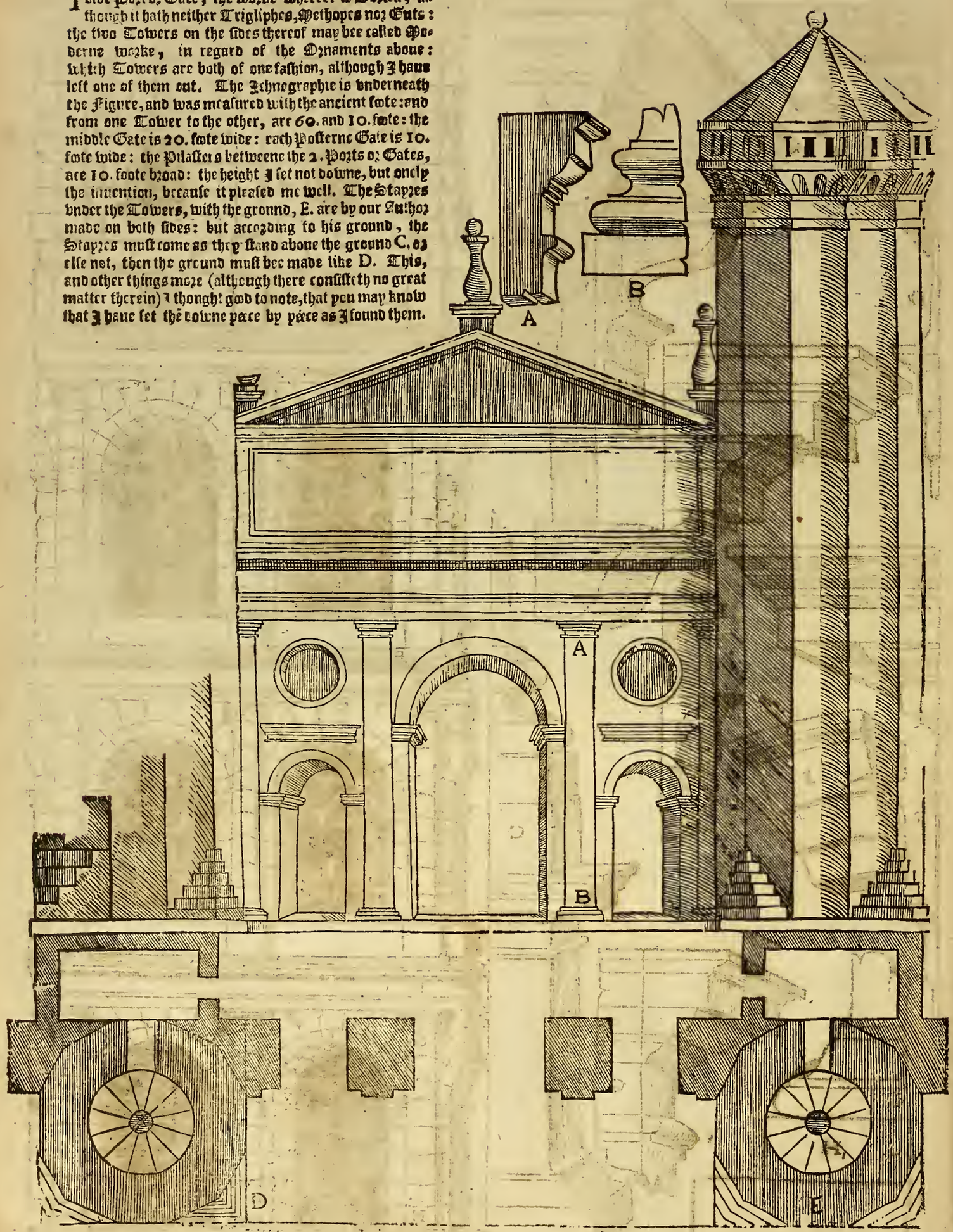
The Profill of the Amphitheater of Rome.

THE outward part, that is, the Orthographie of the Romish Colisceo, is made of foure Stories: and the first Story next aboue the ground, is made after the manner of Dorica: and although there are in the Freese neither Triglyphes nor Metophes, nor yet guts in the Epistolie or Architraue; neither Fulmines and guts vnder the crowne, yet it may be called Dorica. The second Order, is after the manner of Jonica: and although the Columnes be not fluited, yet in effect they may be called Jonica. The third Story, is after the manner of Corinthia, but firme worke without cutting, vnlesse it be the Capitals, the which with their height are not exquisitely made. The fourth Story, is Composita; other call it Latina, because it was inuented by the Romanes: some others call it Italica. But it may well be called Composita, were it but for the mutiles which stand in the Frée, for that no other Story haue their mutiles in the Frée, but that. Many men aske why the Romanes made this Building of foure Orders, and made it not all of one forme or order as many others are, as that of Verona, which is all of rustical worke, and that of Pola also. A man may answere thereunto, that the old Romanes, as rulers ouer al, & especially of those people, from whence the thrée former Orders had their beginning, would set those 3. generations one aboue another: & aboue all those orders, the Composita, as found by themselues, thereby signifying, that they as tryumphers ouer those people, would also tryumph with their workes, placing and mingling them at their pleasures. But omitting these reasons, we will proceed to the measures of the outtermost parts and Orthographie. This Building was eleuated from the earth two degrées: the second degrée was fiue Palmes broad, and the first two Palms; the height was little lesse then a Palme: the Base of the Columne was not two Palmes, no more is the Dorica: the Columne is foure Palmes thicke and two minutes: the height is 38. Palms and 5. minutes, with Base and Capitall: the height of the Capitall is about two Palmes: the Pilasters on eyther side of the Columnes, are thrée Palmes and thrée minutes: the widenesse of the Arch is twenty Palmes, and the height is 33. Palmes: from vnder the Arch, to the Architraue, is fiue Palmes and fiue minutes: the height of the Architraue is two Palmes and eyght minutes: the height of the Frée is thrée Palmes and two minutes: the Cornice as much. The Pedestall of the second Order, is eyght Palmes and ten minutes high: the height of the Columnes, with Bases and Capitals, is fiue and thirty Palmes, the thicknesse is foure Palmes: the Pilasters and Arches are like those beneath: but the height of the Arch is thirty Palmes: from vnder the Arch, to vnder the Architraue, is fiue Palmes and fiue minutes: the height of the Architraue is thrée Palmes: the height of the Frée, is two Palmes and nine minutes: the height of the Cornice, is thrée Palmes and nine minutes. The Pedestall of the fourth Order, called, Composita, (héere our Author hath forgotten the third Order, but howsoeuer, it differeth not much from the Jonica) the Pedestall of the Composita, is twelue Palmes high: the vnder-Base thereof, is foure Palmes: the height of the Pillars, with Bases and Capitals, is thirty eyght Palmes and fiue minutes: the height of the Architraue, Frée, and Cornice, is about ten Palmes, deuided in thrée, one part for the Cornice, the second for the Frée, wherein the Mutiles stand, and the third for the Architraue. But for what cause, or reason, the workeman set the Mutiles in the Frée, (things, which, peradventure, before that time were neuer made) I haue deliuered my opinion thereof in my fourth Booke, in the beginning of the Order of Composita. The Pillars of the fourth Order are flat, and rise but a little: all the rest are round Columnes, (that is to say) thrée fourth parts, rising out of the Pilasters: the Mutiles aboue the windowes vpheld some beames, the which are boared through with holes for men to draw cords to couer the hole Amphitheater, as well against the Sunne as the rayne: for what cause the Columnes are all of one thicknesse, and lessen not one more then the other (as it seemeth they should; and as Vitruuius would) as the second Order are lessened a fourth part, I haue also declared my opinion in the fourth Booke, and the ninth Chapter. In the treatise of making Columnes, longer or shorter; and that the particular members may also be noted, I haue marked them also by the Orthographie of the Colisceo, which are proportioned according to the principall, together with their Caracters whereunto they are likened.

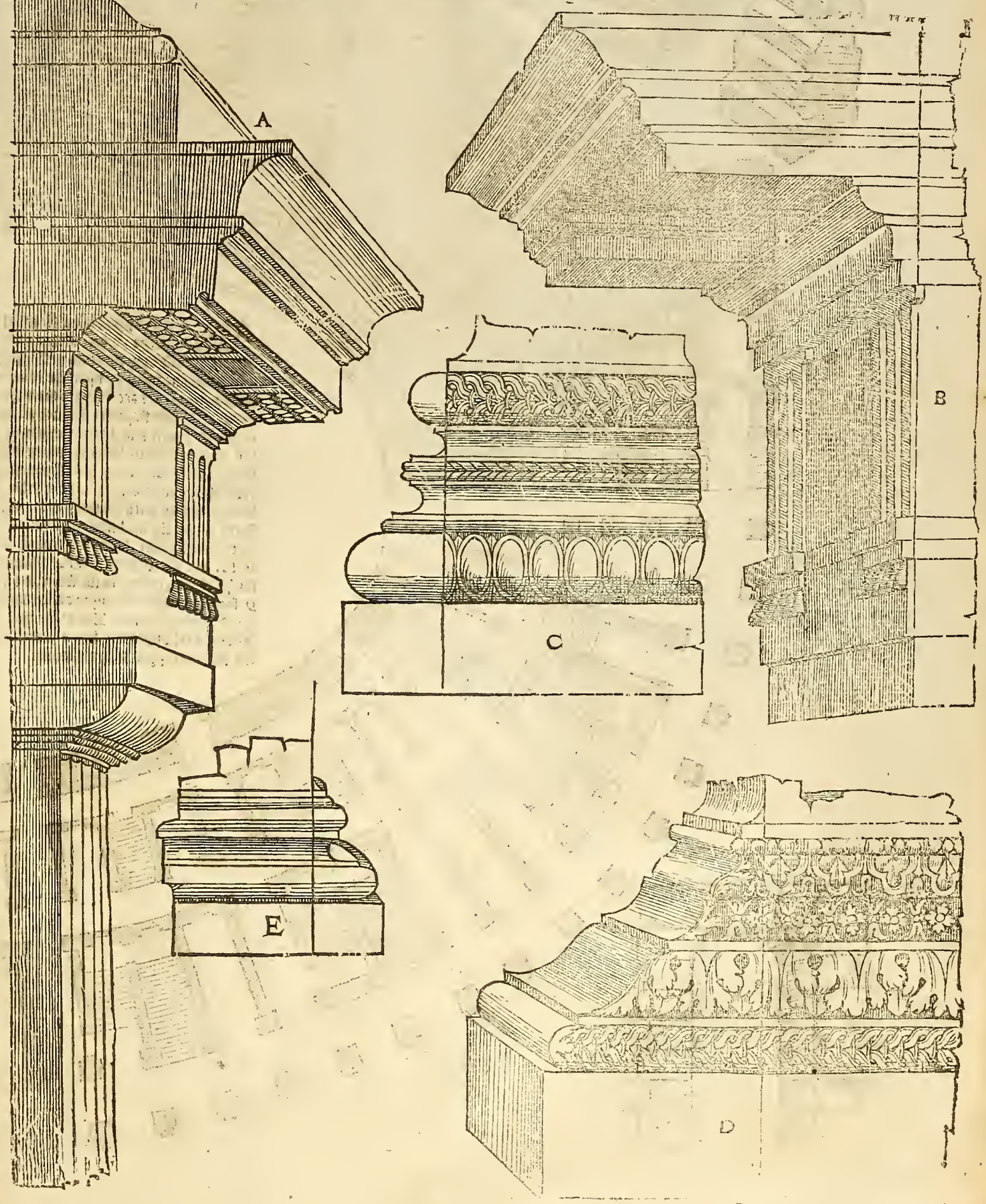


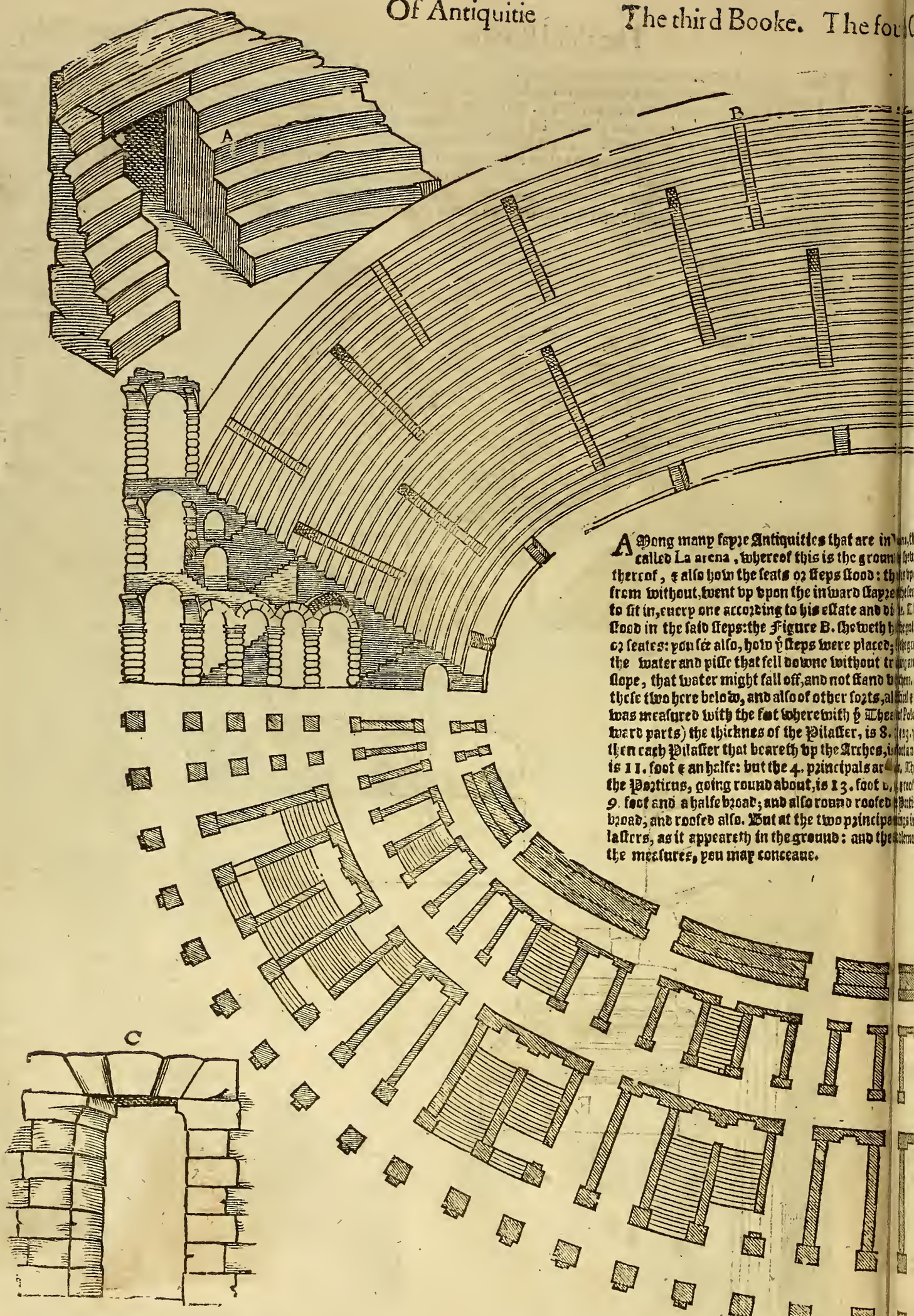

A
A
B
C
D
D
B
E
E
I
F
C
F
G
I
G
H
H

IN Vilpello, a very old Towne in Italy, there is a very olde Port or Gate, the worke whereof is Dorica, although it hath neither Trigliphes, Methopes nor Guts: the two Towers on the sides thereof may bee called Moderne worke, in regard of the Ornaments aboue: which Towers are both of one fashion, although I haue left one of them out. The Ichnographie is vnderneath the Figure, and was measured with the ancient foote: and from one Tower to the other, are 60. and 10. foote: the middle Gate is 20. foote wide: each Posterne Gate is 10. foote wide: the Pilasters betweene the 2. Ports or Gates, are 10. foote broad: the height I set not downe, but onely the inuention, because it pleased me well. The Stayres vnder the Towers, with the ground, E. are by our Author made on both sides: but according to his ground, the Stayres must come as they stand aboue the ground C. or else not, then the ground must bee made like D. This, and other things more (although there consisteth no great matter therein) I thought good to note, that you may know that I haue set the Towne peece by peece as I found them.

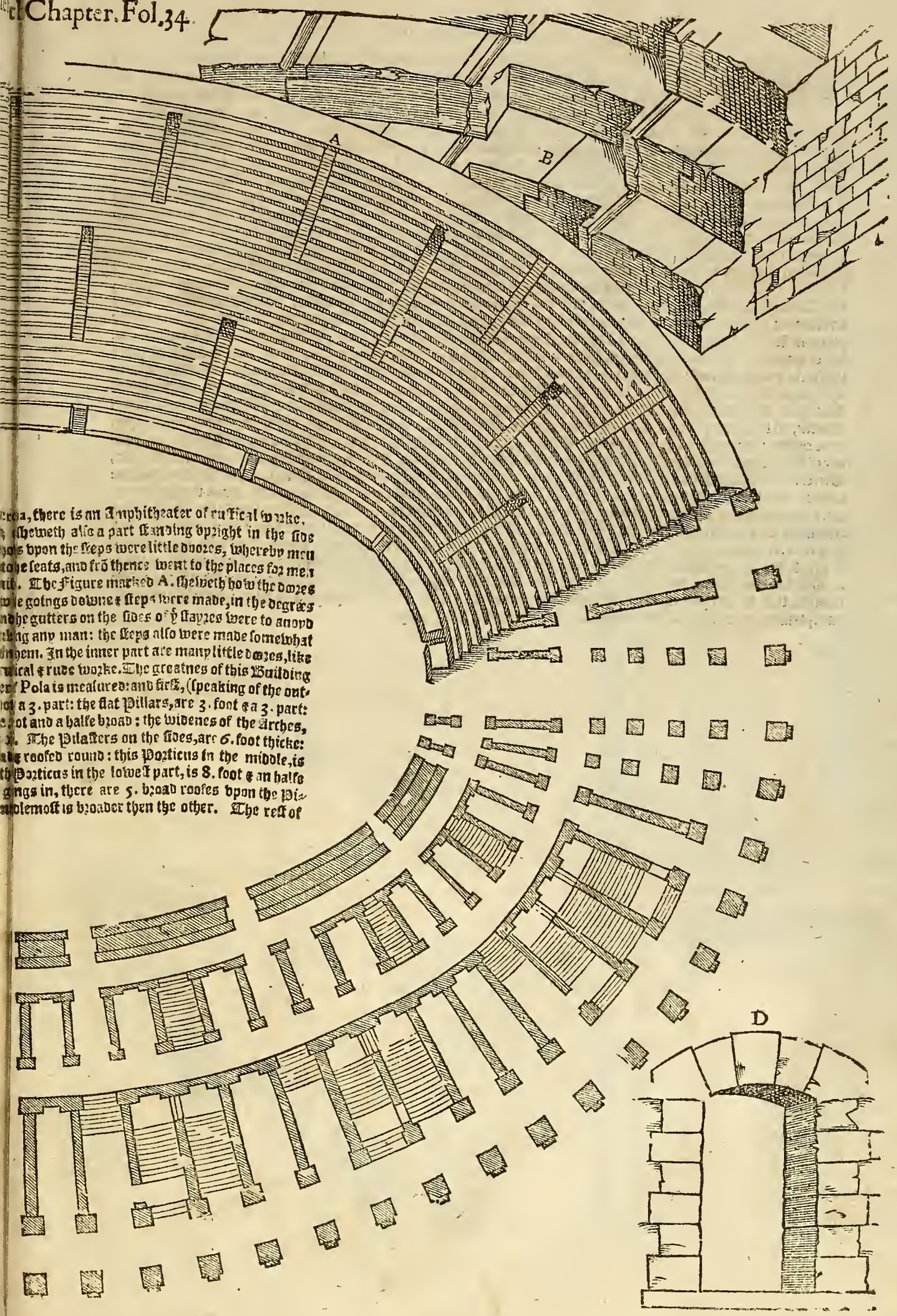


THese Cornices, Basements & Bases, are reliques of Antiquitie: and that which is marked A. a piece of the Columnes with Architraues, Freases & Cornices; and also with the Basement aboue, which was all of one stone: the height thereof was 11 ancient foot, proportioned in that manner, it was found without Rome by the Riuer of Tiber. The order marked B. was found in the foundation of S. Peters, and Bramante caused it to bee buried againe in the ground, in the same place: all the members also were of one piece; it was 6. ancient foot high, & proportioned thereafter. The Base marked C. is at S. Markes, very well wrought, of Corinthia worke, but not very great, it is a foot & an halfe high, and proportioned accordingly. The Basement marked D. was found in a place called Capranica, very well wrought: the height of ye Base, without Plinthus, is 2. Palmes, and also proportioned thereafter. The Base marked E. was not very great: it was found among certaine ruines, and by reason of the Astragal s which it had aboue the Thorus, therefore I esteeme it to bee Composita: and although I set downe no other proportion of all i c particular measures, yet they are collected and set downe out of the great, into the small measure orderly.



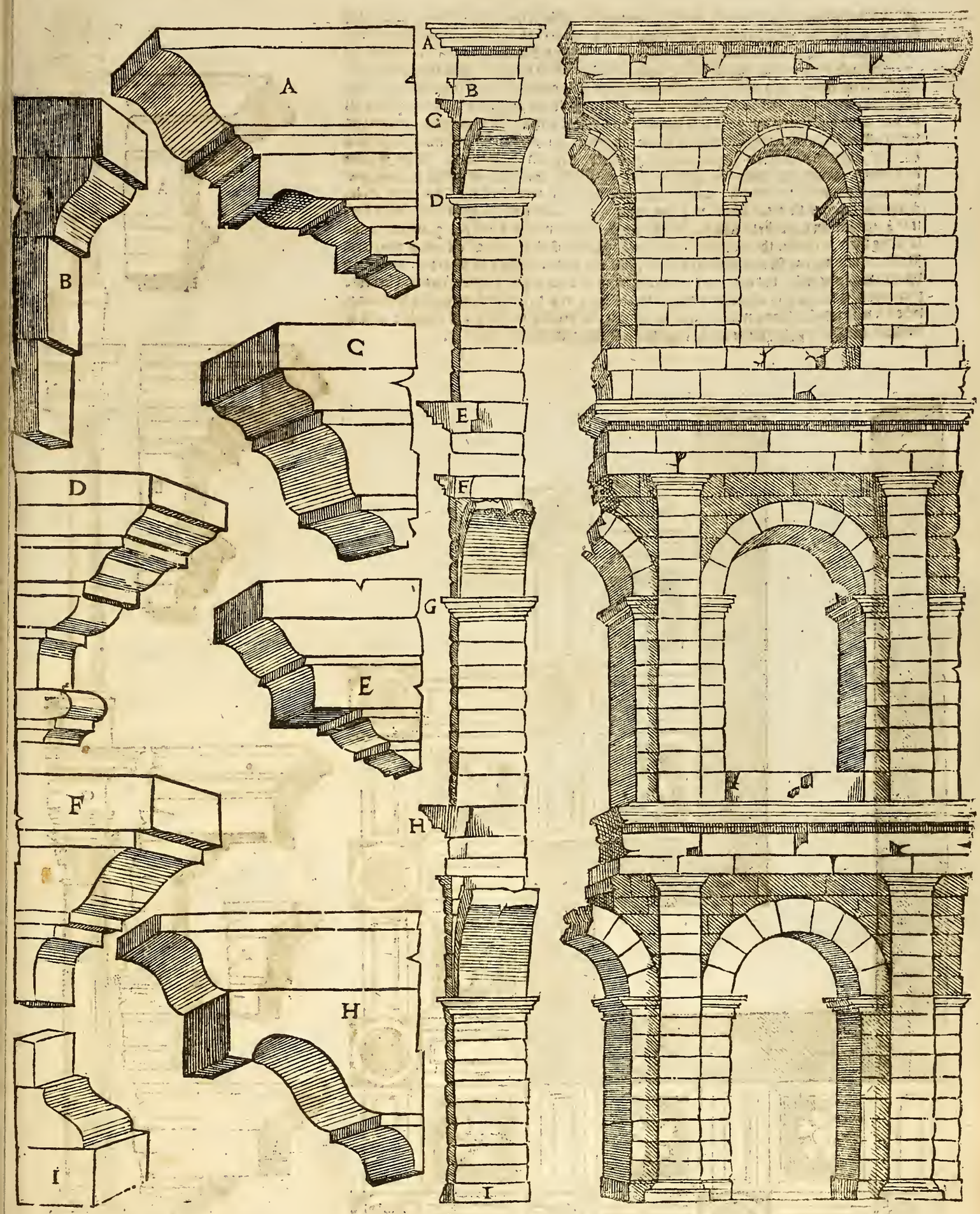


AMong many fayre Antiquities that are in [illegible] called La arena, whereof this is the groun[illegible] thereof, & also how the seats or steps stood: th[illegible] from without, went vp vpon the inward fayre [illegible] to sit in, euery one according to his estate and d[illegible] stood in the said steps: the Figure B. sheweth [illegible] or seates: you see also, how ẏ steps were placed; [illegible] the water and pisse that fell downe without tr[illegible] slope, that water might fall off, and not stand [illegible] these two here below, and also of other sorts, al[illegible] was measured with the foot wherewith ẏ Thea[illegible] ward parts) the thicknes of the Pilaster, is 8. [illegible] then each Pilaster that beareth vp the Arches, i[illegible] is 11. foot & an halfe: but the 4. principals ar[illegible] the Porticus, going round about, is 13. foot [illegible] 9. foot and a halfe broad; and also round roofed [illegible] broad, and roofed also. But at the two principa[illegible] lasters, as it appeareth in the ground: and the [illegible] the measures, you may conceaue.

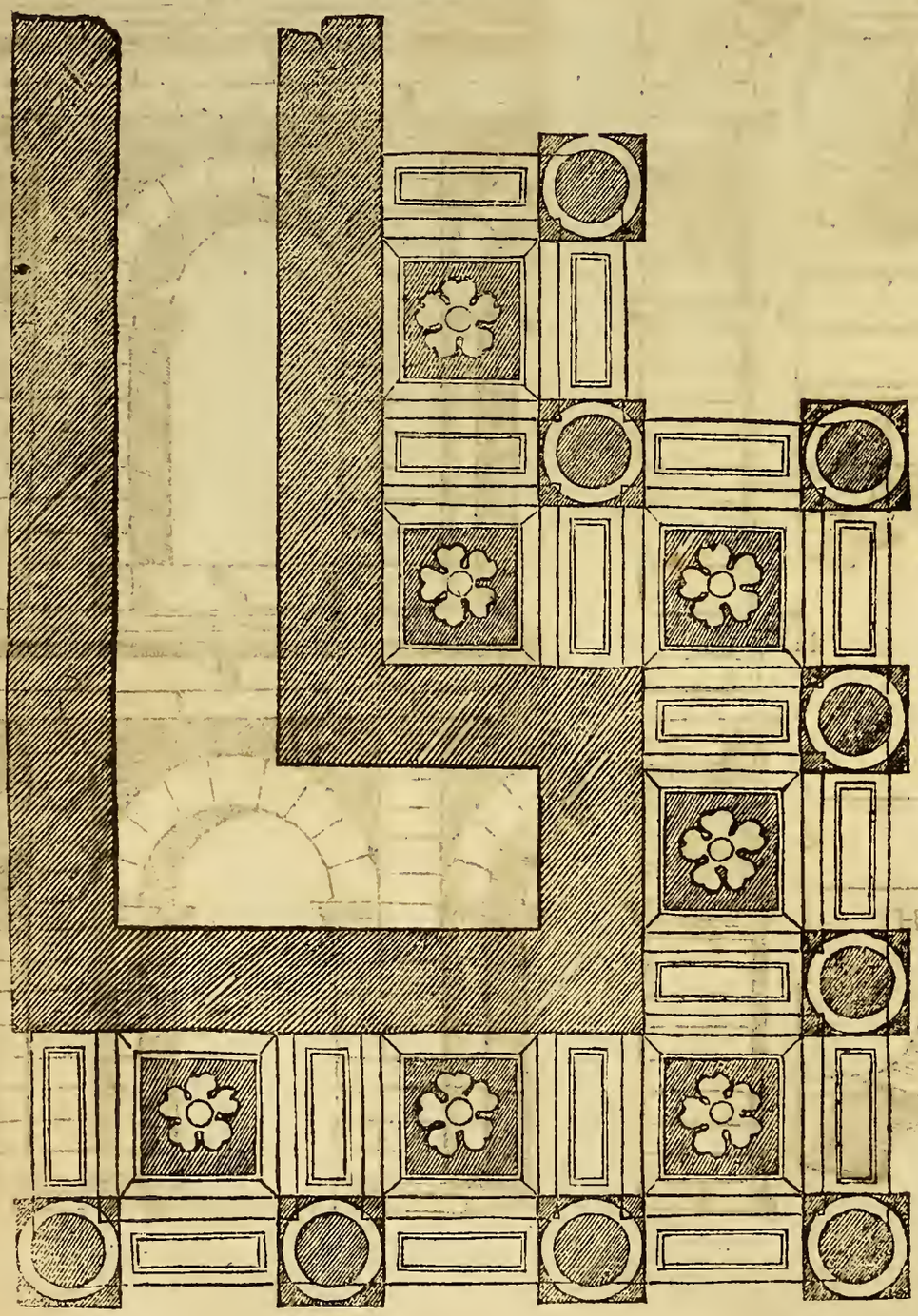


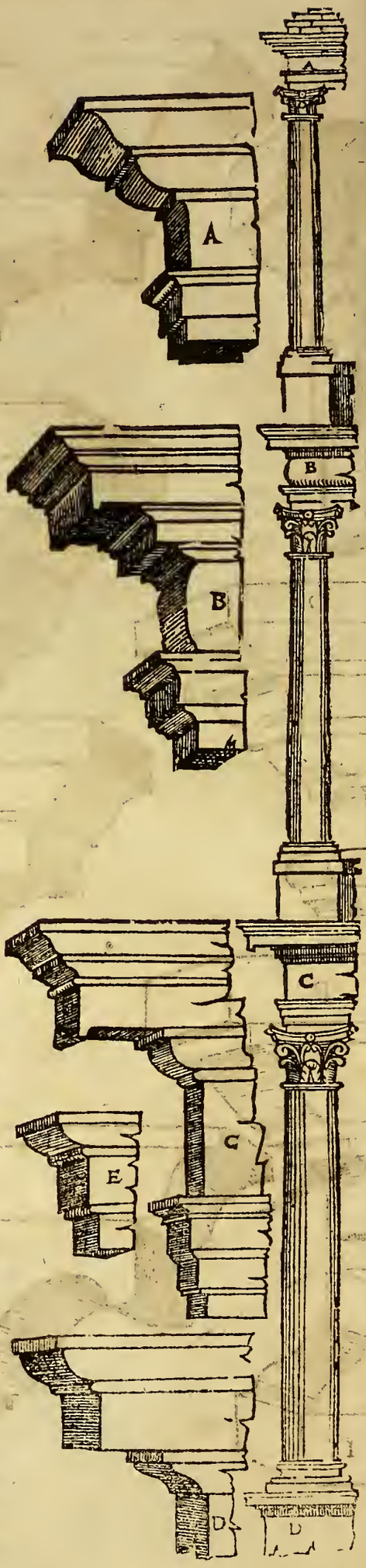
ero a, there is an Amphitheater of rustical worke, ; sheweth also a part standing vpright in the side ols vpon the steps were little doores, whereby men to the seats, and frō thence went to the places for men ith. The Figure marked A. sheweth how the doores w le goings downe & steps were made, in the degrees nd he gutters on the sides of ỳ stayres were to auoid ling any man: the steps also were made somewhat in them. In the inner part are many little doores, like rical & rude worke. The greatnes of this Building er Pola is measured: and first, (speaking of the out- ot a 3. part: the flat Pillars, are 3. foot & a 3. part: e. ot and a halfe broad: the widenes of the Arches, 5. The Pilasters on the sides, are 6. foot thicke: ds roofed round: this Porticus in the middle, is th Porticus in the lowest part, is 8. foot & an halfe gings in, there are 5. broad roofes vpon the Pi- olemost is broader then the other. The rest of

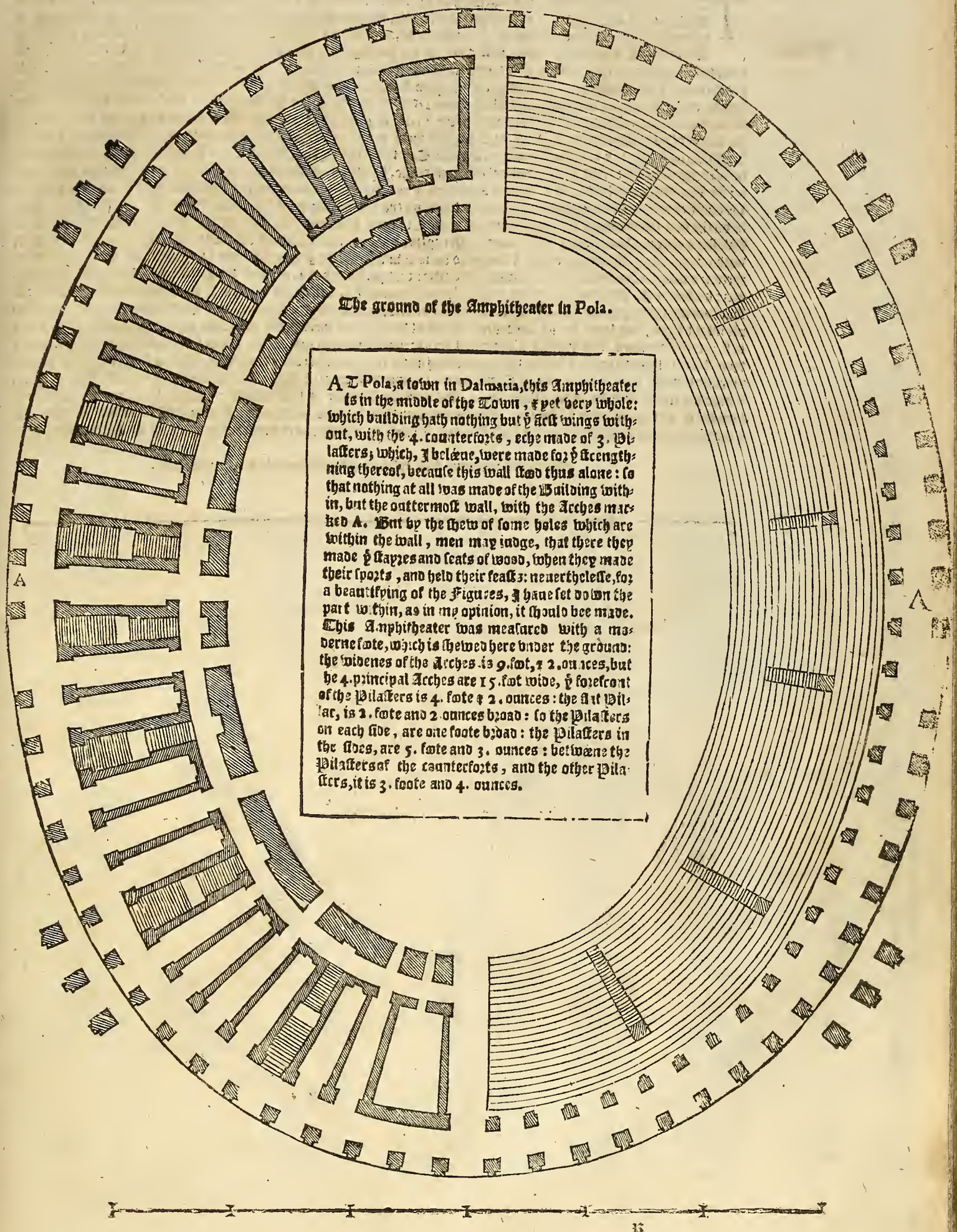
TOuching the Ichnographie of the sayd Amphitheater, I haue set downe the principall measures, and partly spoken of that part which standeth vpright: now I will speake of the outward part, which worke can no otherwise be called, then rude and rusticall, and haue likewise spoken of the thicknesse and breadth, therefore I will rehearse it no more: onely of the height I will say some thing: And first, the height of the first Arch is 23. foote: the height of the Pillars 27 foote: the Forme of the Architraue, Frese and Cornice, is 6. foote high: the Place breast high aboue the Cornice, is 2. foote and a halfe high: the height of the second Arch is 24. foote, and his widenesse 12. foote: the height of the Pillars is 24. foote and a halfe: the height of the Cornice, Frese and Forme of the Architraue, is 5. foote and a halfe: the Bordtwering or Place breast high of the third Order or Story, is 4. foote and a halfe high: the widenes of the Arch is 9. foote and 3. quarters: the height of the Arch is 17. foote and a halfe: the height of the broad Pillers is 20. foote and a halfe: against these Pillars, as farre as a man may perceiue, there were Images, of good bignesse, set: the third and last Cornice is 5. foote high. But I will not set downe the particular measures of the Cornices, for that I haue set them downe with great diligence, according to the greatnesse in this small Forme, which shall be the first Figures in the side following, and there below, the Profill or cutting of the outermost part of the Amphitheater shall stand. And thirdly, there followeth the Orthographie of a peece of the sayd Amphitheater without, which is all wrought after the rusticall manner, with stones of Verona, being very hard: but the Cornices are somewhat better made: which Cornices haue diuers and seuerall Formes of the Romanes, and are very like vnto the Cornices of the Amphitheater of Pola. Touching the playneneſſe of this Amphitheater, which by the Common people is called, La arena, (taken from arena) which is sand, which was therein strowed for certayne Playes or sports, which were there presented or Acted: and therefore I could not see the ground thereof: but as it was told me by some old men of Verona, when the Playes were there made vpon the sand, then presently there came water, in the sight of all the beholders, which past through some Conduits, and in short space filled all the place full, so that there they might make battailes, and thrust one at another with Scutes and Boates, in the water, and the place dryed vp agayne, as at the first. This, and many other things, men may beleeue, if we consider the great magnificence of the Romanes, in the Antiquities of Verona. There are yet vpon the great Riuer of Adige two fayre ancient Bridges, betweene the which two Bridges, there was a most fayre and notable Spectacle, whereon there might stand a great number of people, to behold the Playes and sports there made in Boates, vpon the water: which Spectacle was made along by the water side, against a hill: and higher vpwards, aboue this Spectacle, there was a Theater, the Scene whereof, and the Spectacle ioyned together: (and for that, as I sayd before, the Theater was made very artificially in the hill, so is it aboue the Theater in the height of the hill) there was a great building, which surpassed all the other: but the ruines of these buildings are so many, and so cast downe in processe of time, that it would be great charges and losse of time to find them out: but for that in many places of the hill I haue seene some parts thereof, therefore it makes me wonder thereat. It was also, with good reason, that the Romanes made such things at Verona (for that, in my opinion, it is the best scituated place of all Italy) as well for playnes as hilles, and also for waters; and specially, the men of that Towne are very familiar and friendly people.


A
B
C
D
E
F
G
H
I
A
B
G
D
E
F
G
H
I

Great things, and in diuers formes, were made by the famous Romanes; but by the ruines thereof men can not iudge whereunto they serued, & principally this Building which was named Lesente Zone di Seuero: of which Building you sée a corner of the House yet standing, which is of 3. rowes, all Corinthia worke. But it may be séene, that from the roofe it was made of another manner of Buildings, because some Pillars were hollowed and crested, and some smooth; besides, the Capitals and other formes are not all of one worke. I haue not measured the height of this Building, but onely the ground and thicknesse of thinges and for as much as I can conceaue, the rooles aboue lessen one more thrn another, the fourth part, as Vitruuius writes in his description of Theaters. This Figure hereunder, sheweth the ground of the Building, & also the skie or roofe of the Lacunary aboue the Columnes: it was measured with the foote that measured the Theater of Pola. First, the thicknesse of the Wall, is 3. foot and an halfe: betwéene the one Wall & the other, it is 4. foot and an halfe: betwéene the Wall and the Columnes, is 5. foot and 3. quarters: and so is the space betwéene the Columnes: the thicknesse of a Columne is 2. foot and 4. quarters. In this Building you sée no Chambers at all, nor any shew or signes of Stayres, or goings vp into the lodgings: but men may conceaue, that it was much greater, and that in other places both Stayres and Chambers might haue stood; and to speake trueth, this Building, when it was whole, was a notable piece of worke, in regard of the great number of Columnes and Pillars that were in it, together with the costly worke thereof.





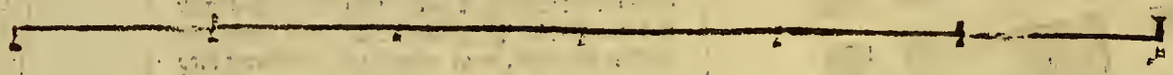


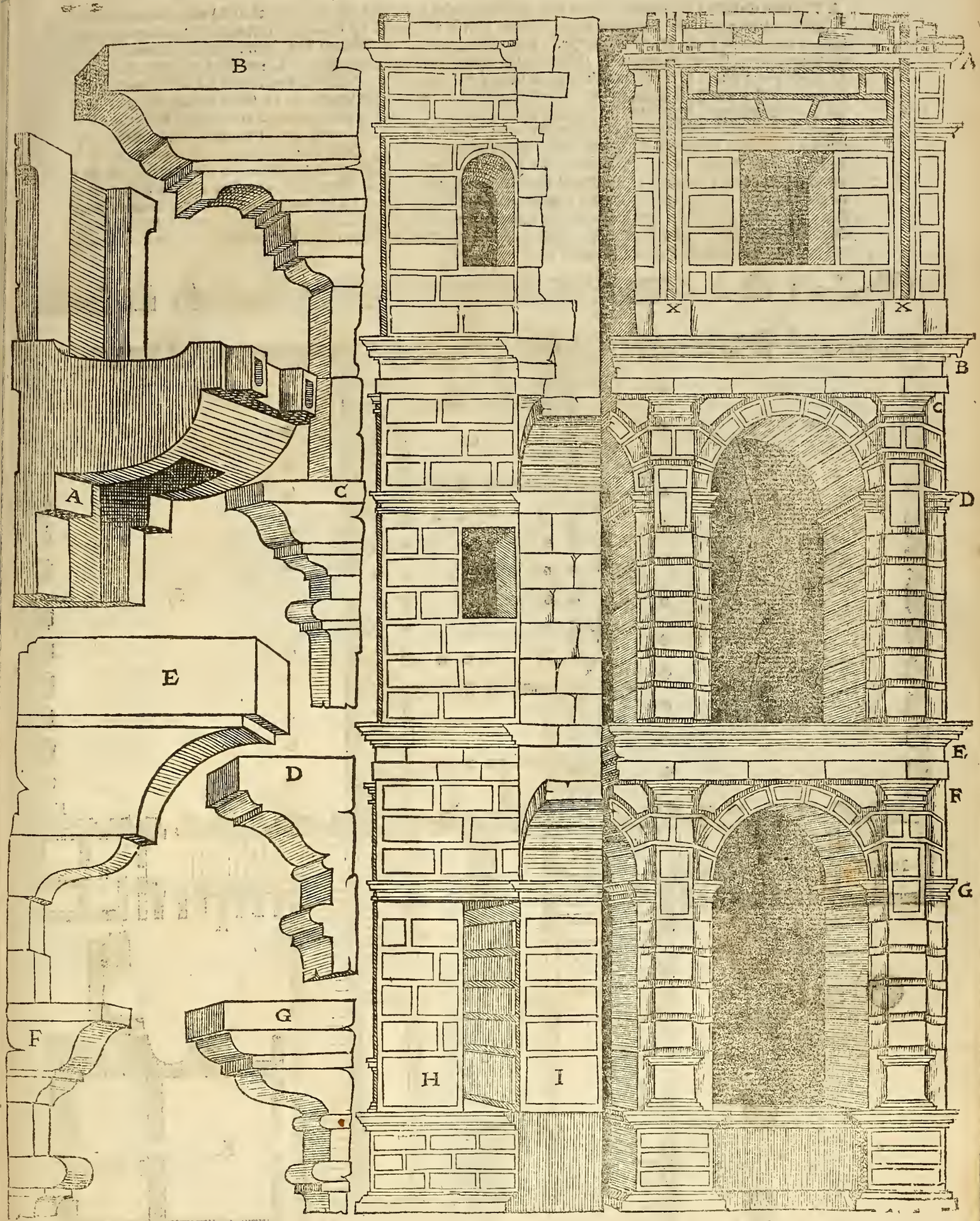
The ground of the Amphitheater in Pola.

AT Pola, a town in Dalmatia, this Amphitheater is in the middle of the Town, & yet very whole: which building hath nothing but ỳ first wings without, with the 4. counterforts, eche made of 3. Pilasters; which, I beléue, were made for ỳ strengthening thereof, because this wall stood thus alone: so that nothing at all was made of the Building within, but the outtermost wall, with the Arches marked A. But by the shew of some holes which are within the wall, men may iudge, that there they made ỳ stayres and seats of wood, when they made their sports, and held their feasts: neuertheleſſe, for a beautifying of the Figures, I haue set down the part within, as in my opinion, it should bee made. This Amphitheater was measured with a moderne foote, which is shewed here vnder the ground: the widenes of the Arches is 9. foot, & 2. ounces, but he 4. principal Arches are 15. foot wide, ỳ forefront of the Pilasters is 4. foote & 2. ounces: the first Pilar, is 2. foote and 2 ounces broad: so the Pilasters on each side, are one foote broad: the Pilasters in the sides, are 5. foote and 3. ounces: betwéene the Pilasters of the counterforts, and the other Pilasters, it is 3. foote and 4. ounces.

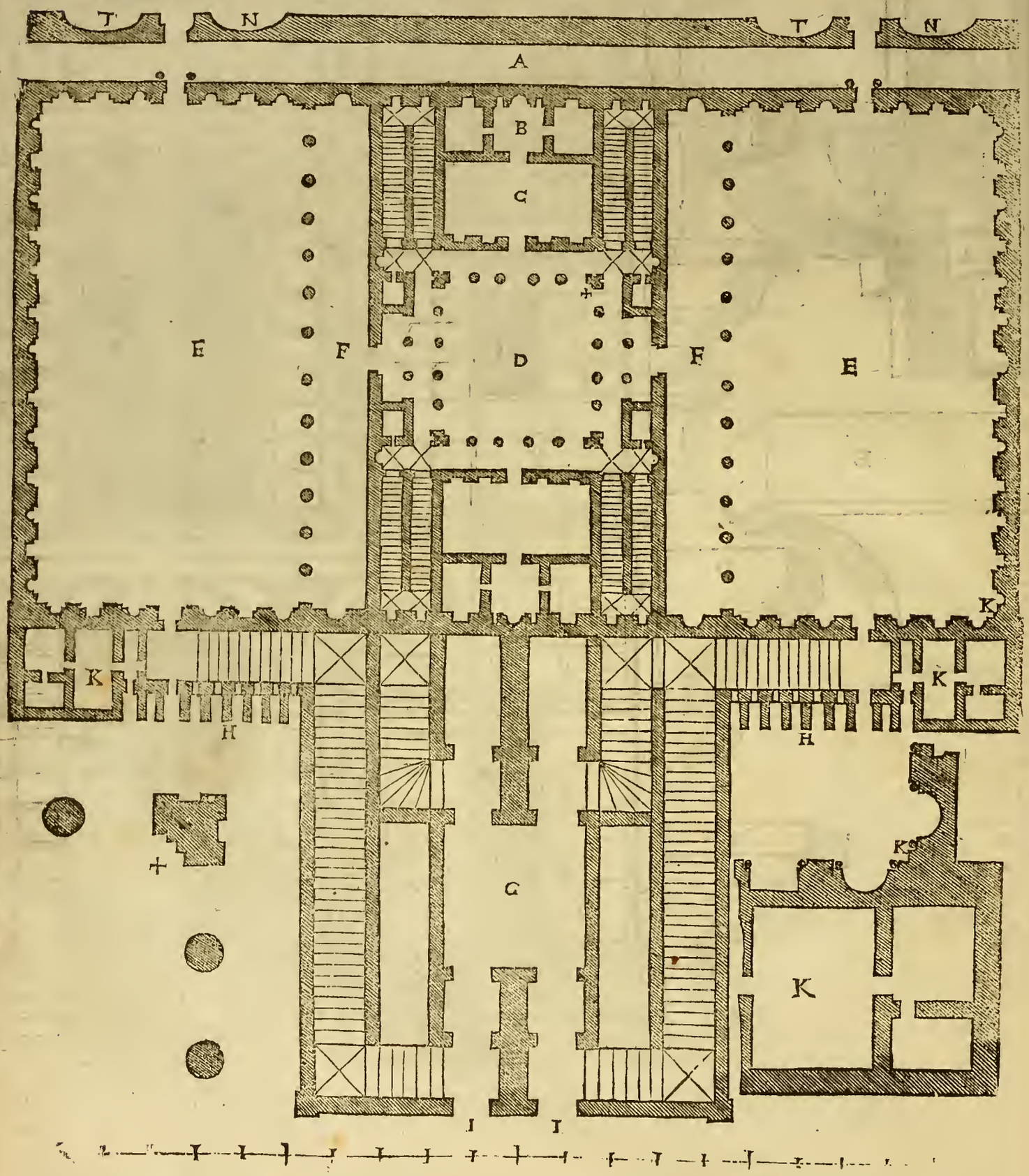
TOuching the Orthographie, or the ground of the Amphitheater of Pola, I haue sufficiently spoken: but now I must shew the Orthographie of the part standing vp, beginning at the nether part: as touching the Basement, it hath no terminations of measures, (the cause why, is,) for that the Hill is not euen: for in the Hill the Pedestall is not onely lost, but also the whole first order of the Arches, with all their Cornices vpon them, and the Hill is the height of the plaine of the second Story; therefore I will set downe no height of the measure of the Basements: but will begin from thence vpwards. The height of the Pedestall vnder the Pillar, is 2. foot and an halfe: the height of the Pillar, or flat Columne with the Capitall, is about 16. foot: the height of the Arch, is 17 foot and an halfe: the Architraue is a foot and 9. ounces high: the height of the Freese, is 9. ounces: the height the Cornice, is one foot & 10. ounces: the height of the borst-wering or place brest-high (if there bee any other) aboue the Cornice, is as high as ý Cornice: the height of the Pillar is 21. foot & 9. ounces, with the Capitall: the height of the Arch, is 18. foot and one ounce: the thicknesse of the Arch, is 1. foot and 9. ounces: the Architraue, Freese and Cornice, are of the same height that the vndermost is: the Basement marked X. is 4. foot and 4 ounces. From the Basement to vnder the Cornice, is 19 foot: the height of the Cornice is one foot and an halfe. And this is touching the Orthographie of the Amphitheater, the which Orthographie is on the next side, marked P. and for that (as in the Treaty of ý Ichnographie I haue sayd) the Amphitheater hath some Pilasters on foure sides, which were made for strengthening & counterforting of the walls: the which wall stood within, without any thing else; and therefore I meane to shew how it stood: the Figure marked Q. sheweth the sides of this counterfort: & that part marked H. representeth a Pilaster: that part marked I. sheweth the Profill of ý wall of the Amphitheater: betweene the Pilaster H. and the wall or Pilaster marked I. is a going through of three foot and an halfe wide: so that two men may goe through together. These counterforts haue their ground in euery order or story, whereon the people might stand; but there are no stayres nor signes of stayres, but were made of wood, as may be seene by some holes before the windowes. And that the Cornices of this present Building may be the better vnderstood, therefore I haue set them there besides in greater forme, that a man may know their members, by their Caracters or Letters which they are marked withal. The manner of this Cornicement is much different frõ the Romish, as men may see: and I, for my part, would not make such Cornices in my worke; but with the Theater of this Towne, I would serue my turne, because they are of a better manner of worke. I am of opinion, that this was an other workeman, different from the other, and it may be that this workeman was a high Almaine, because the Cornices are made much after the Dutch manner.

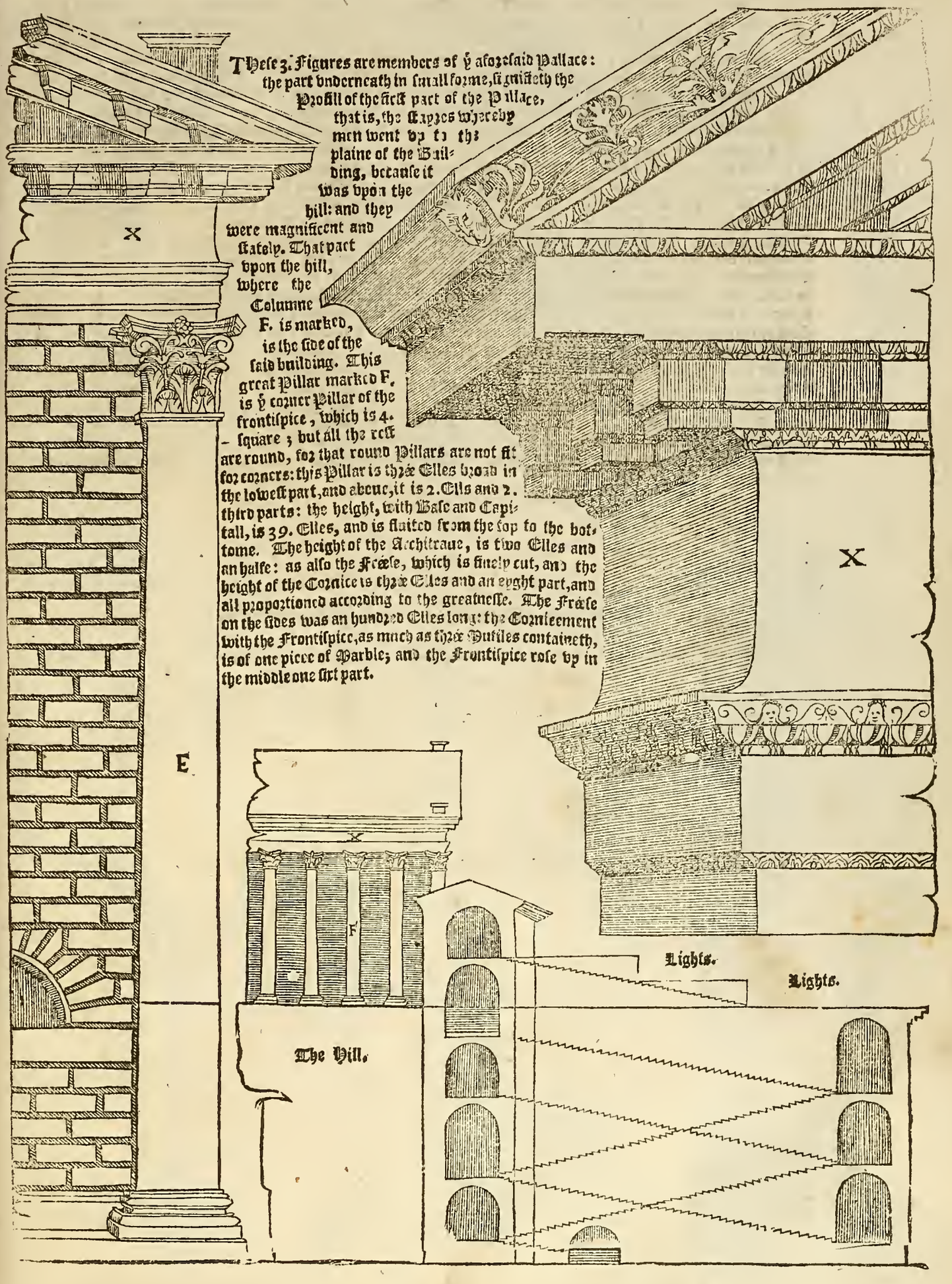
The halfe common foot, wherewith the Amphitheater is measured.




B
A
C
E
D
F
G
H
I
X
X
B
C
D
E
F
G

AT Mount Cavallo within Rome, where now the stone horses Praxitiles and Phidia stand, is the ruines of a most costly Pallace, whereof one part stood vpon the hill, but the part of the goings vp was made right against the descending of the hill, as you may see in the Profill hereunder. The Ichnographie of this building was measured with a common Ell, the third part whereof standeth hereunder. And first in the Niches or hollow places, marked T. and N. were found the figures of Tiberius and Nilus, which are now set in Belveuerie: the place marked A. is a streete or way of 10. Elles broade: the part marked B. is 12. Elles foure square: the part marked C. is 36. Elles in length, and 18. Elles broad: the place D. is 36. Elles foure square: the walkes round about are 4. Elles broad: the place ouer against C. B. is of the like measure. The widenesse of the foure payre of Stayres is 4. Elles each of them: the places E. are Courts, whereof each of them are 114. Elles long, and in breadth 62. Elles and a halfe. The Galleries F. are 13. Elles broad: the greatest Stayres, to goe vp to the playne of the Pallace, are 11. Elles wide: that part by the Corners marked K. is 12. Elles and a halfe broad, and long 16. Elles and a halfe: the parts H. are Counterforts to hold vp the Stayres. The place G. is a Court, which gaue light to the place within: the two goings in marked I. were to goe vp the Stayres, and the building began where the Stayres stand. The great stately Frontispice in the middle of the building, was of such breadth, as the middlemost part held without the Courts or Galleries. The two Figures, K. and ✠. which stand without the building, the one sheweth the Corner K. in greater and perfiter forme, and the other is a Corner of the Court D.

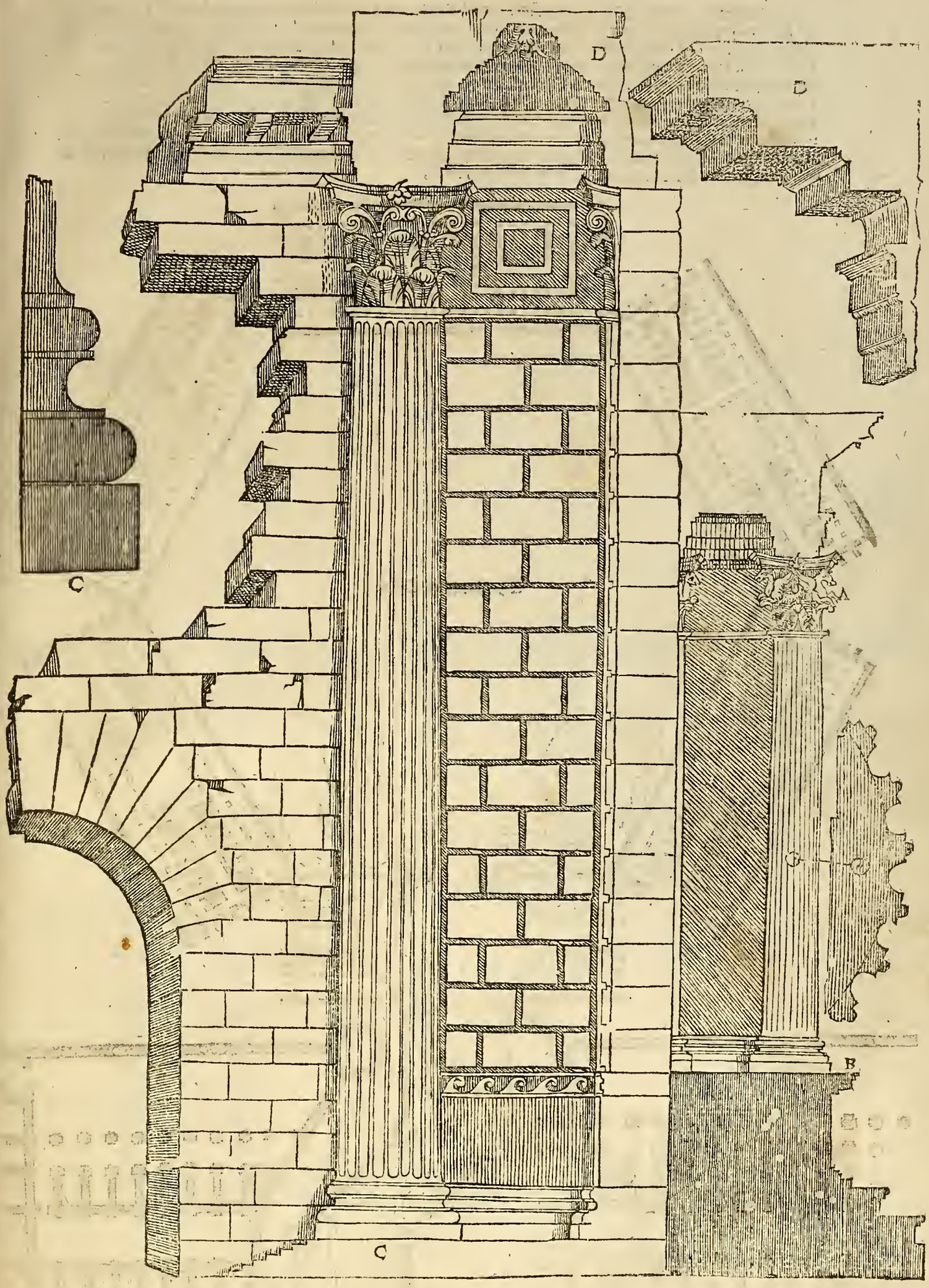




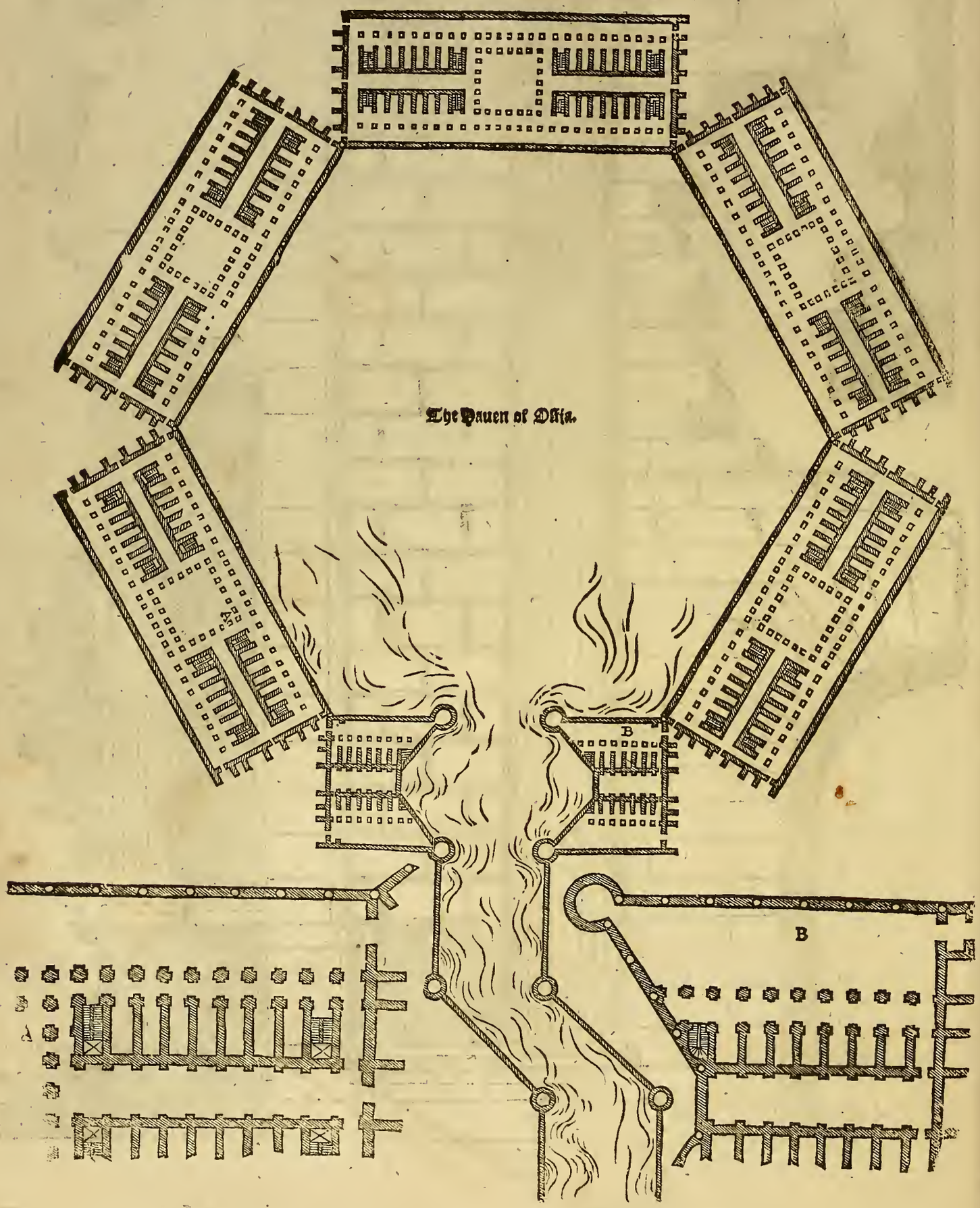
These 3. Figures are members of ẏ aforesaid Pallace: the part underneath in small forme, signifieth the Profill of the first part of the Pallace, that is, the stayres whereby men went up to the plaine of the Building, because it was upon the hill: and they were magnificent and stately. That part upon the hill, where the Columne F. is marked, is the side of the said building. This great Pillar marked F. is ẏ corner Pillar of the frontispice, which is 4. square; but all the rest are round, for that round Pillars are not fit for corners: this Pillar is three Elles broad in the lowest part, and aboue, it is 2. Ells and 2. third parts: the height, with Base and Capitall, is 39. Elles, and is flutted from the top to the bottome. The height of the Architraue, is two Elles and an halfe: as also the Freese, which is finely cut, and the height of the Cornice is three Elles and an eyght part, and all proportioned according to the greatnesse. The Freese on the sides was an hundred Elles long: the Cornieement with the Frontispice, as much as three Duttiles containeth, is of one piece of Marble; and the Frontispice rose vp in the middle one sixt part.

AMong the ruines of Rome, there are many things found out, the which a man cannot marke nor imagine what they haue bene: a man also seeth there many ruines, which are now cast downe and ouerthrowne; whereby a man may conceaue the high minded of the Ancient Romanes: amongst which Antiquities, this hereafter following, is one, as you may perceaue by that which yet standeth. This Building is called the Basilica del foro transitorio: and a man may imagine the greatnesse thereof by the height of this Pillar, although you see not the ending thereof vpwards; for the vppermost Cornice is not there in the worke, neither is there any pieces thereof among the ruines to be found, whereby a man should conceaue what stood aboue such a Building. This ruine was measured with a common or moderne Ell, which is deuided into 60. minutes: the halfe whereof standeth betweene the Obelisces: this Columne stood 7. degrees eleuated from the earth, of indifferent height: the thicknesse of the Columne marked C. is 3. Elles in Diameter: beneath at the Base and in the vppermost part, vnder the Capitall, the Diameter is 2 Elles and 40. minutes: the height of the trunke or bare Columne, without Base or Capital, is 24. Elles and 55. minutes: the height of the Base below, is one Ell and an halfe: the height of the Capitall, is 3. Elles and 26. minutes: the height of the Architrane, is two Elles, and 23. minutes: the Cornice betweene the Columne and the counter-pillar, which Cornice is marked D. is 1. Ell and 48. minutes: the Cornice aboue (as I haue sayd) is not found there: the counter-columne is flat, and is of the same proportion like the round Columne, and lesseneth also aboue, as the round doeth. The Capitall is formed like the Capitals of the Pantheon of the Rotund: the Base marked C. is placed there besides in better forme, and is proportioned in measure like the greater: likewise, there also you see the Cornice D. in greater forme. I haue set downe the measure of the greatest Columne C. now will I speake of the lesser, marked B. which Columne vnder it, hath a very fayre Basement: the height whereof, is 6. Elles: the thicknesse of the sayd Columne in Diameter beneath, is one Ell and a third part; and it is lessened aboue accordingly, as the greatest is: the height thereof with the Base & Capitall is 13. Elles and 2 third parts: the height of the Base, is halfe the thicknes of the Columne beneath, and is fashioned like the greater: the height of the Capitall is one Ell & an halfe: which Capitall is very well made, and the forme thereof in great, is seen in my other 4. Booke, in the beginning of ye Composita. This Columne is fluted, as the Figure thereof sheweth, and hath also a flat Columne of the same forme: the Architrane, Freese and Cornice aboue this Columne, are about 4. Elles: which Cornice hath the Mutiles without Dentiles, and is very like the worke of the Pantheon; and by as much as I could perceaue, this lesse Columne serued for an ornament of a Gate or Dore of the sayd Basilica.

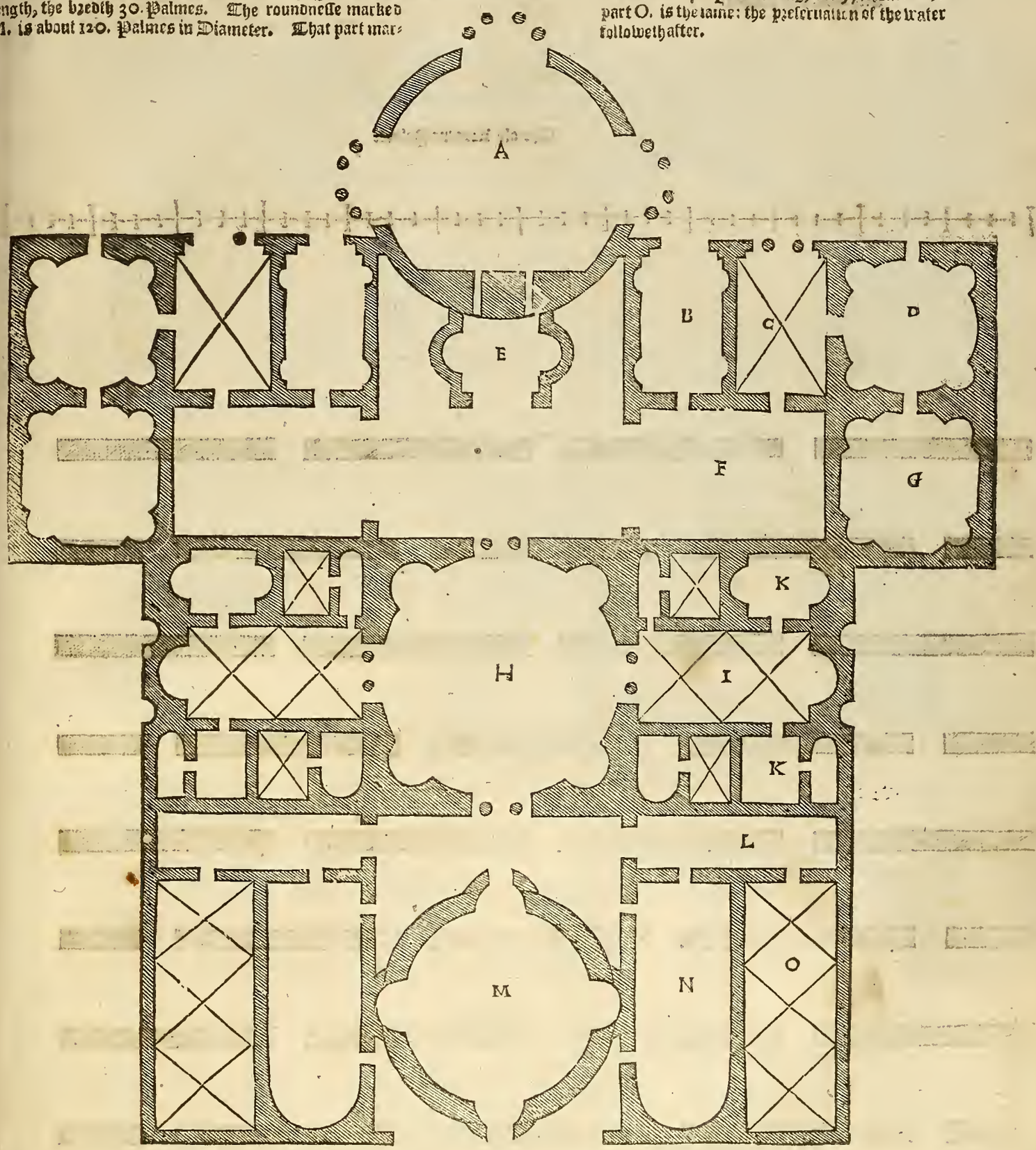
The third part of the common Ell, wherewith this is measured.


D
D
C
B
C

The Romanes (because of their great proud mindes) alwayes sought to build things of great maiestie, which might shew their great power both by Water and Land: and to that end they made the wonderfull Hauen of Ostia, for the safe of the Citte of Rome: which, in trueth, (in regard of the commoditie and greatnesse of the Building thereof, and specially, the great strength thereof) may well bee called wonderfull. It is of forme Hexagoniick, that is, 6. cornerd: and each Facie is 116. roodes long, and each rood is 10. Palmes: by these principall measures, you may vnderstand the greatnesse therof; euery Facie had a large walking place, with Galleries round about, & 4. Appertiments also, compassed with Galleries, and a walking place in the middle. Along the water side there were trunckes of Columnes orderly placed, whereunto the ships were fastened; and at the mouth of the Hauen, there were towers to defend it from the enemie in time of nád. And for that you can hardly perceaue the Appertiments in so small a forme, therefore I haue placed them beneath in greater forme, and marked them with A. and B.

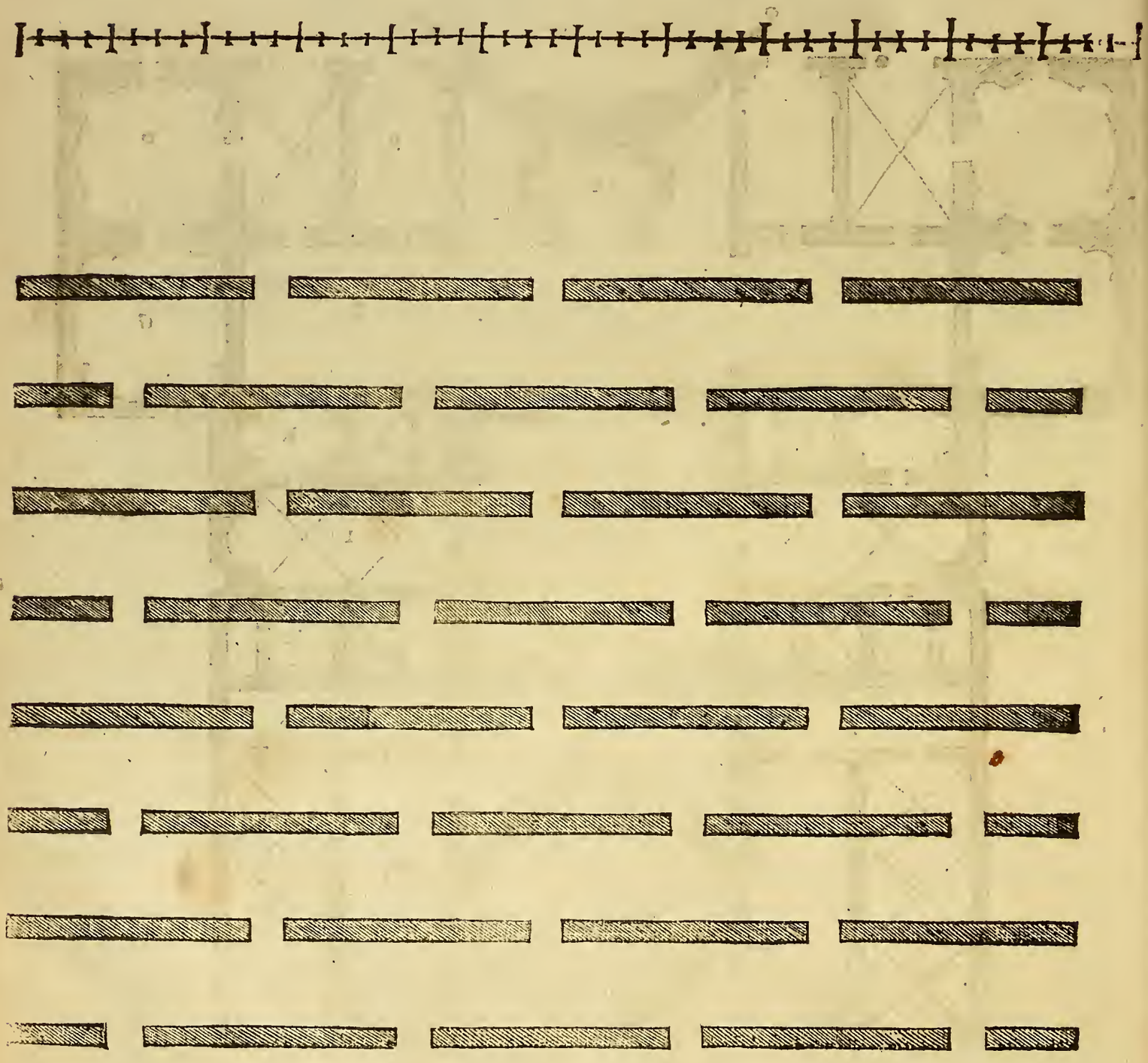


The Thermes of Titus are lesse then the other, and therefore by the people they were called Thermi minori: nevertheless, (after my opinion) they are well made: the Ichnographie of these Thermes is measured with the ancient Palme. First, the Diameter of the round forme marked A. is about 150. Palmes: the part B. is in length 80 Palmes, and in bredth 51. Palmes: the part C. is 80. Palmes in length, and in bredth 60 Palmes. The forme D. is about 100. Palmes in Diameter: and the Portall E. is 50 Palmes: the part F. is 120. Palmes long, and 70. broad: the eyght ranked part marked G. is about 100. Palmes: the round part H. is 150. Palmes in Diameter. The part I. is 100. Palmes, and is almost two foure squares: the two parts, each marked with K. is 30. Palmes on eyther side. The part L. is 125. Palmes, in length, the bredth 30. Palmes. The roundnesse marked M. is about 120. Palmes in Diameter. That part marked N. is 148. Palmes long, and 57. broad. The part O. is the same: the preseruation of the water followeth after.



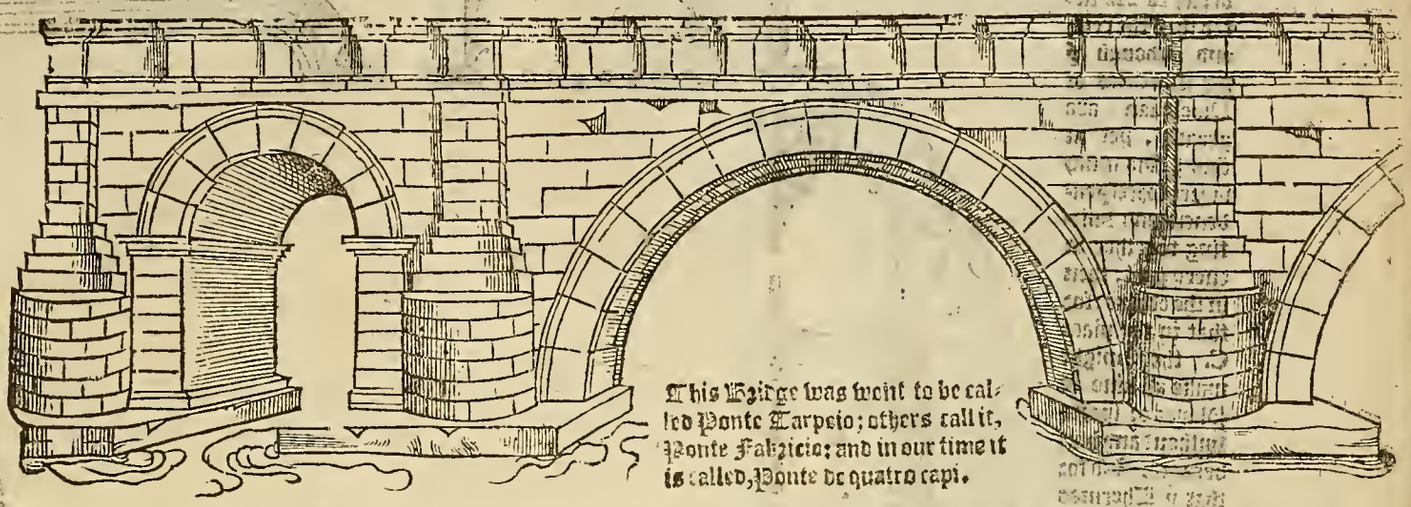
The preserving, or the place where the water of the Thermes of Titus, the sonne of Vespatianus was kept, is wonderfully made, and very Artificiall, and that is, for that the Arches of these preseruatines are placed in such good order, that a man, standing in the going through of the one, seeth them all ouerthwarts: and this is the place which the people commonly call, The seuen Halles, and it was for this cause, because the spaces are seuen in number: and in them you see ouerthwarts, backwards and forewards, alwayes 7. in number: the thickneſſe of the walls, is foure foot and an halfe: the widenesse of the Arches is fire foot: from one Arch to the other, are 27. foot: the widenesse from one wall to the other, is 15. fote, and they are round roofed, of an indifferent height. The walles and rooſes are playstered with most hard plaister.

The old Romane Palme.



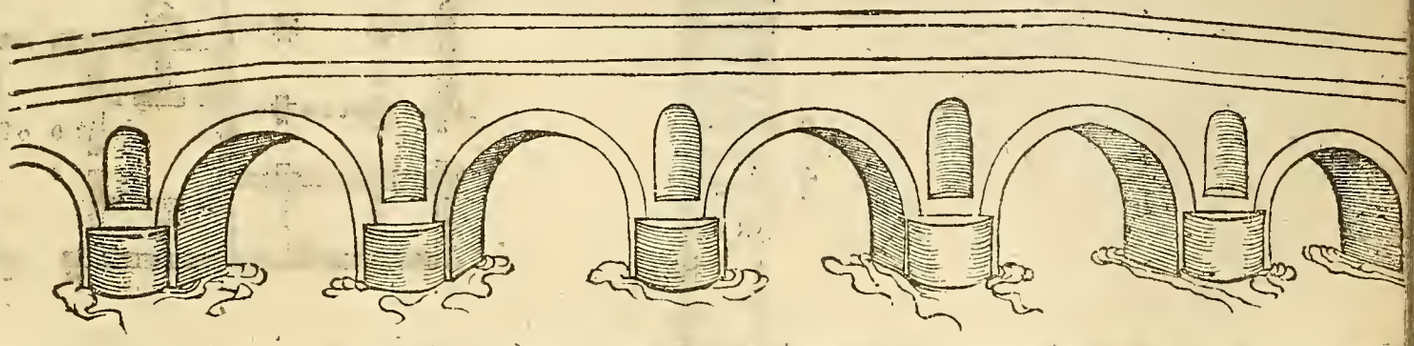
IN Rome and elsewhere there are many Bridges made by the Romanes, but I will here shew the invention of foure onely, that you may see their manner of making of Bridges.

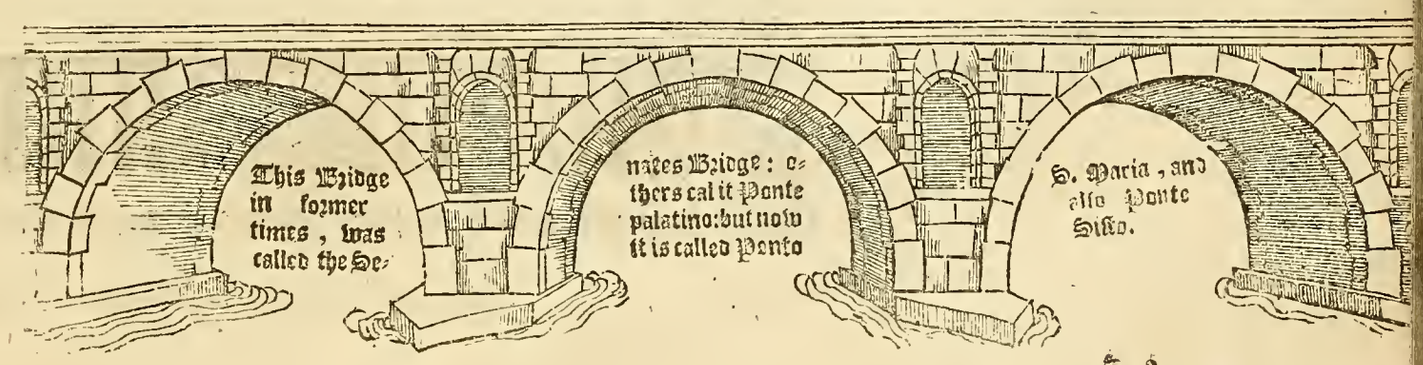
This Bridge is called Ponte S. Angelo, because it standeth vpon Tiber, by the Towne of Inghelenburgh; by the ancient Romanes, it was called Ponte Elio, of Elio Adrianus.



This Bridge was wont to be called Ponte Tarpeio; others call it, Ponte Fabricio; and in our time it is called, Ponte de quatro capi.

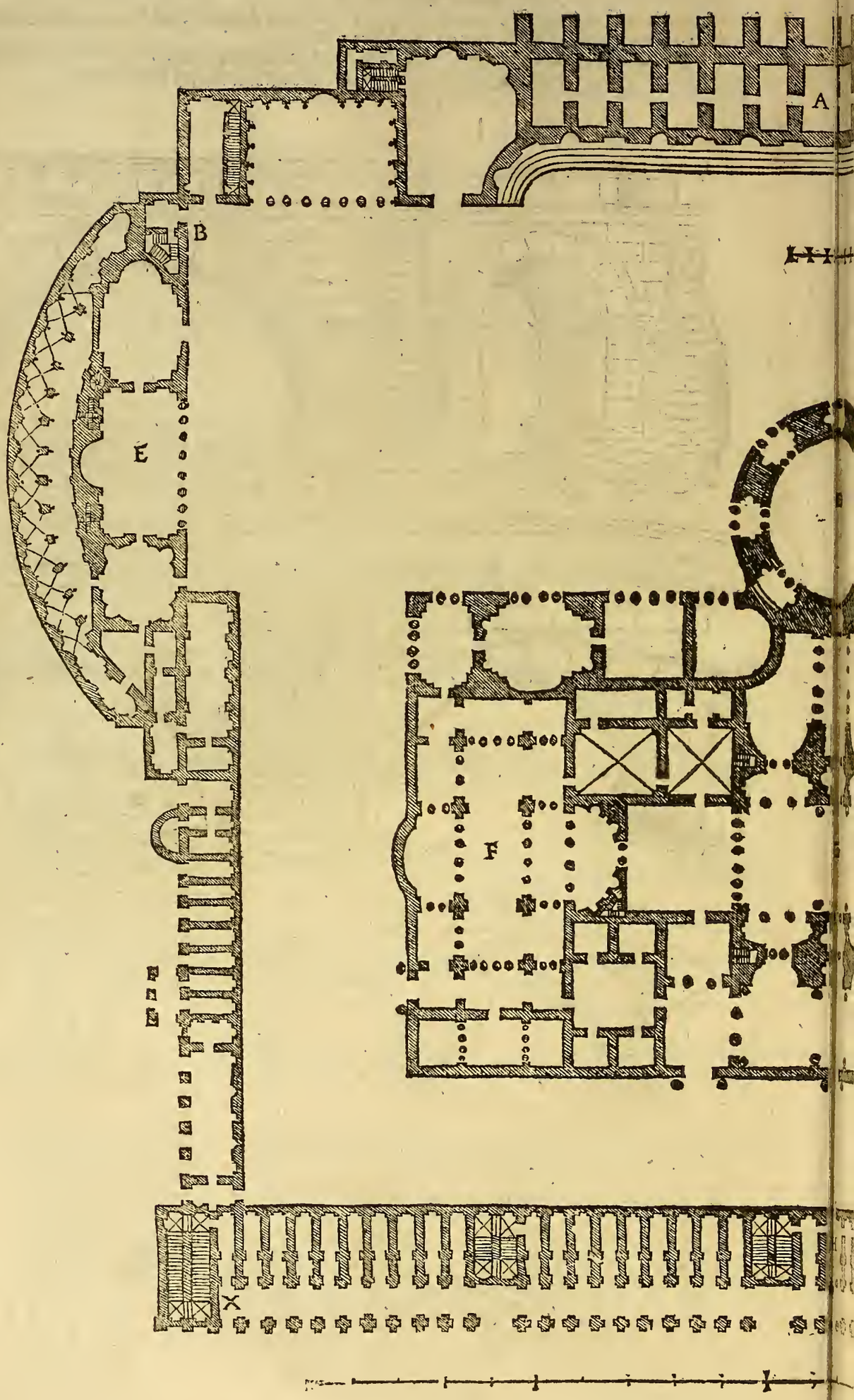
This Bridge is called Pontus Milvius, but cõmonly it is called Ponte Molle.

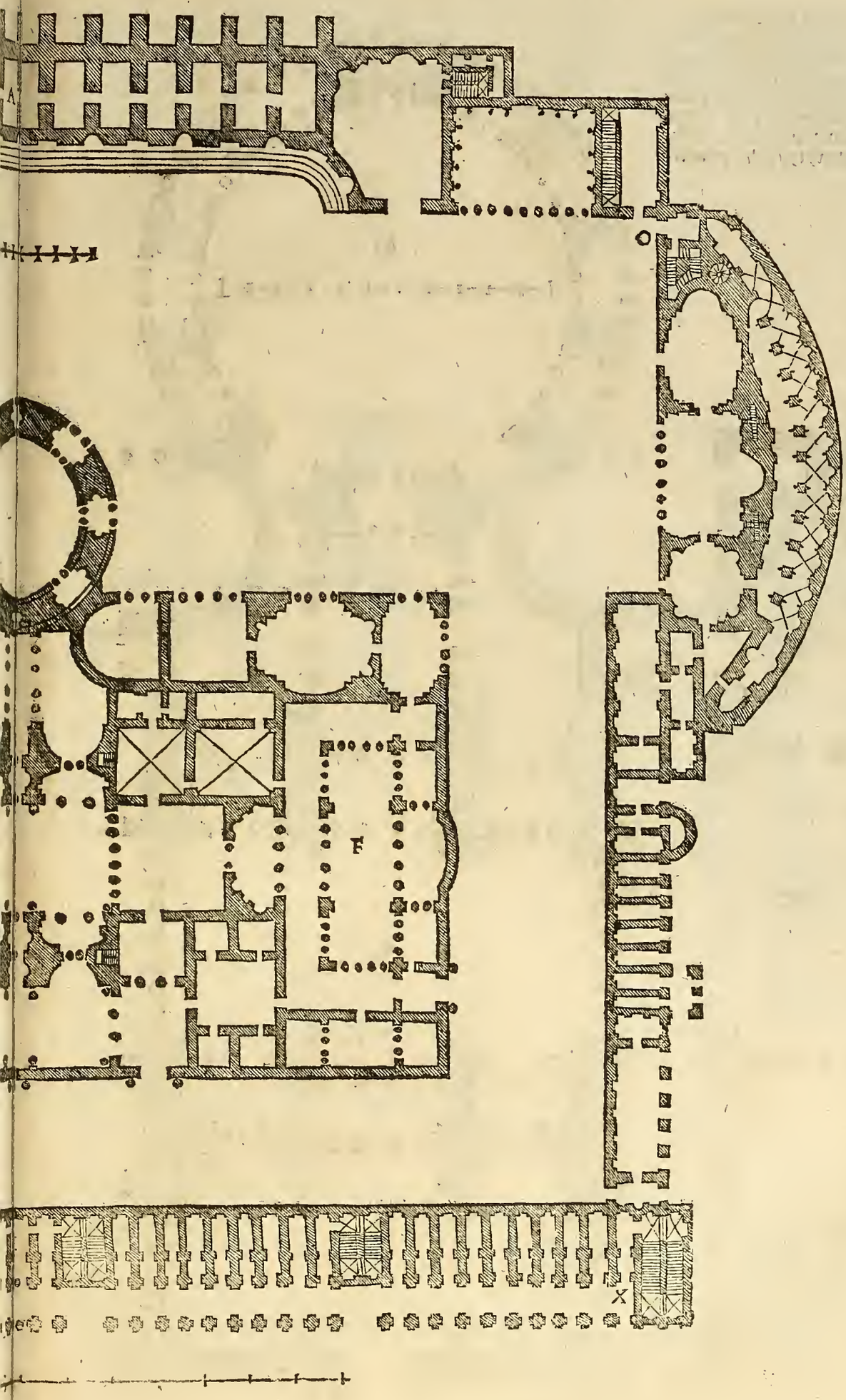




This Bridge in former times, was called the Senates Bridge: others call it Ponte palatino: but now it is called Ponte S. Maria, and also Ponte Sisto.

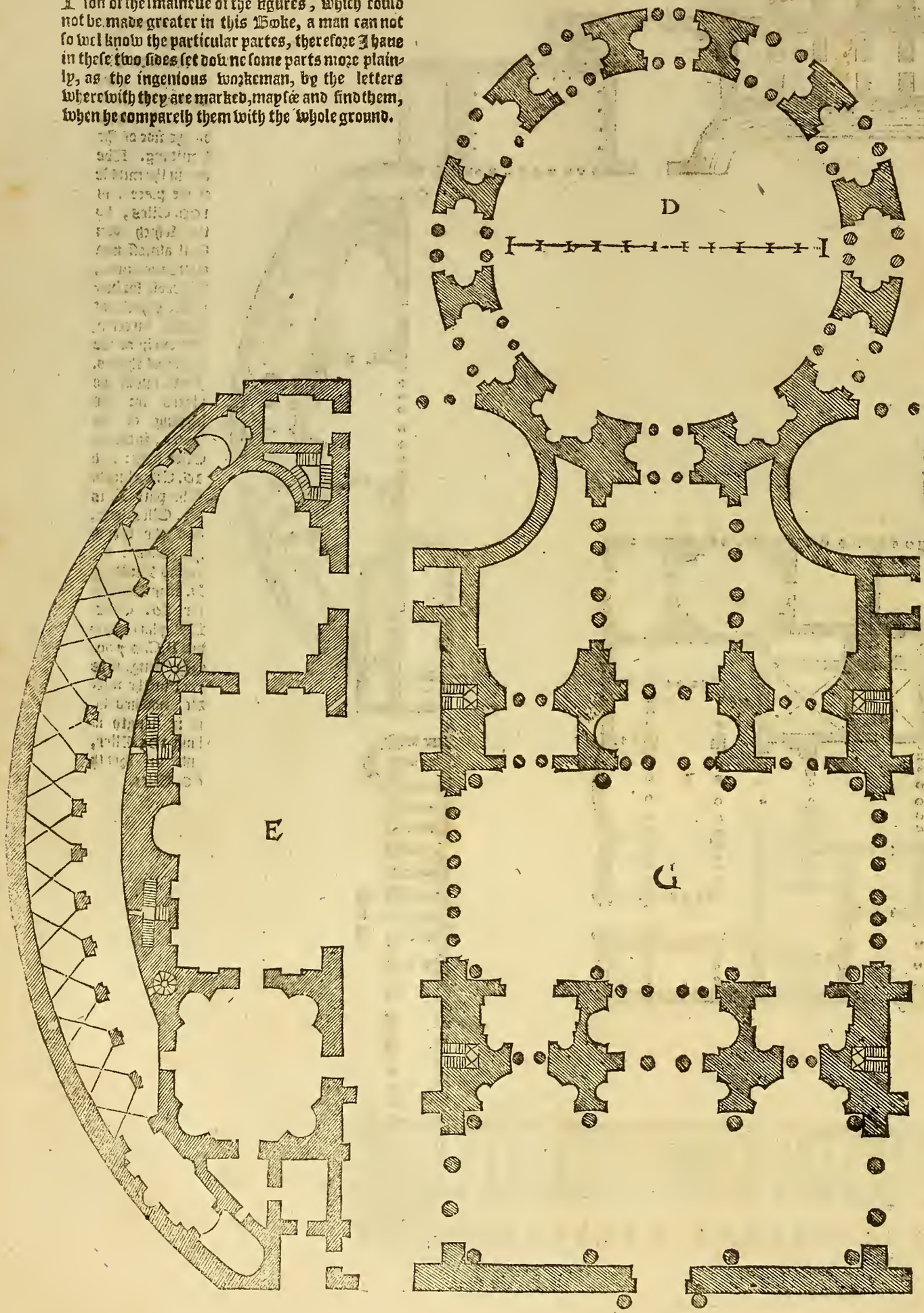
Among other Thermes which are in Rome, I finde this of Antoniano to bee better to bee noted then the rest, and although ye the Thermes of Diocleſian are greater, yet in this I find much ſayer correſpondencie and knitting together in euery part, then in the others: for that in the place C. they might make all kind of Playes or ſports without any hinderance. And for that ye Thermes were ſpecially made for men to bathe in, as they were vſed for diuers ſports to be made in them, ſo was the preſeruation of the water made behind ye building, marked A. where, by meanes of the Pipes, they were alwayes filled to ſerue for ſuch vſes.



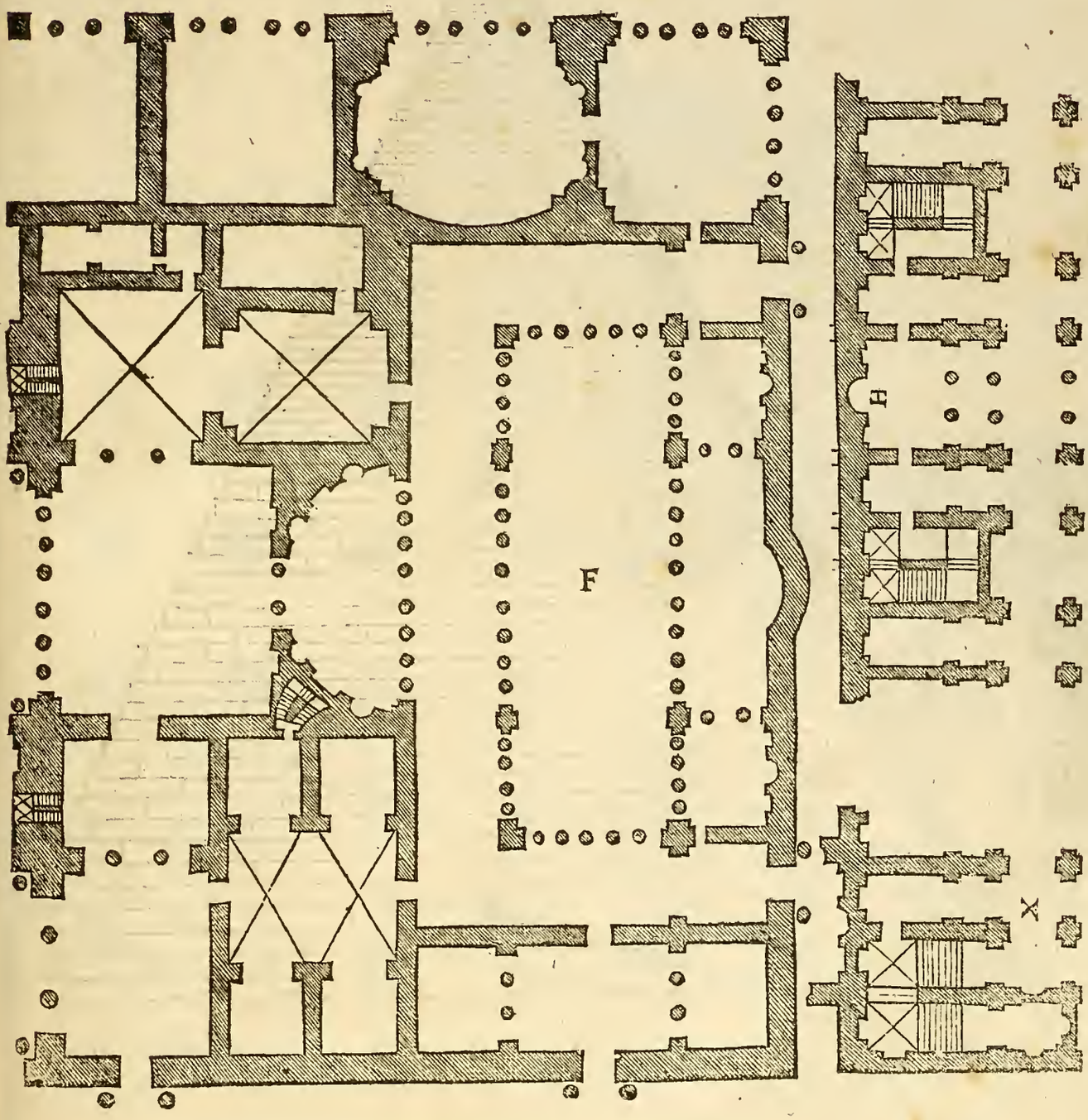


This ground is measured with the common Ell, the third part whereof is hereunder set downe by the side of the Building. The line in the middle of the place, is 100. Elles, by the which you shall almost find all the measures, whereof, for breuitie, I will not speake directly, but onely of the principal things. First, one of the places for the keeping of the water, is thirtie Elles long: and 16. Elles broad. The part X. is 81. Elles long, and the bredth 44. Elles: the round Building D. is in Diameter 86. Elles. The place marked B.C. is 700. Elles long. The part in the middle marked G. is in length about 105. Elles, and in bredth 60. Elles.

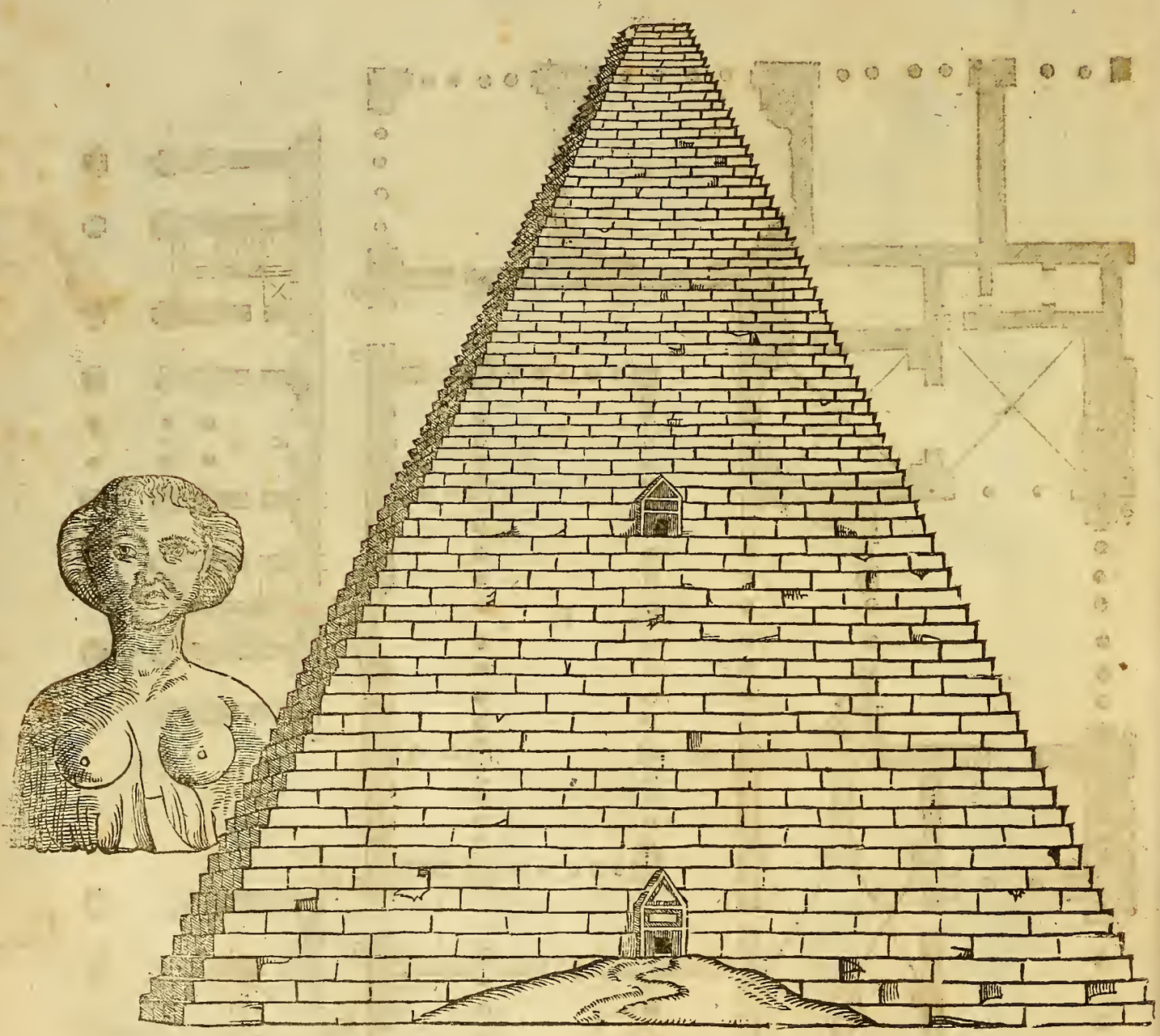
For that in the ground before set downe, by reason of the smalnesse of the figures, which could not be made greater in this Booke, a man can not so wel know the particular partes, therefore I haue in these two sides set downe some parts more plainly, as the ingenious workeman, by the letters wherewith they are marked, mayse and find them, when he compareth them with the whole ground.



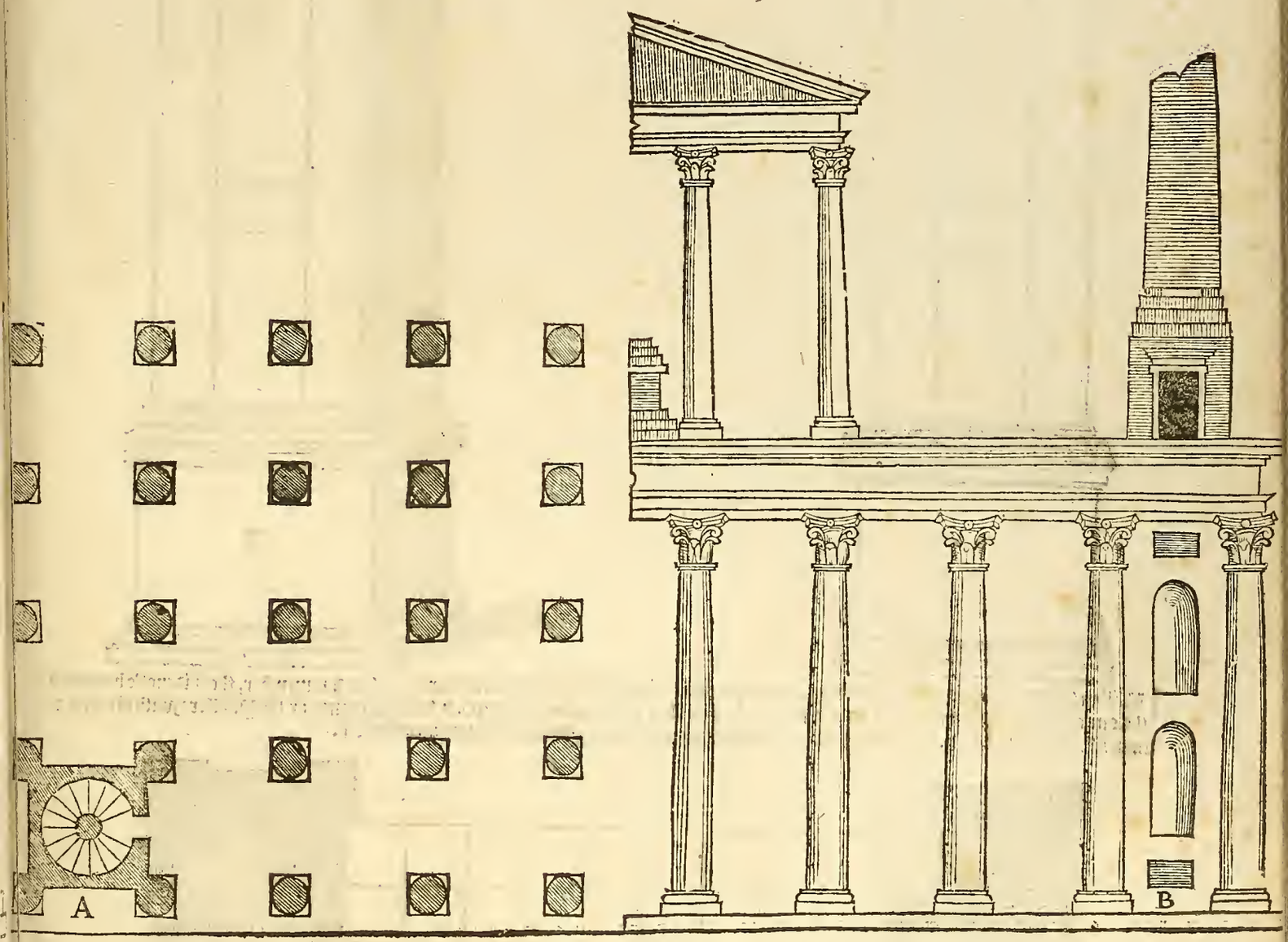
Although these Figures stand thus without order, and in many pieces; yet the wise workeman shall know, that they are members of the Thermes afore shewed, beholding the letters which stand in them (which comparing with the others) he shall find what parts they are. Also, he must know, that the parts H. and X. belong not to the part F. for the Figures hereunder are three seuerall parts; although, for necessitie sake, they are set one by another. I haue also not set downe the particular measures: for the workeman shal better helpe himselfe with the inuention, then with the measure.



ABout seuen miles from Alcaire there is a Piramides, whereof I will shew the forme, and also set downe the measure, as I had it from a Gentleman of Venice, who measured the same himselfe, and was both vpon it, and within it. This Piramides was measured by Paces, and euery Pace is more then three ancient Palmes: the Base, on euery side, is 270. Paces, and is right foure square: it is all of hard stone, and yeu may clime vpon it without, (but not easily) vnto the top: for euery Pace is three Palmes and a halfe high: but there are not so many Playnes, that a man may easily set his foot vpon them: the number of the Paces or steps, from the Bases to the top, or the highest part, is 210. and they are all of one height; so that the height of the whole Piramides is as much as the Base. Many beleeue that this Piramides was a Sepulchre: for that within it, there is a place in the middle, whereon lyeth a great stone: thereupon men presume, that some great person hath there beene buried: but going in, vpon the left hand, you find a going vp of stone, which turnes about the Piramides within, through the which you goe vp the Station, in the top within. About the middle of this Piramides there is another going in, but it is fast shut: on the top of this Piramides, there is a faire flat or playne, about 8. Paces broad on euery side, whereby workemen know, that it was the same playne that was made at the finishing of the Piramides. Not farre from thence, there is a head of hard stone, with part of the breast all of one stone; the face whereof is 10. Paces long: and in this Figure there are some Egyptian letters: of this Piramides and head, Peter Martir writeth, and hath also seene and measured them, which differ not much.

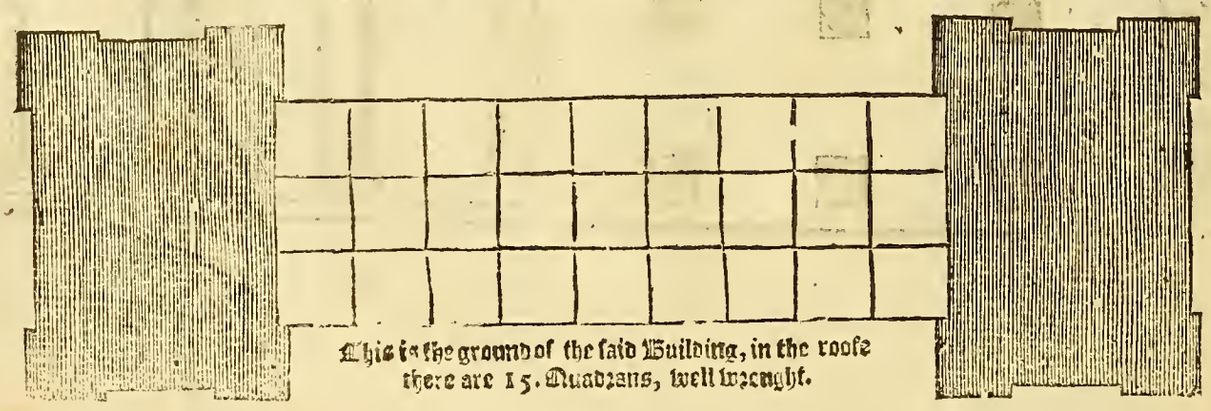


ALthough the Geekes were the principall founders and inuentors of good Architecture (as our Master Vitruuius, and many other Authors witnesse) neuertheleſſe, by reason of their great warres, and their Land so often ouerrun and spoyled by the enemies, a man can hardly finde any good worke standing whole in all Grecia: but as some men haue told me, there are yet the ruines of a Building, which, as men conceaue, was of one hundred Columnes; whereof no man can by casting know the height. But (with our Authors licence) for that he makes this by report, and hath no measure thereof, I haue onely set the fourth part of the ground by the halfe of the Building (which he hath thereto placed) whereby the workeman may conceaue the whole ground, and the whole Figure thereof.



By Sr. George Belabro, you may see this building hereunder, which was made by the Bankiers & Drensellers, in the time of Lucius Septimus Severus, and Marcus Aurelius Antonius: which Building is of Composita worke, wellset sooth on every side with graving. Let no man wonder, that the Frese & the Architrave are covered with this table, for that there being much writing to bee set into it, the Frese was not great inough to containe so many letters: therefore the workeman made it so, and brake not the order of Architecture at all, leaving the ill proportion thereof in the corners.

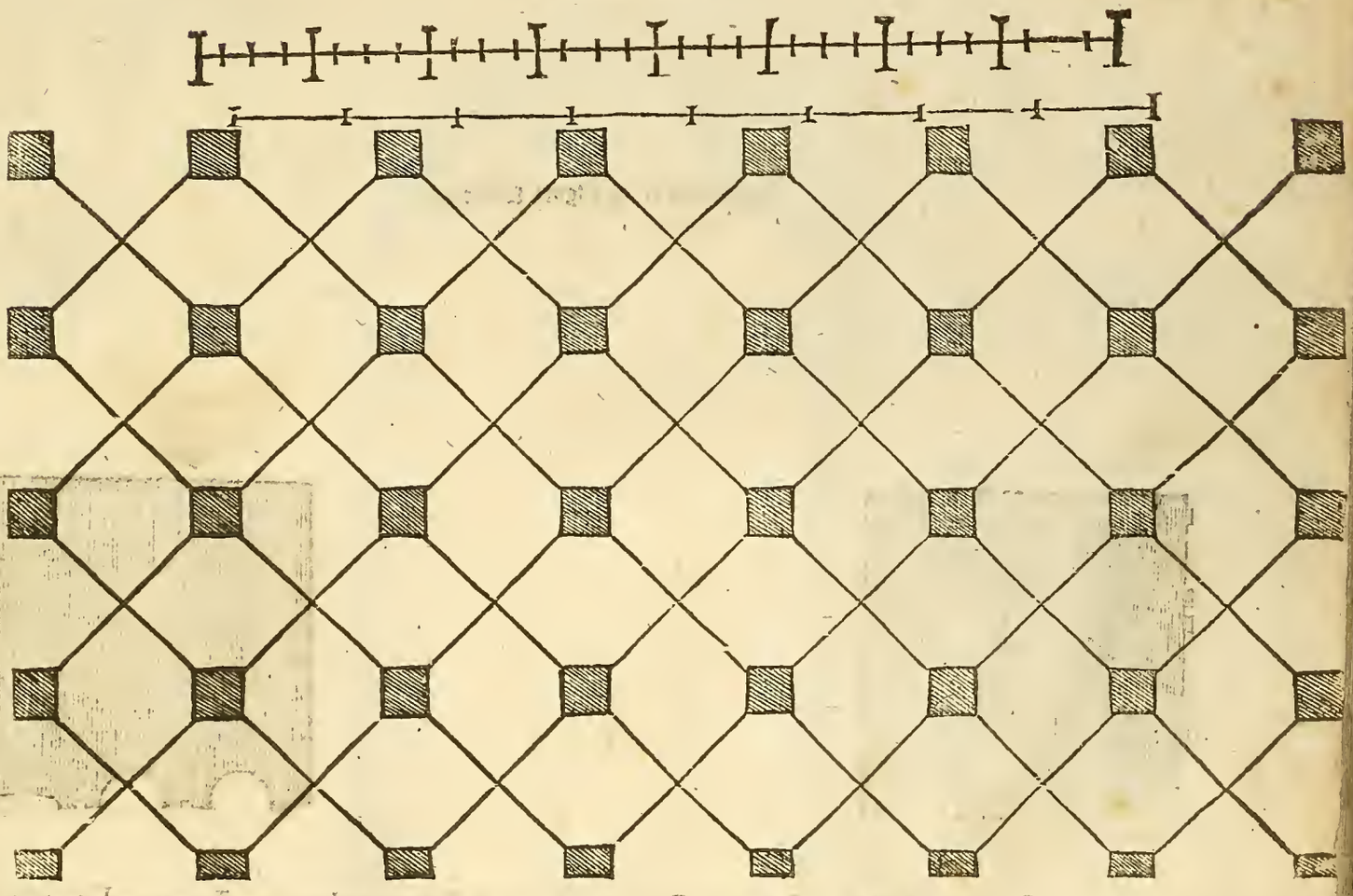
I will not set the measure of this Building at large, because it was lost after it was measured: but as I remember, the widenesse betwéene the one end the other Pilaster was 12 old feete. The height of that widenesse was 20. feet: the thickenes of the Pilasters, with all the Columnes which are flat, is 4. feet and an halfe: and so much the Architrave, Frése and Cornice containeth.



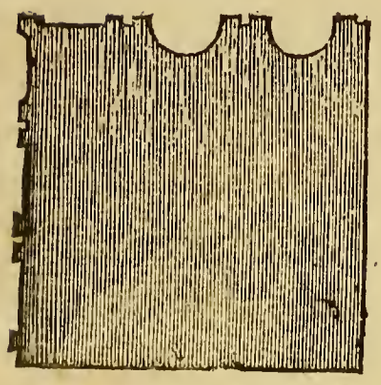
This is the ground of the said Building, in the roofe there are 15. Quadrans, well wrought.

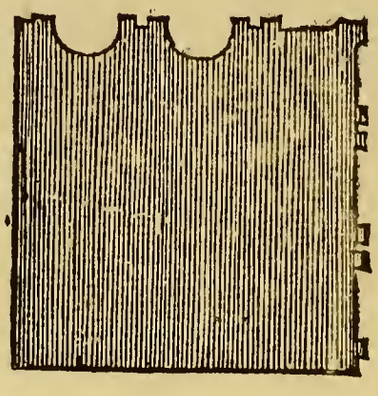
THe Therme made by Diocleſian, was vſed for diuers common and open ſports, and ſpecially to bathe in; whereunto it behoueth to haue great quantitie of water, which was brought by Pipes a great way off; and it was kept in certaine Cetternes, which ſtood in the Thermes of Diocleſian, in this manner as is hereunder ſet downe: it was made with Pilaſters, and aboue it was croſſe roofed, with walles about them, of very good ſtuffe; which was ſo firme, that at this day it is yet to be ſeene: the thickeneſſe of the Pilaſters is of each ſide foure foote: betweene each two Pilaſters is 12. foote of the old Romane foot, although the ſayd Therme is meaſured with Palmes: and this line hereunder is halfe an olde foote.

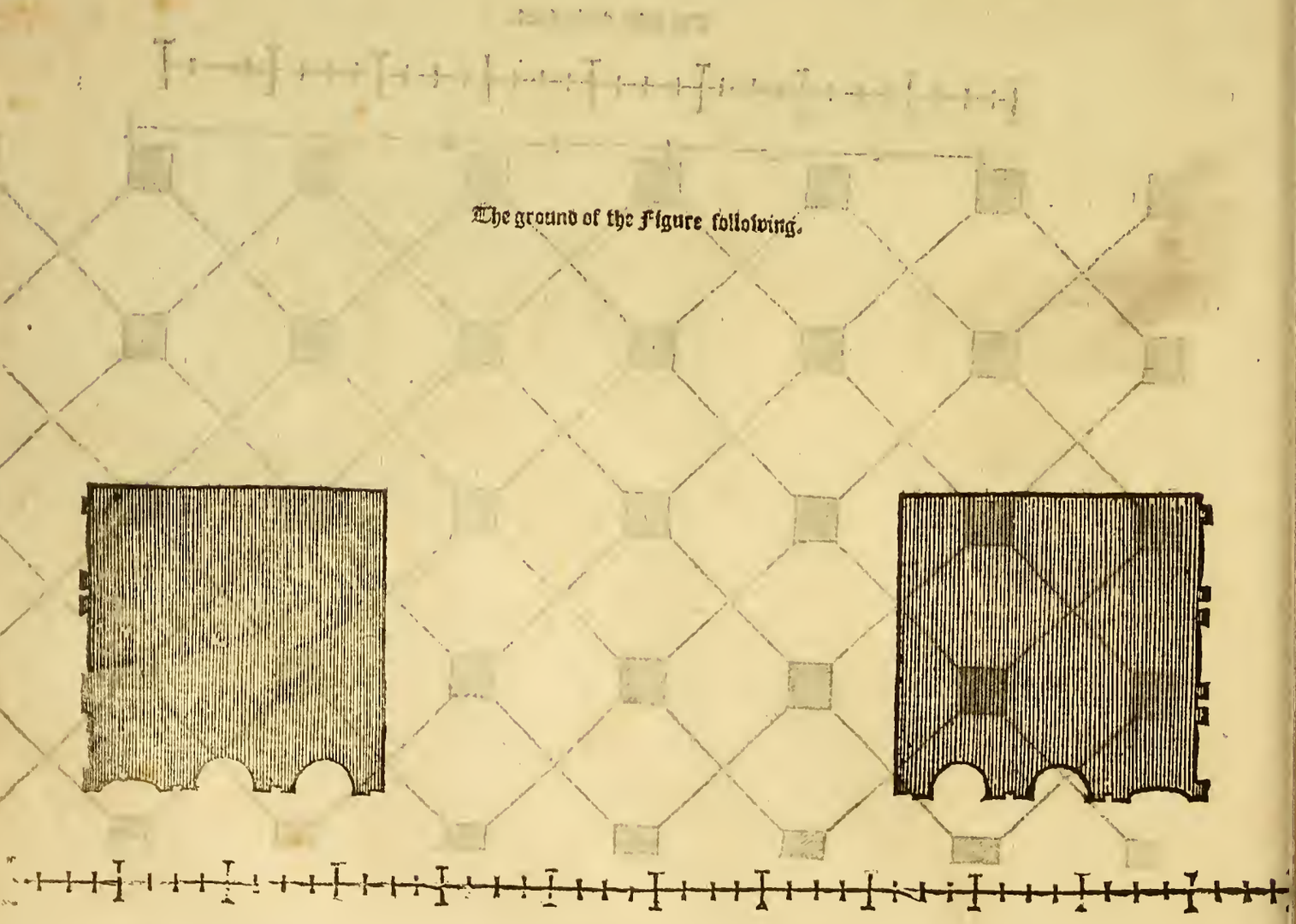
The halfe ancient foot.



IN Rome there are many ancient Tryumphant Arches, among the which, this Building, by the greatest number, is accounted for a Tryumphant Arch: yet by the knowledge that men haue of it, it is thought to be a Porticus, or a Gallery, like vnto a Borse or Exchange for Marchants: it may be it was made by some one nation alone; as yet to this day in great Townes and Cities, euery nation hath a seuerall place, although they are not by that meanes deuided. This Porticus or Gallery stood in Nel foro Boario; and in ancient time was called, The Temple of Ianus: whith is measured with the ancient Palme. This Building hath foure gates, as the ground hereunder doeth shew: betwéne the one and the other Pilaster, there are 22. Palmes: round about this Porticus, there are 48. niches or hollow places: but there are no more then 18. to set Images therein; all the rest are but for shewes, as being not déepe inough cut into the wall: which places were beautified with small Pillars somewhat bearing out from the wall, as you sée them, and were Corinthia worke, but now it is spoyled of all such ornaments.

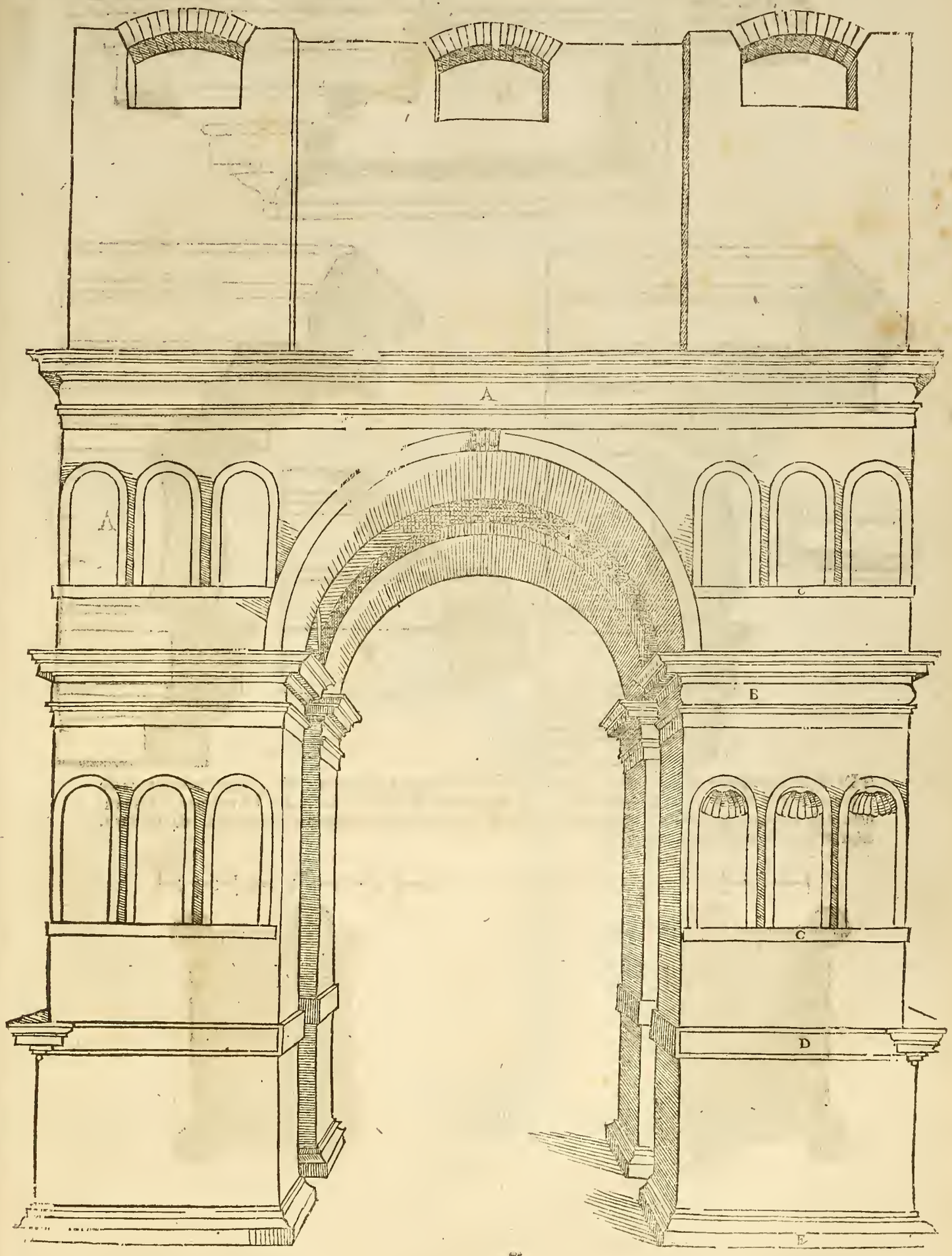




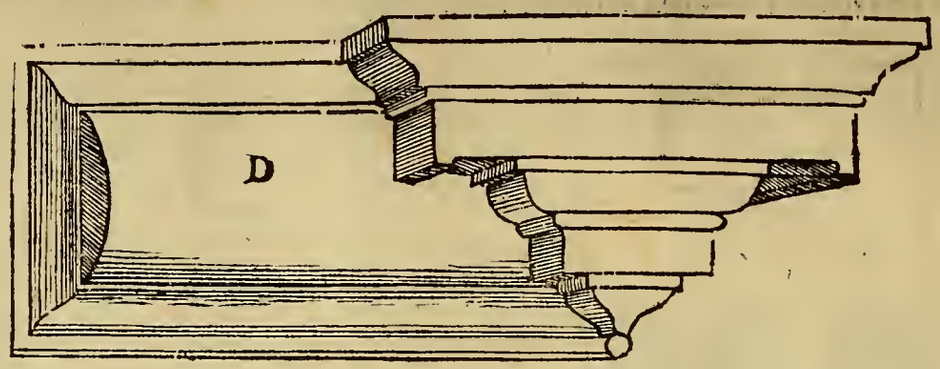


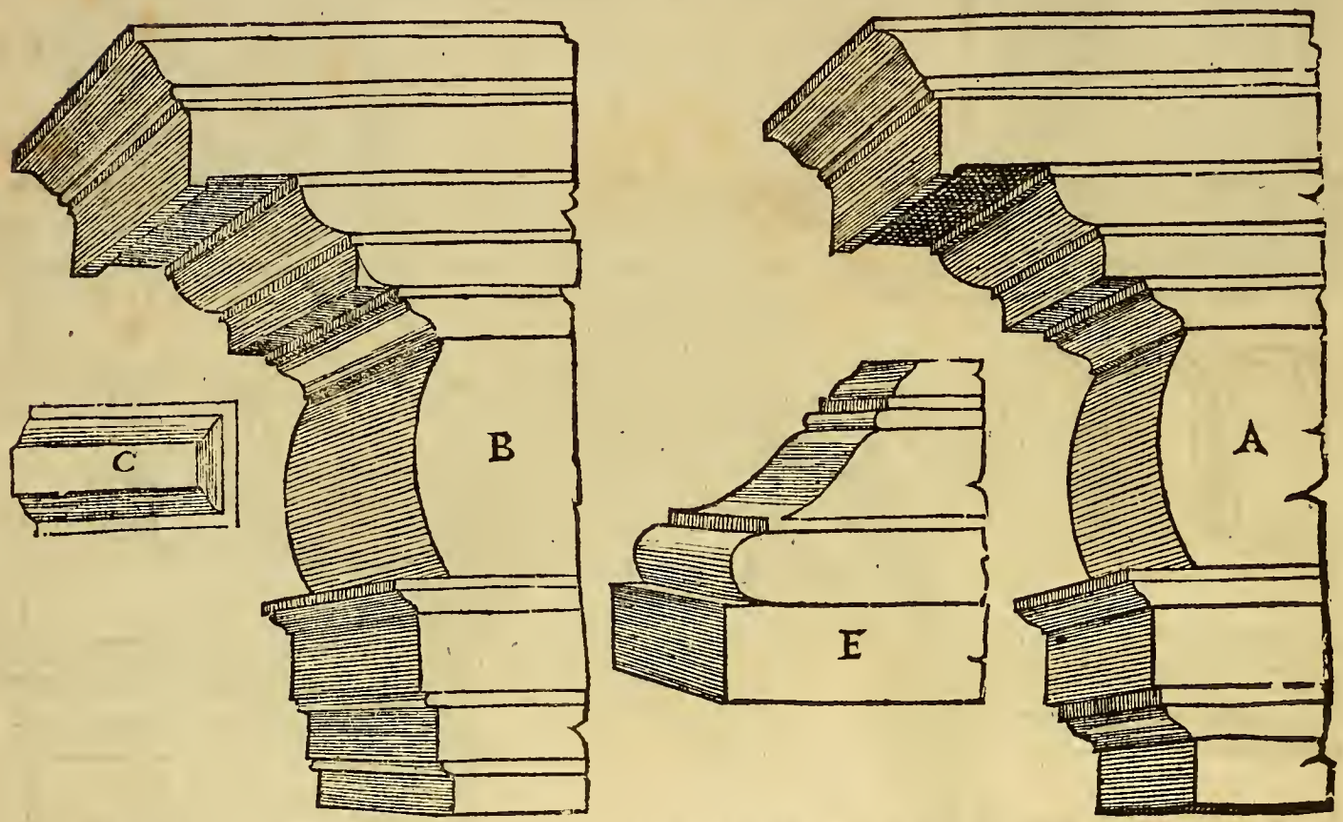
The ground of the Figure following.

THe height of the Arch is 44. Palmes: the height of the Bases beneath, marked E. is 1. Palme and an halfe. The Facie D. within the corners, is turned into a Cornice, and is the like height. The iudgement of the workman pleased me well in ỳ piece, which is, that he made no Cornice in the innermost part, that might trouble the people that should be therein: the height of the other Cornices are not measured, but the formes of them diligently counterforted, follow hereafter.

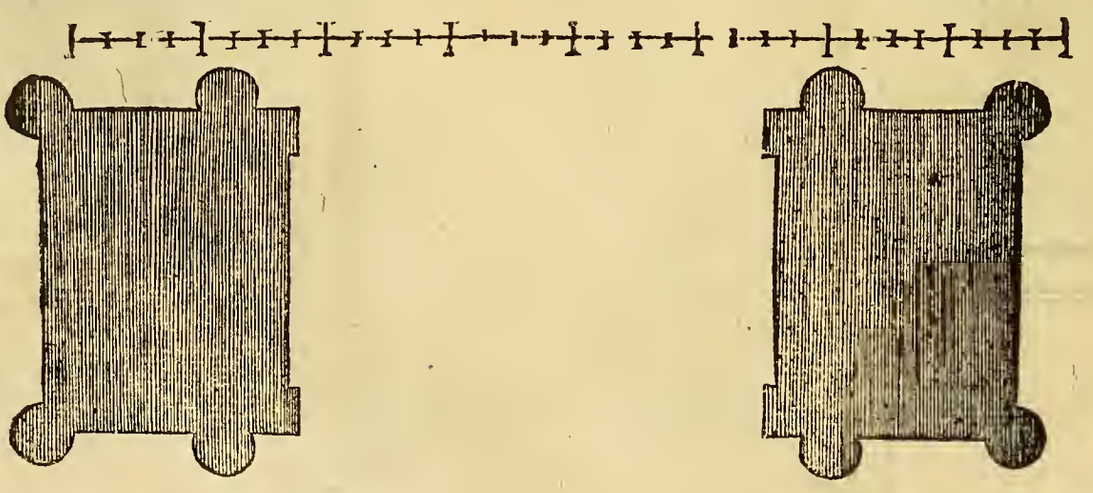


The five pieces of Cornices hereunder set downe, are the ornaments of the Porticus aforesayd. The Base E. and the Facie D. were measured, and in this forme, the great measure set downe; but the other were counterfeited by sight, with their heights where they stands: and there is little difference betweene the one and the other, for parts, and also in height. The Figure C. is the Facie under the first Niche or hollow place.



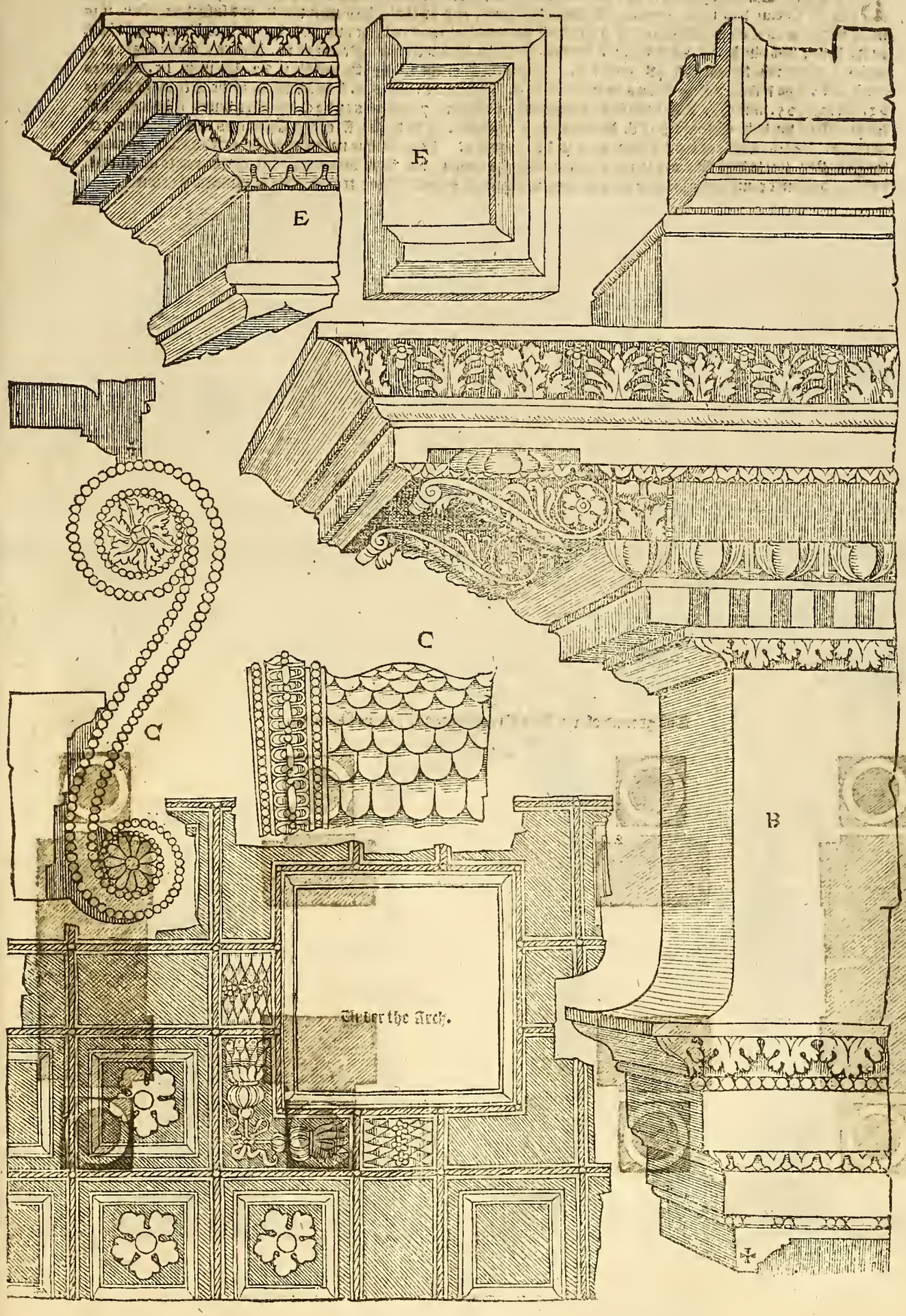


The Arch Trypumphant, next following, is called Titus Arch Trypumphant; whereof this Figure hereunder, is the ground, and is measured with the ancient foote. The widenesse of the Arch is 18. foote and 17. minutes. The thicknesse of the Columne, is a foote and 26. minutes and an halfe. The foote wherewith this is measured, is of 64. minutes, whereof the halfe is here set downe.



I Haue spoken of the widenesse and thicknesse, now I will set downe the height: And first, the height of the Bow or Arch is as much agayne as the breadth. The Base of the Pedestall is 2. foote 4. minutes lesse in height. The Cornice of the Pedestall is 35. minutes high. The height of the Bases of the Columnes is about one foote: all these parts, and also the Capitall of the Columne, well proportioned in measure, stand in the beginning of the Composita Order, in my fourth Booke. The flat of the Pedestall is foure foote and a halfe high. The height of the Columne without Base and Capitall 17. foote and 13 minutes. The height of the Capitall is 1. foote and 27. minutes. The height of the Architraue is one foote and 19. minutes. The Freese is one foote and 17. minutes. The Cornice is 2. foote and 6. minutes high. The Basement of the Epitaph is of the same with the Freese. The height of the Epitaph is 9. foote and 12. minutes: the breadth is 23. foote: which members shall hereafter be set downe, and figured more at large.

IT would be troublesome both to the writer and to the Reader, if I should set downe all the parts of these Ornaments, from member to member, as they are diligently measured; & that not onely with foote, but also with parts of minutes: but I haue taken the paynes onely to set the same downe out of the great into the small forme, in such sort, that he that is discréte, may with his Compasse find the proportion thereof. It is true, that the Ornaments of the most part of the Tryumphant Arches in Rome are much contrary to Vitruuius writing; and this, I thinke, is the cause, that the sayd Arches are, for the most part, made by the Rookes of other buildings, (that is, of as many sorts of pieces as they could get:) and it may be, that the workemen in those dayes were selfe willed, and stood not much vpon obseruation, because they were things seruing for Tryumphs, and it may bee (as it hapneth oftentimes) made in haste. That part here on the side set downe, marked A. is the Base of the Epitaph. B. is the highest Cornice, Frieze, and Architraue: which Cornice, in my opinion, is very licencious for diuers reasons: The first, it is proportioned too high: from the nether Architraue, and aboue it, there are too many members, and especially Mutiles and Dentiles, which standing alike in one Cornice, are disliked by Vitruuius, notwithstanding it is very well wrought, and specially the Scima aboue: but had I such a Cornice to make (obseruing the right order) I would make the Scima lesse, and the Cornice more: I would leaue the Mutiles as they be, and I would not cut the Denticules, but the Cimated. The Architraue hereof pleaseth mee well inough. The two members marked C. shew the Facie and the Profill of the Mensola, which is the closing stone of the Arch. The members marked with E. are, in truth, rich for worke, but yet so rich, that the one darkeneth the other: but if the parts were so deuided, that the one were graven, and the other playne, I would commend it more. And herein the workeman that made the Pantheon, was very iudicious, for that you see no such confusion in his Ornaments. The worke vnder this Arch is very well made and deuided; it is also a fayre Compartment, and rich of worke. But it may be, that such as are too much conceited to commend Antiquities of Rome, will (peradventure) thinke that I am too bold to censure vpon that which hath bene made by such skilfull ancient Romanes; but in this respect I would haue them take my speeches in good part, for that all my intent is, to shew it them that know it not, and such as will subiect themselues to heare my opinion: for it is not sufficient to make ancient things as they stand, but it is another thing with Vitruuius aduice to chose out the best and fayrest, and to reiect the worse. It is true, that the chiefest part of an Architector is, that hee mistaketh not himselfe in giuing his censure, as many doe, who being obstinate in their opinions, make all things as they haue séene them, and hereby couer their vnskilfulnesse, without giuing any other reasons of things: and there are some that say, Vitruuius was but a man, and that they also are men sufficient, to make and inuent new things, without regarding, that Vitruuius confesseth to haue learned it from so many skilfull men, partly in his owne time, as also by meanes of the writing of other work men.

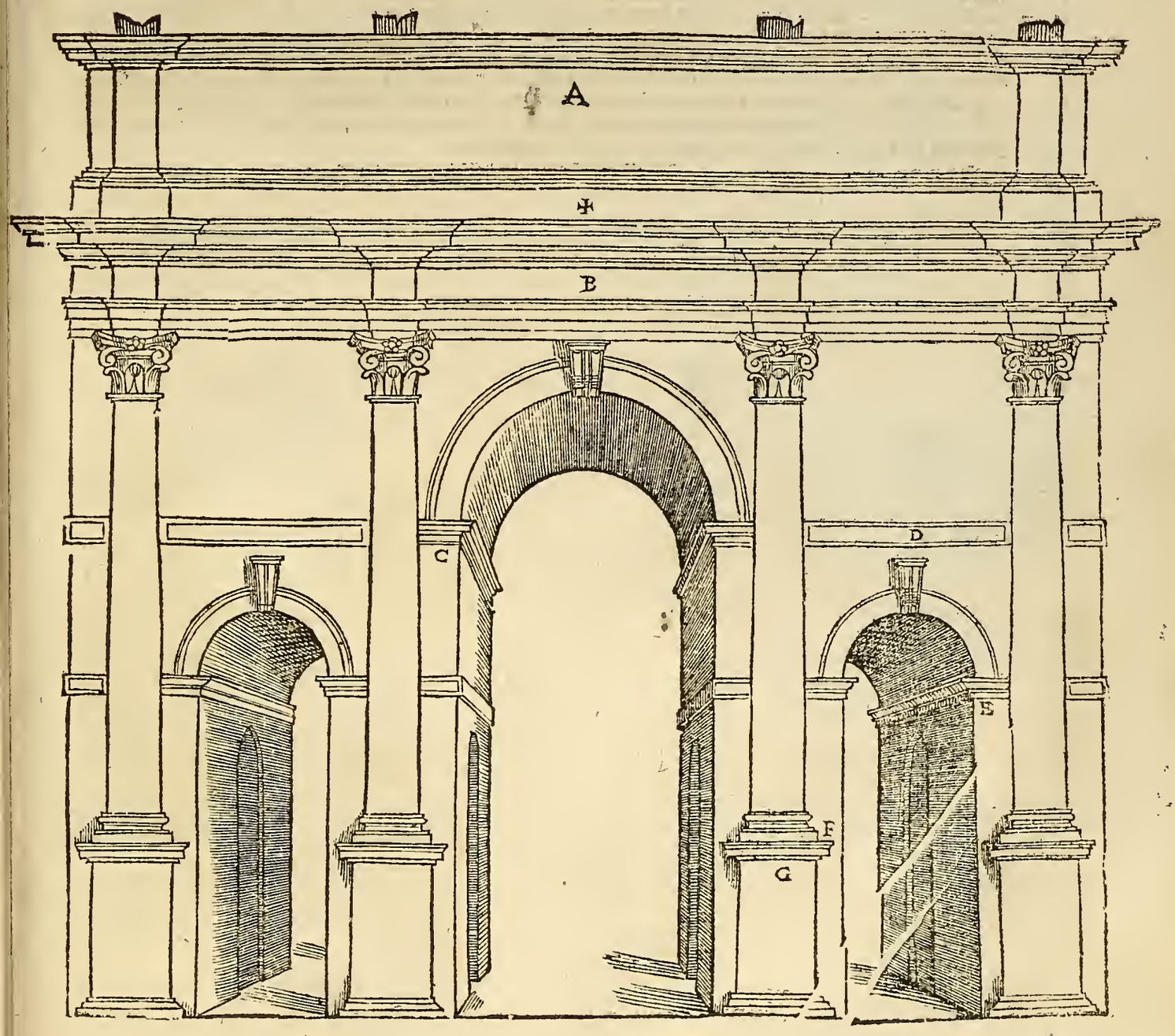

E
E
C
C
B
Vnder the Arch.

BEneath the Campidoglio there is a Tryumphant Arch, which by the inscription may be conceiued to be made in the time of Lucius Septimus Severus, and vnder his name, and by that which men marke and sufficiently find, it is made with Rofes of other buildings: it is also well adorned with good cutting and graueing: it is richly wrought both on the sides, and also before and behind: it was measured by the old Romane Palme of 12. fingers, euery finger of 4. minutes, which in totall maketh 48. minutes. The widencfe of the Arch in the middle is 22. Palmes, 15. minutes and a halfe. The widenes of the Arches on the sides is 9. Palmes, 30. minutes. The thicknesse of the Arch in the sides is 23. Palmes, 25. minutes. The little Gates within the Arches are 7. Palmes and 30. minutes wide. The breadth of the Pilasters with the Columnes is 8. Palmes and 7. minutes. The thicknesse of the Columnes is 2. Palmes, 30. minutes. The thicknesse of the flat Columnes is 28. minutes. This Arch is now vnder the earth as farre as aboue the Pedestall, (for so high the earth is there rayse with the ruines) but there was a part left vncouered to measure it, but they could not come to the Base to take the measure thereof, because it was troublesome to remoue the ruines.

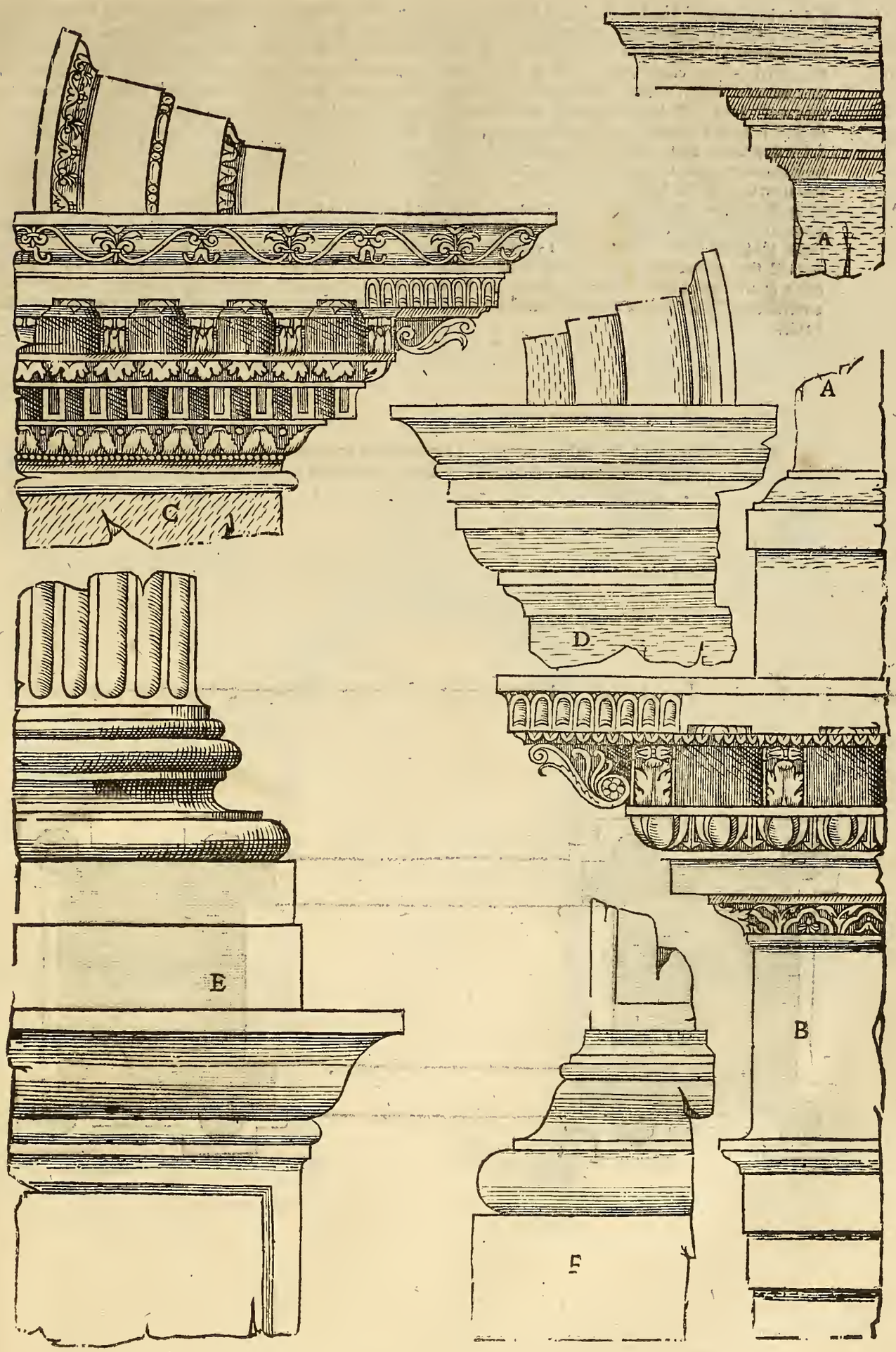
The ground of the Arch Tryumphant of Lucius Septimus.

BEfore, I haue set downe all the measures of this Arch, touching the Ichnographie, that is, the thicknesse and breadth, now I will speake of the height. The height of the middlemost Arch, is 45. Palmes and 3. minutes. The height of the Arches besides, are 25. Palmes. The height of the Pedestall, is about 10. Palmes. The thicknesse of the Columnes, is 2. Palmes and 30. minutes in Diameter beneath: but aboue vnder the Capitall, they are 2. Palmes and 16. minutes. The height of them, is 23. Palmes and 25. minutes. The height of the Architraue, is one Palme and 30. minutes. The height of the Frõse, is one Palme, and 3. minutes. The height of the Cornice, is two Palmes and 14. minutes. The height of the Plinthus, aboue the Cornice, marked ✠. is 29. minutes. The Base aboue the Plinthus, is halfe a Palme. The vppermost Cornice, is one Palme and 2. minutes, and proportioned in a greater forme.

IMP. CAES. LVCIO SEPTIMO. M. FIL. SEVERO. PIO. PERTINACI AVG.
PATRI PATRIAE PARTHICO ARABICO, ET PARTHICO ADIABENICO
PONTIF. MAX. TRIBVNIC. POTEST. XI. IMP. XI. COS. 3. PRO.
COS. ET. IMP. CAES. M. AVRELIO. L. FIL. ANTONINO. AVG.
PIO FELICI TRIBVNIC. POTEST. VI. COS. PROCOS. P. P.
OPTIMIS, FORTISSIMISQVE PRINCIPIBVS
OB REMPVBLICAM RESTITVTAM IMPERIQ. POPVLI ROMANI PRO-
PAGATVM INSIGNIBVS VIRTVTIBVS EORVM DOMI FORISQ. S. P. Q. R.

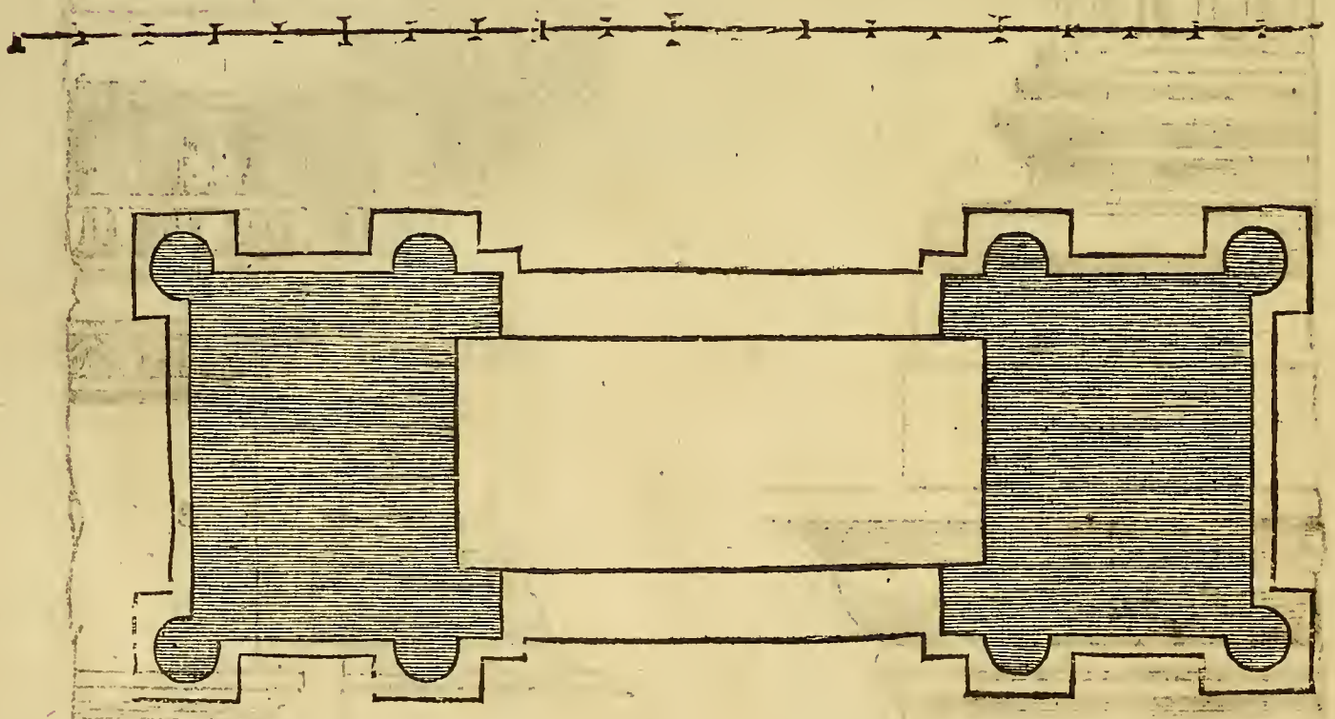


IN the side before, I haue set downe all the heights and bredths of the Arch Triumphant, of Lucius Septimus Seuerus: now I will shew the particular, and seuerall parts thereof, as I said before. There is no measure of the Base of the Pedestals, but it may be thought, that they containe as much at the least, as the Cornice of the Pedestals: which Cornice is a Palme, and so much the Base may hold: of which part, the forme standeth heere in the middle, marked G. The Base of the Columne standeth thereby marked F. the which Base hath a stone or counter-Base vnder the Plinthus: and this may peraduenture be done, because the Columnes could not reach to such a height as they should. The Capitall is here not set downe, because you shall see the like in the beginning of the Order, called Compositta, in my fourth Booke, for this is Composita worke. The height of the Architraue, is one Palme and 30. minutes: the Frèse is 9. Palmes and 3. minutes: which Frèse, for that it is full of graving, sheweth of a small height where it standeth: and by Vitruuius writing, it ought to stand the fourth part higher then the Architraue; and this is lesse. The height of the Cornice, is two Palmes and 14. minutes: which in truth is much too high, according to the proportions of the other members; and it sheweth so much the greater, because it hath more proiecture of height: and this makes me specially beléue, that this Arch is made of diuers pieces of other buildings, because of the shrinking of the members. The forme of the Architraue, Frèse and Cornice, is marked with B. The height of the Base, aboue the said Cornice, is halfe a Palme: the height of the last Cornice, is a Palme and two minutes, and hath such a great proiecture, and hanging ouer, as you sée in the Figure: and in such place, I blame not the Cornice; but affirme that it was made with great iudgement: for that the great proiecture makes the Cornice shew greater, because it is séene from vnder vpwards, and for that there is like matter, it is not in vaine for the building. This Cornice here is marked with A. The Cornice which beareth vp the greatest Arch, is marked with C. whereof the Proiecture is much too great: and for my part, in such a subiect, I would rather giue iudgement that it should be high, that with the bearing out, it should not hinder the sight of the Arch. That worke marked D. commeth right on the Facie, which goeth from Columne to Columne, aboue the two little Arches; and this accompanieth the Cornice C. The Cornice marked with E. is that which vpholdeth the smal Arch, the which Cornice hath a Scima, which I should not make in such a piece of worke: for that all Cornices, whose crownes haue not their iust Proiecture, are vncomely: for the fayrest part of a Cornice, is, that the crowne bee of a good height, and of a good proiecture: wherefore I set it downe for a common rule, that the crownes that are higher then their Scima, and those at least, that shall haue as much Proiecture as height, shall alwayes be commended by men of vnderstanding. This I thought good to set downe, to aduertise them thereof that know it not.


A
A
C
D
E
B
F

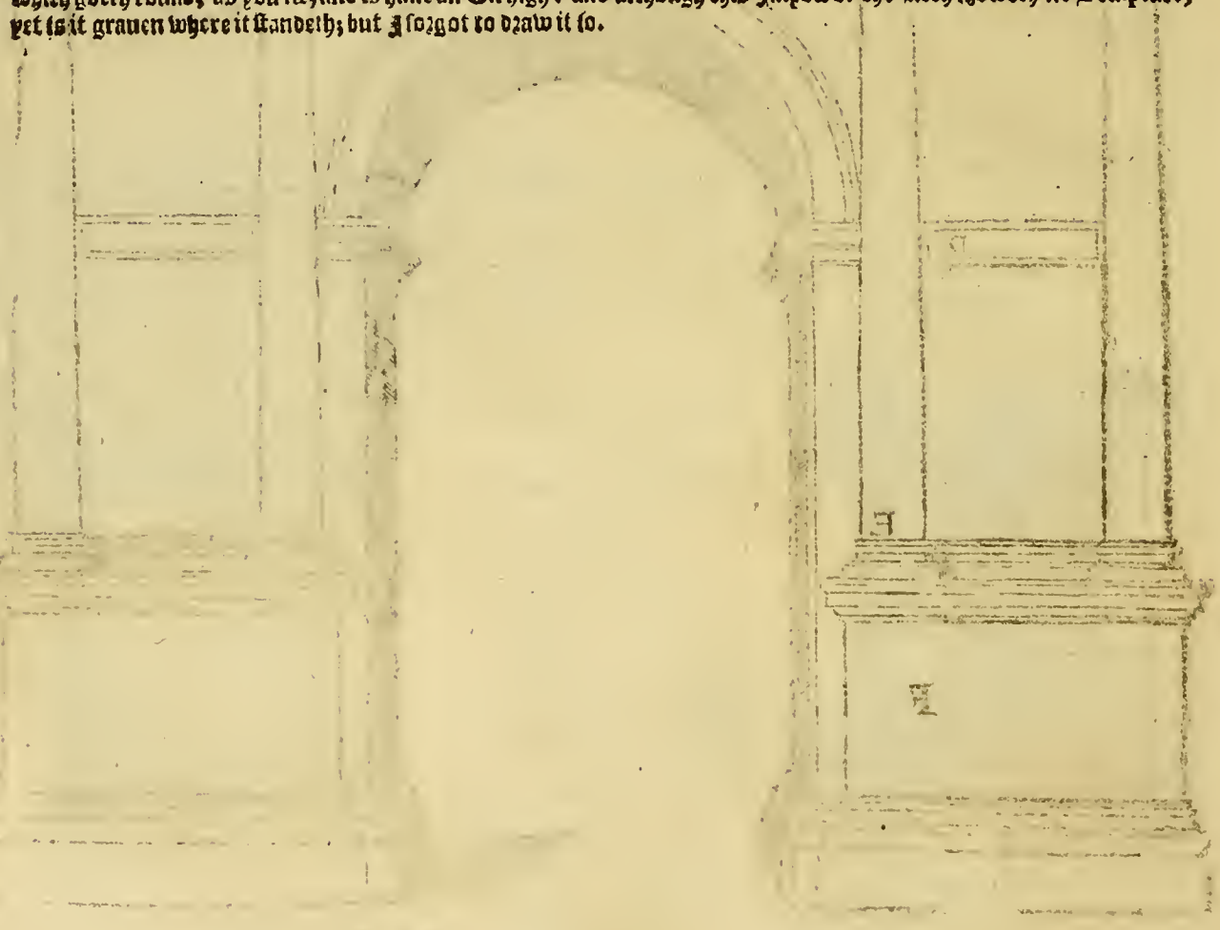
IN the kingdome of Naples, viz. betwéne Rome and Naples there are many Antiquities; for that the Romanes had great pleasure in those places: among the which, this Tryumphant Arch is séene, being yet all whole and fayre to sight: and therefore I thought it good to set it among the number of the rest of the Arches (which were made by the Romanes.) This Arch is at Beneuente, on this side of Naples, and was measured with a moderne Ell, whereof the third part is hereunder set downe. The Figure here below, is the Ichnographie of the same Arch; and to shew by whom this Arch was made, is needlesse, because it may be vnderstood by the writing that standeth thereon. The widenesse of the Arch, is eyght Elles: the thicknesse of the Columnes is an Ell: the Pilaster vnder the Arch, is also as broad: the inter-columne holds thrée Elles: the height of the Arch, is almost as much againe as the breadth: the height of the Base of the Pedestall, with the vnder-Base, is one Ell, ten ounces and fire minutes: the flat of the Pedestall, is two Elles, ten ounces and fire minutes: the height of his Cornice, is nine ounces: the height of the Bases of the Columnes, is seuen ounces: the height of the Columnes, without Bases or Capitals, is nine Elles and foure ounces. The thicknesse of the Columnes beneath, is an Ell in Diameter, and aboue is lessened a fift part: the height of the Capitall, is an Ell, fiue ounces and an halfe: the height of the Architraue, is 15. ounces: the Frése is seuenténe ounces high: the height of the Cornice, is one Ell, thrée ounces and an halfe: the Plinthus, which standeth as counter-Base aboue the Cornice, is 19. ounces and a quarter high: the Base standing vpon it, is 11. ounces high: the height of the Epitaph, is foure Elles and two ounces: the height of the outtermost Cornice, is one Ell and thrée minutes: the height of the impost of the Arch, is halfe an Ell.

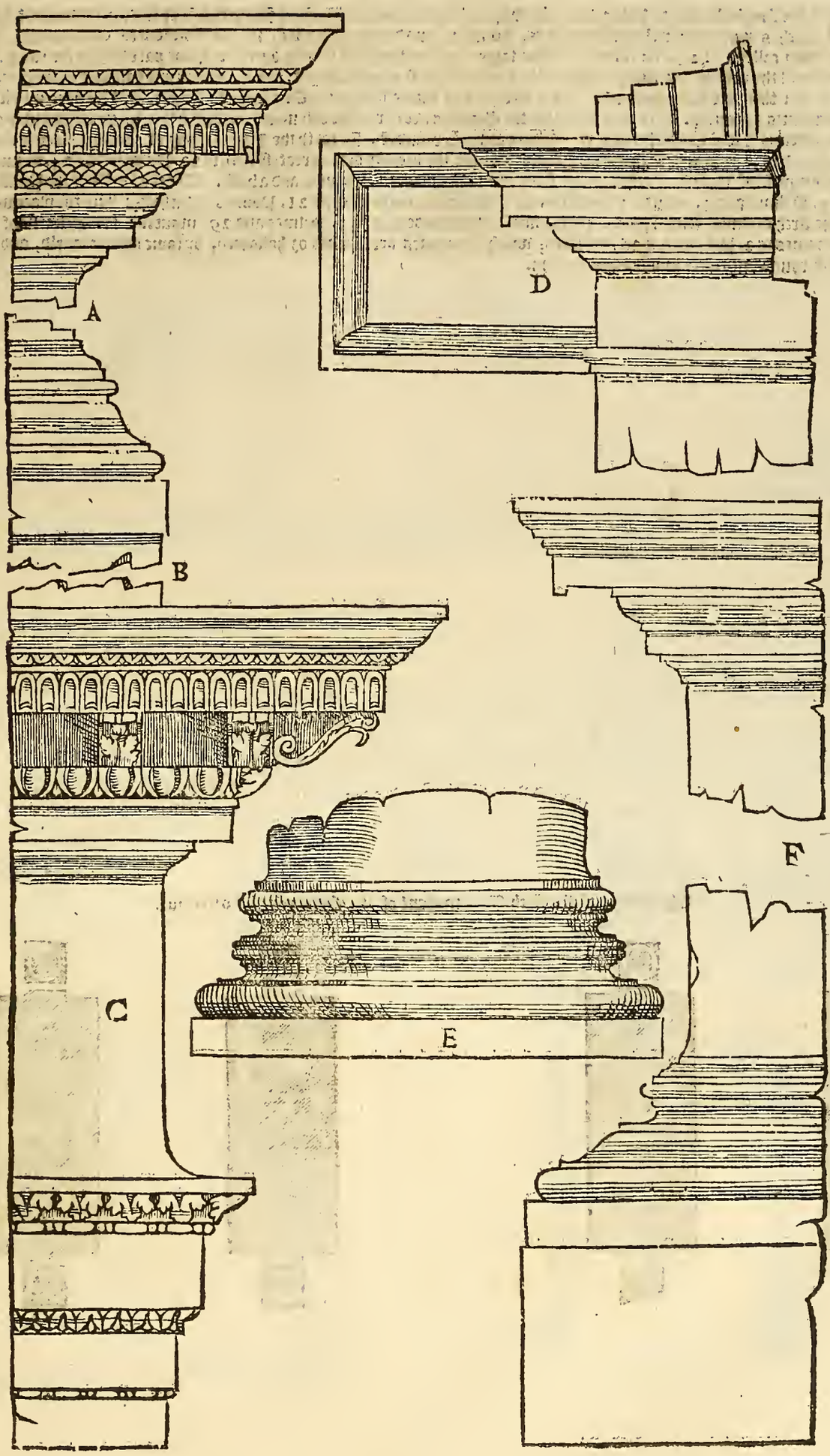
This Ell wherewith the Arch is measured, is deuided into 12. ounces, and each ounce into 5. minutes, which comes from 12. ounces to 60. minutes: and this is the third part of the sayd Ell.




IMP. CAESARI. DIVI NERVAE FILIO,
NERVAE TRAIANO OPTIMO AVG.
GERMANICO PONT. II. MAX. TRIB. I.
POTEST. XVIII. IMP. VII. COS. VII. PP.
FORTISSIMO PRINCIPI. S. P. Q. R.
A
B
C
D
E
F

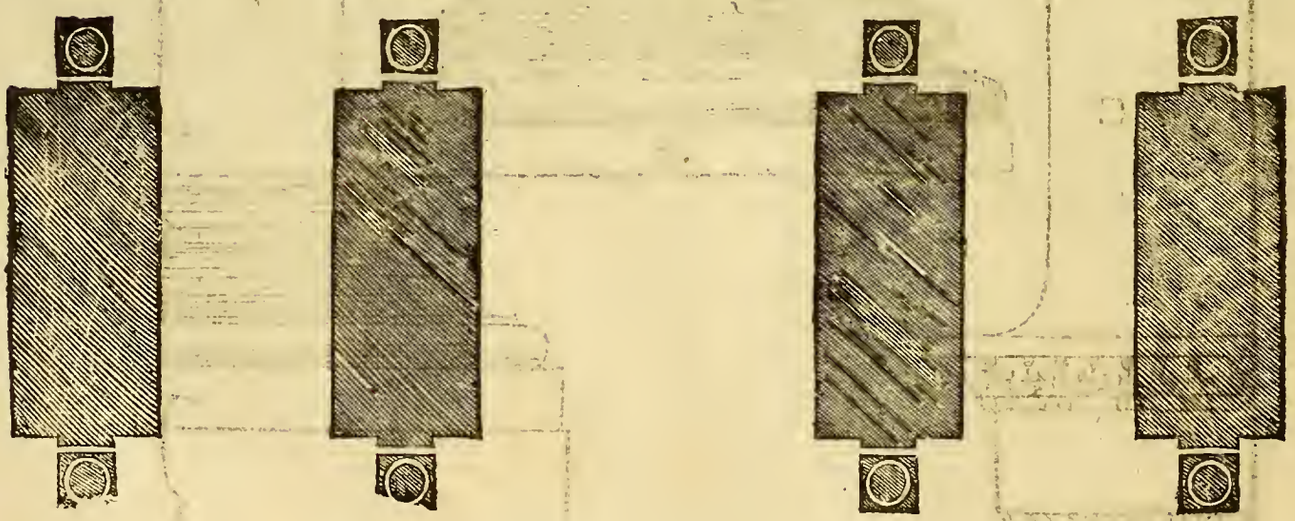
The Ornaments of the Arch of Beneuenten, which I haue shewne in the leafe before, are here, according to the measure set downe, with the Originall. The Base of the Pedestall, and the Cornice thereof, marked F. are, in truth, two peces of good proportion, and fayre peces for Cornicements. The Base of the Pedestall, together with the Counterbase vnder it, is one Ell, 10. Ounces and 6. minutes high: the Cornice of the sayd Pedestall is 9. Ounces high: the Base of the Columne is 7. Ounces high, and is of Corinthia worke, very well proportioned according to the Columne, and standeth heere marked with E. I haue not set the Capitall here: for that men (as I sayd before) shall find such a one in the beginning of the Composita, in my fourth Booke, because this Arch is Composita worke. The Arch, Frese, and Cornice, which stand aboue this Columne, are here marked with C. which peces are also well proportioned on the remnant of this building: and although that the Cornice is somewhat higher then Vitruuius would haue it, nevertheleffe it is well proportioned of members, and the same flat is not in it that is found in other Cornices, which haue the Mutiles and the Dentiles standing together: but this workeman, being circumspect therein, would not cut the tath in the Dentiles, although he hath set the forme thereof in the Cornice, to shunne such a slaunder. The same consideration the workeman that made the Pantheon had, in the first Cornice aboue the Chappels, round about the Temple within: and therefore I counsell a workeman, to auoyde such a scandall, and not to repose himselfe vpon the doing of licencious and wilfull workemen, and excuse themselues, saying, Ancient workemen made it, and therefore I may make it as well as they. And although some will argue and say, Why, so many workemen, and in so many places of the world, (not onely in Italy) but also in diuers other places, haue made Cornices, with Mutiles, and ingrauen Dentiles; and that such a custome is now turned into a Law, yet I would not obserue the same in my workes nor counsell others thereunto. The Counterbase, vnder the Epitaph, aboue the Cornice, marked B. is 19. Ounces and a halfe high: the height of the Base thereupon is 11. Ounces: the height of the Epitaph is 4. Elles 4. Ounces: the height of the Cornice is one Ell and 3. Ounces. I much commend the Base of this Epitaph. I commend the Base of this Epitaph, with so little proiecture, for the seeing vp vnder it, but the Cornice whereof I will speake, is much too high, according to the proportion of the Epitaph: but were it of lesse height, and the Crowne more, and of more proiecture, I iudge, it would stand better, and I should commend it more: also, if there were not so much caruing or grauing in it: for the members ought so to be deuided, that the one were playne, and the other grauen. But there are many workemen, and most at this day, that, to make men take pleasure in their bad workemanship, make so many cuttings in it, that thereby they confound workemanship, and take away the beauty of forme from it: and if euer, in times past, that fast and single things, vncut, were by wilfull workemen commended, at this time they are not so. This Figure, marked D. is the Impost of the Arch, and is well knowne for such a member; the same Cornice changeth it selfe in a Facie, which goeth round, as you see, and is halfe an Ell high: and although this Impost of the Arch sheweth no Sculpture, yet is it grauen where it standeth; but I forgot to draw it so.




A
B
C
D
E
F

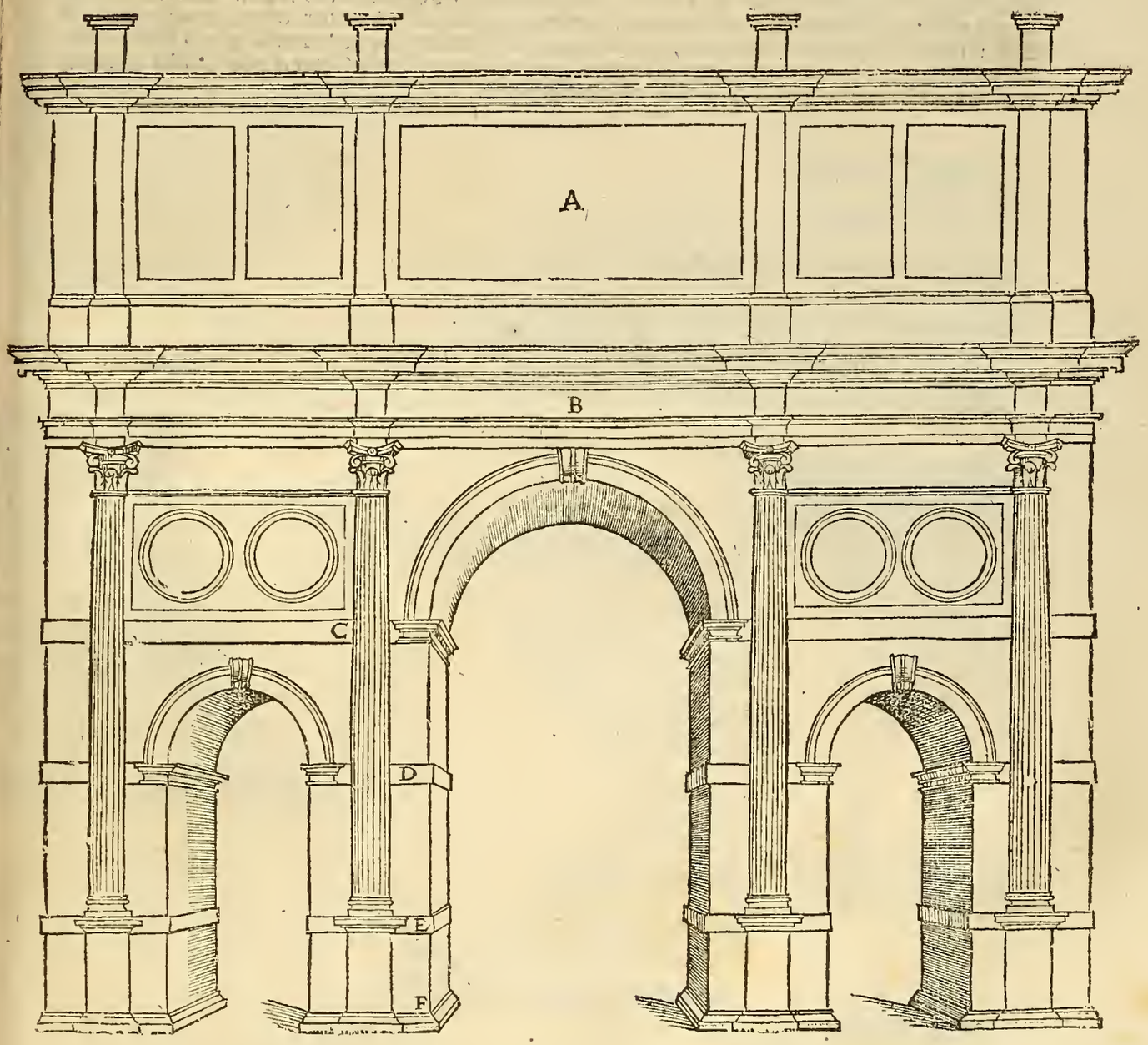
By the Amphitheater of Rome, which by the people is called Coliseo, there standeth a very faire Tryumphant Arch, which is wonderfull rich of Ornaments, Images, and diuers Histories, it was dedicated to Constantine, and is vsually called, Larco de Trafill. This fayre Arch, although it is now buried a great part within the earth, by meanes of the ruines, and rising of the earth, is neuertheleſſe of great height, and the Gates and passages through it, are yet higher then two foure squares. This Arch (as is before sayd) is passing fayre to the eye, and wonderfull rich of Ornaments & graung. It is very true, that the Cornices are not of the best maner, although they be exceeding richly grauen, whereof I will speake hereafter. This ground hereunder, sheweth the Ichnography of the sayd Arch Triumphant, and was measured with the old Romish Palme: the breadth of the greatest Arch is 22. Palmes and 24. minutes: the widenesse of the lesser Arches on the sides is 11. Palmes, 11. minutes and a halfe. The thicknesse of the Pilasters are 9. Palmes and 4. minutes: the thicknesse of the Arches in the sides, is 21. Palmes and a halfe: thus the place within the Arch is almost foure square: the thicknesse of the Pedestals is 3. Palmes and 29. minutes: the thicknesse of the Columnes is 2. Palmes and 26. minutes; which Columnes are stricken or hollowed, by some called chaneld, and are whole round with their Pillars behind them.

The ground of the Arch Tryumphant of the Emperour Constantius.

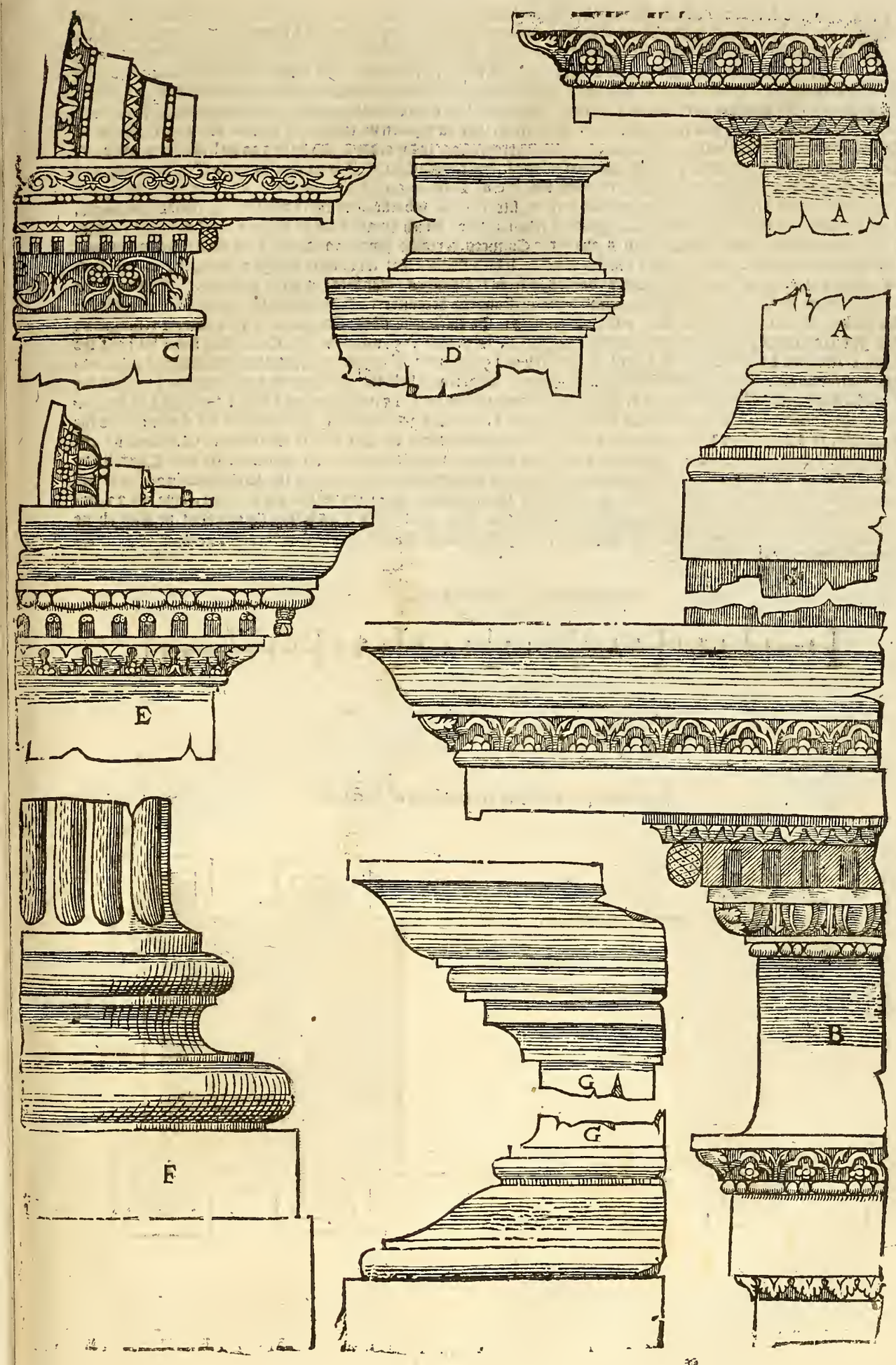


THe widenesse and thicknesse of this Arch, is sufficiently set downe; now I will speake of the height thereof: and first, the Base of the Pedestall, with the Plinto, is one Palme and 30. minutes high. The height of the flat, is 7. Palms and 5. minutes: the height of the Cornices of the Pedestals, is 42. minutes: the height of the counter-Base, under the Base, or the Plinthus of the Columne, is fiftie and two minutes: the height of the Base is 60. minutes: the height of the body of the Columnes, without Base or Capitall, is 26. Palmes and 25. minutes: the height of the Capitall, is 2. Palmes and 35. minutes, and is Composita. The height of the Architraue, is one Palme and 11. minutes but the Frõse is much lesse, and yet grauen; which, as I haue said, at other times is contrary to the doctrine of Vitruuius. The height of the Cornice is a Palme and 21. minutes. The height of the counter-base, under the second story, is 3. Palms and 9. minutes: from thence to the highest part of the Cornices, is 21. Palmes: but the height of that Cornice is 33. minutes. The Pedestals aboue the same Cornices were not measured, and thereon stood Images, and aboue the Cornices marked B. were Images placed against the 4. Pillasters, which represented the prisoners with whom hee went in tryumph. The letters which stand here, are aboue the Arch, in the place maked A. besides many others, which stand in diuers places of the Arch.

IMP. CAES. FL. CONSTANTINO MAX. P. F. AVGVSTO. S. P. Q. R.
QVOD INSTINCTV DIVINITATIS MENTIS MAGNITVDINE, CVM EXERCITV SVO TAM DE TYRANNO, QVAM DE OMNI EIVS FACTIONE, VNO TEMPORE IVSTIS REMPVBLICAM VLTVS EST ARMIS, ARCVM TRIVMPHIS INSIGNEM DICAVIT.



I Haue spoken of the proportion of the measures of the Tryumphant Arch of the Emperour Constantine: now I will speake of the seuerall parts and Cornicements, and set their measures downe. And first, the Base marked F. is of the Pedestall of the said Arch: the height whereof, is a Palme and 30. minutes. The height of the Plinthus vnder the Base is 28. minutes: the rest of the parts are measurably deuided, and proportioned accordingly. The height of the Cornices of the Pedestall, which stand marked vnder the Base E. is 42. minutes, and is also proportioned according to the principall. The counter-Base, vnder the Base of the Columnes (which I thinke were placed there accidentally) to heighten the Columnes, is 32. minutes high: the whole height of this Base of the Columnes, is 53. minutes: touching the height of the Columnes, I spake before, and also of the Capitals; of which Capitals, the forme standeth not here, for that the like doth stand in my fourth Booke, of the Order of Composita: the height of the Architraues, Freises and Cornices, is also spoken of before: and this Cornice is very seemely, for that there is no licenciousnesse in it, which is in some other Bases of this Arch; as it is in the impost of the middlemost Arch, marked C. the which impost is greater and of more members and parts, then the great and principall Cornice, and is altogether confused in members, and that which is most intolerable, the Dentiles and Mutiles are one aboue the other: and although the Dentiles were not there, yet there néded not such a Cornice to beare vp an Arch. Herein the workeman of the Theater of Marcellus was more circumspect then this: for the impostes of the Arches of the said Theater, are the fayrest and best of shew for impostes that euer I saw, and such, as from the which a man may learne to make the like. The impost of the lesser Arches marked D. is one Palme and 23. minutes and an halfe high: the which impost would stand much better, if the two flats betwéene the Astragall aboue, and the Echine vnder, were turned into playnnesse only; which then would serue for an Abacus, or also for a crowne, hauing the due Proiecture. The Base vnder the second story marked A. is 16. minutes high: the height of the vppermost Cornice, is 43. minutes, which height should bee too little in so great a distance, if it were not that the great Proiecture or Gallery, or ouerhanging holpe it not; because they are seeing vpwards, from vnderneath, which sheweth it to be much greater then it is: therefore I much commend this Cornice in this respect. And truely, all the Cornices, whereof the crowne hath more proiecture then height, answere alwayes better, and may be made thinner of stone, so that the members of the building endure lesse waygh: neuertheless, you must not make them of too many licencious proiectures: but you shall read hereof in Vitruuius, where he entreateth of the Order of crownes, after the maner of Ionica and Dorica: for he doeth there teach you clearely inough.

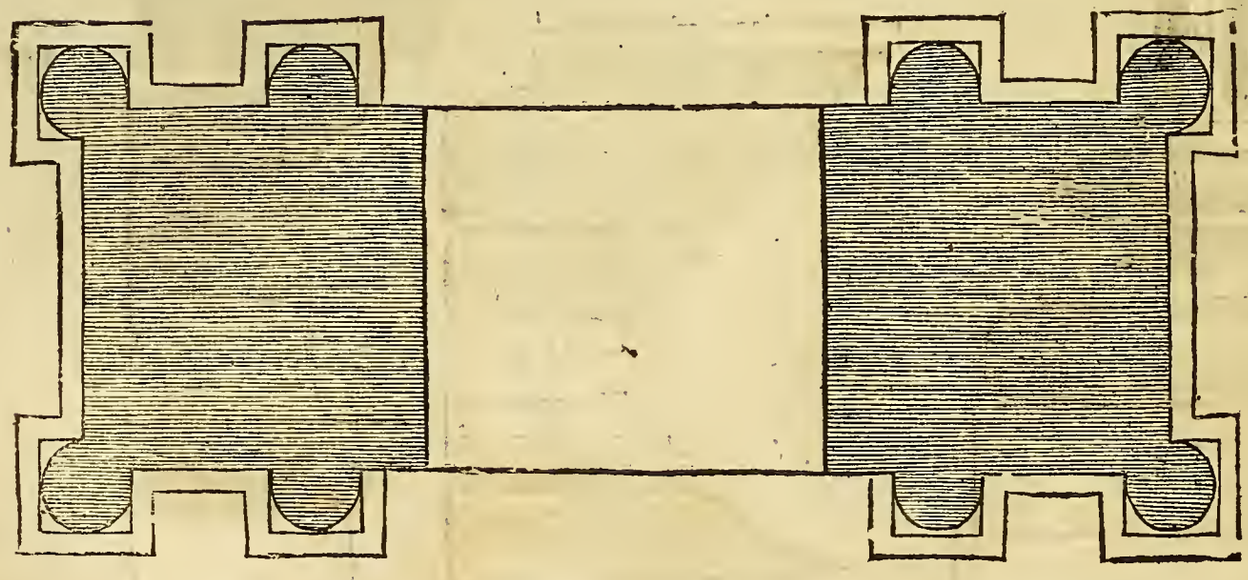


This Figure should stand in Folio 52. and the Figure in Folio 52. should stand in this place.

Without Ancouen vpon the hauen, there is an head which reacheth it selfe a good way into the Sea, which was not made without great cost and charges: it was to defend the ships from the Leuant sea. Vpon the end of the height thereof, standeth an Arch tryumphant, all of Marble and Corinthia worke; and there is nothing in it but the Capitals, which are done in very good worke: and in troueth, this building is so handsome, and of so good correspondentie, the members also agréing with the whole body, that a man, although he understand no Art, would nevertheless take pleasure in the beautie thereof. And those that vnderstand somewhat, séeing such congruitie, are not onely well contented, but also thanke the good workeman, that hath giuen vs somewhat in these dayes to learne out of this fayre and well made building: in the ornaments whereof, there is the order of Corinthia as well obserued and kept, as in any other Arch that is to be found, and by reason of the strength thereof, it is all whole; onely it is vnfurnished of many ornaments. This faire Arch, as it is conceyued, Nerua Traianus caused to be builded: whereupon, in the highest part of the Arch (as it is sayd) his Image was erected, sitting on horse backe, séeming to threaten the clouds and people, ouer whom he loked and gouerned, lest they should rebell againe: which Image was of Copper excellently well made. There were also betwéene the Columnes, aboue the Cornices, certaine Images of Copper, as the letters in those places written, doe shew: there are also tokens of holes, which shewes that there were Rings of Copper, or other such like things hanging in them, which might bee taken from the Gothes, Vandals, or other enemies. This building was measured by the ancient foote, the ground whereof standeth hereunder. The widenesse of the Arch is ten foote: the thicknesse inwards is nine foote and two minutes: the thicknesse of the Columnes is two foote, 11. minutes: the Intercolumnes, or spaces betwéene the Columnes, is 7. foote, 5. minutes: the Columnes stand without the wall, 1. foote and 11. minutes: the height of the Arch is 25. foot and 1. third part: and this height, although it holdeth more then two foure squares, is not therefore misshapen, when you behold the whole masse together: the height of the Pedestals with all their Cornices, is 5. foote: the breadth is thrée foote, 15. minutes and a halfe: the height of the Bases of the Columnes, together with the Underbases, are 1. foote and 36. minutes: the height of the Columnes to the Capitals, is 19. foote, 22. minutes and a halfe: the thicknesse vnder the Capitall, is one foote and 56. minutes: the height of the Capitall is 2. foote, 24. minutes, with the Abacus; and the Abacus is 10. minutes: the sayd Capitall you shall find in my fourth Booke, in the beginning of the order of Corinthia: the height of the Architraue is one foote and 12. minutes: the height of the Frése is one foote and 18. minutes: the height of the Cornice is 1. foote and 22. minutes: the height of the Plinthus aboue the Cornice, is one foote, 6. minutes and a halfe: the height of the Base aboue the sayd Plinthus, is 39. minutes: the height of the Epitaph vnder the Cornice, is 6. foote and 22. minutes; but the Cornice aboue it was not measured.

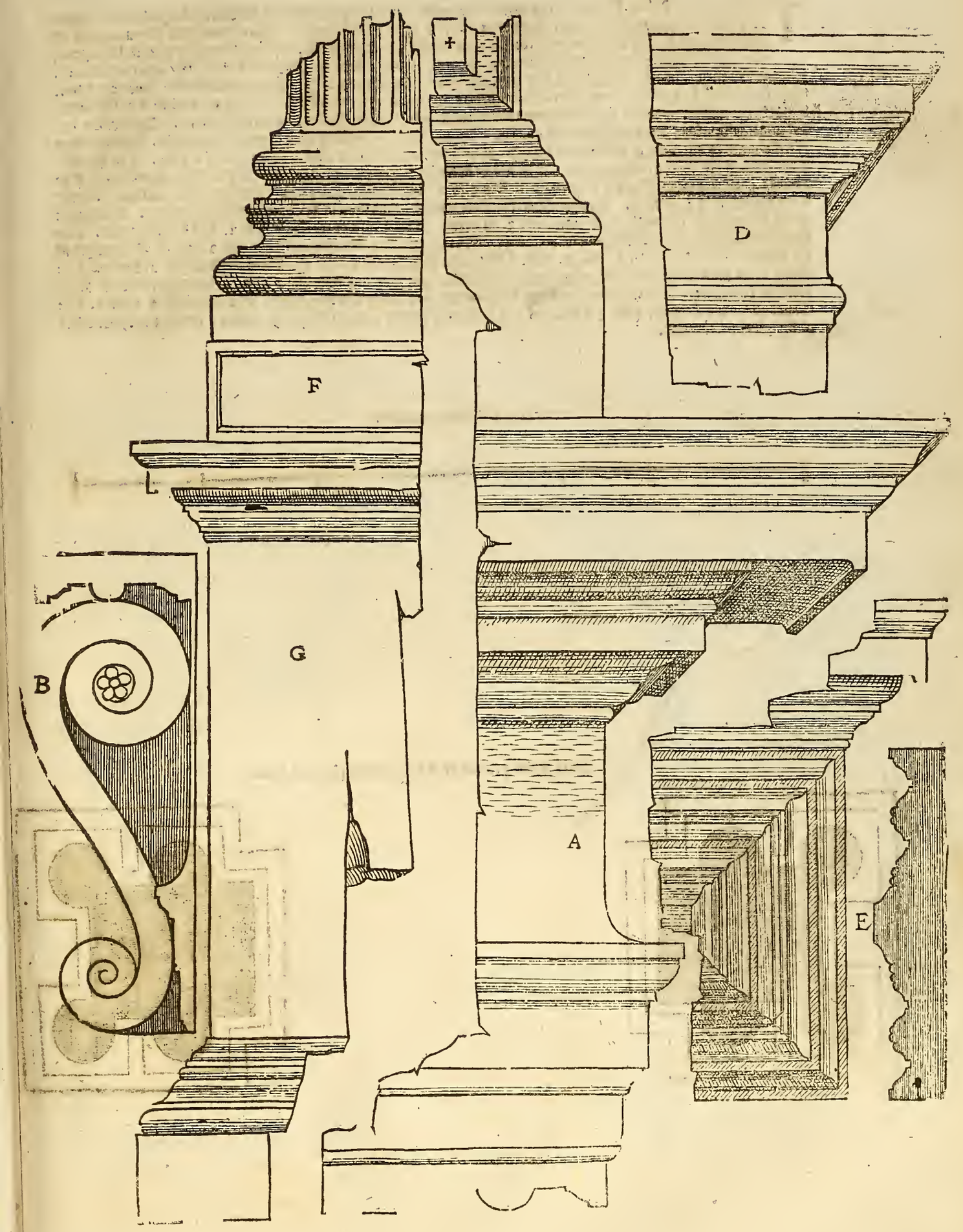
The halfe of the old Romish foote.

The ground of the Arch tryumphant of Ancouen.



PLOTINAE AVG. CONIVGI AVG. DIVAE MARTIANAE AVG. SORORI

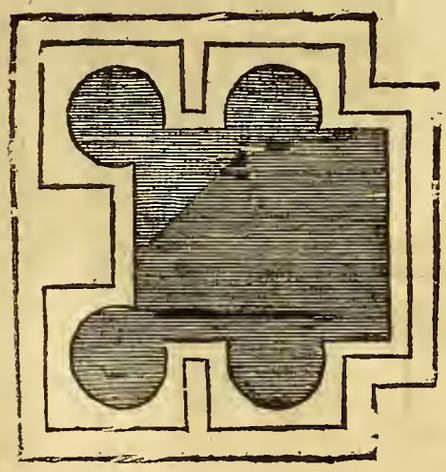
IN my opinion, I haue sayd enough of the measure of the Arch of Ancona, yet that the parts of the Cornices may be the better vnderstood, I will shew them here greater: and first, I will set downe the lowest parts, as they stand aboue the ground of the worke. The height of the Pedestall, marked G. is sayd to be of 5. foot, with all the Cornices thereof: but the height of the Plinthus of the Base, is 18. minutes: the Base aboue the Plinthus, is 19. minutes, and a third part high: the Cornice of the Pedestall, is 20. minutes, and a third part high; so much doeth the stone also hold, standing thereby, marked F. which, by my aduice, is placed there, to heighten the Columnes, and sheweth not badly, but more, because it is set forth with a list round about it; whereby the Base differeth from the Plinthus: and so, in my opinion, standeth well. The Base, which is Corinthia, together with the Cincte of the Columne, is 43. minutes high: and the Proiecture, is 16. minutes and an halfe in breadth: the thicknesse of the Pedestall, is 3. foote, 15. minutes and an halfe: the thicknesse of the Columne, is 2. foote, 11. minutes: and there stand 13. hollowings, or chanels, without the Pilaster: the widenesse of one chanell, is 7. minutes and a halfe: and the list which parteth them, is 2. minutes and a halfe. The height of the Capitals are the thicknesse of the Columnes below, without the Abacus: which Capitall hath a very fayre forme, whereby we may be perswaded and beleeue, that Vitruuius doctrine is false, and that Vitruuius vnderstood the height of the Capitall without Abacus: (and for this cause) for that the most part of the Capitals that I haue seene and measured, are most of such height, and higher, and specially the Capitals that stand in the Rotund: whereof, in the beginning of this Booke you may see one. The height of the Architraue aboue the Columne, is one foote and twelue minutes. The height of the Frese, is one foote and eyghtene minutes. The height of the Cornice, is one foote and two and twenty minutes. These three are marked together with an A. The Plinthus aboue the Cornice is one foote, fire minutes and an halfe high: The Base vpon it, is thirtie minutes: the space wherein the letters are written, is fire foote and two and twenty minutes, and is marked with ✠. The Impost of the Arch is marked D. the height whereof is 1. foote and fifteene minutes: but the vppermost Cornice, as I haue sayd, was not measured. The height of the Pensole in place of the closing stone, marked B. aboue the Arch, is three foot and 30. minutes: and hath a foote and 14. minutes without the wall, in the vppermost part; and in the parts below, it comes out a foot. The foure tables with the Cornices vpon them, which stand betweene the Columnes, are thought to be placed there, for holding vp of halfe Images: the forme whereof, standeth here marked E. and is there also by the Profill on the side, whereby a man may see how they are wrought: for they are full of worke, euen to the Center. The height of the Cornices, standing aboue them, is 32. minutes: and although I haue not shewed all the Proiectures & heights from part to part, yet I haue with great diligence reduced them from the great, into a small forme, and were (as I sayd before of the rest) measured with the old Romane foot.

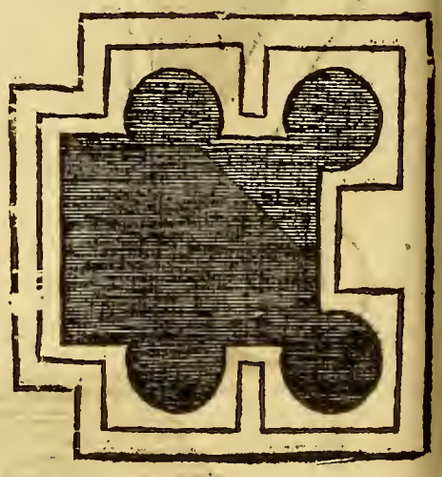

D
F
G
B
A
E

THe Towne of Pola in Dalmatia, is adorned with many Antiquities: besides the Theater & Amphitheater, whereof I spake before, there are other Buildings, whereof now I will speake. There is an Arch Triumphant, of Corinthia worke, rich of ornaments, for Figures, works, and strange deuices; so that from the Pedestal vpwards, there is no worke nor space left vngrauen, not onely before, but also on the sides, and within, and vnder in the Arch, wherein are many and diuers works, so that it would require long time to declare them particularly: therefore I will shew such parts thereof as are necessary for a workeman, for inuention and Arte. The ground of the Arch following standeth hereunder, measured with a Moderne or common foote, whereof the halfe is here set downe. The Arch is 12. foot and a halfe wide: the height is about 21. foot. The Pilasters in the sides inward are 4. foot thicke. The thicknes of a Columne is one foote, 9 ounces and a halfe. The Intercolumne is 2. foot, 3. ounces and a halfe. The Pilaster of the Arch is one foot, 2. ounces broad. The height of the Plinthus vnder the Base of the Pedestall, is one foote. The Base is 4. ounces high. The flat of the Pedestall is 3. foot: the Cornice 4. ounces. The Plinthus marked D. vnder the Columnes is 4. ounces. The height of the Base with the Plinthus is 10. ounces and one quarter. The height of the Columne is 16. foote, one ounce and 3. quarters. The height of the Capitall is 2. foot and one ounce. The height of the Architraue is one foote and one ounce. The height of the Frése is one foote and 2. ounces. The height of the Cornice is one foote and 10 ounces. The height of the Plinthus aboue the Cornice is one foote and 2. ounces. The height of the Base of the Pedestall, and also of the Plinthus vpon it, is one foote and 2. ounces: but the height of the Base alone is 10. ounces. The height of the flat of the Pedestall is 2. foote and one ounce. The Cornice is 6. ounces. The Cauet aboue the Cornice, (which Vitruuius, as I thinke, calleth Corona lisis) is 5. ounces: and this is the measure of the ground following.

The halfe common foote.

This is the ground of the Arch triumphant of Pola.





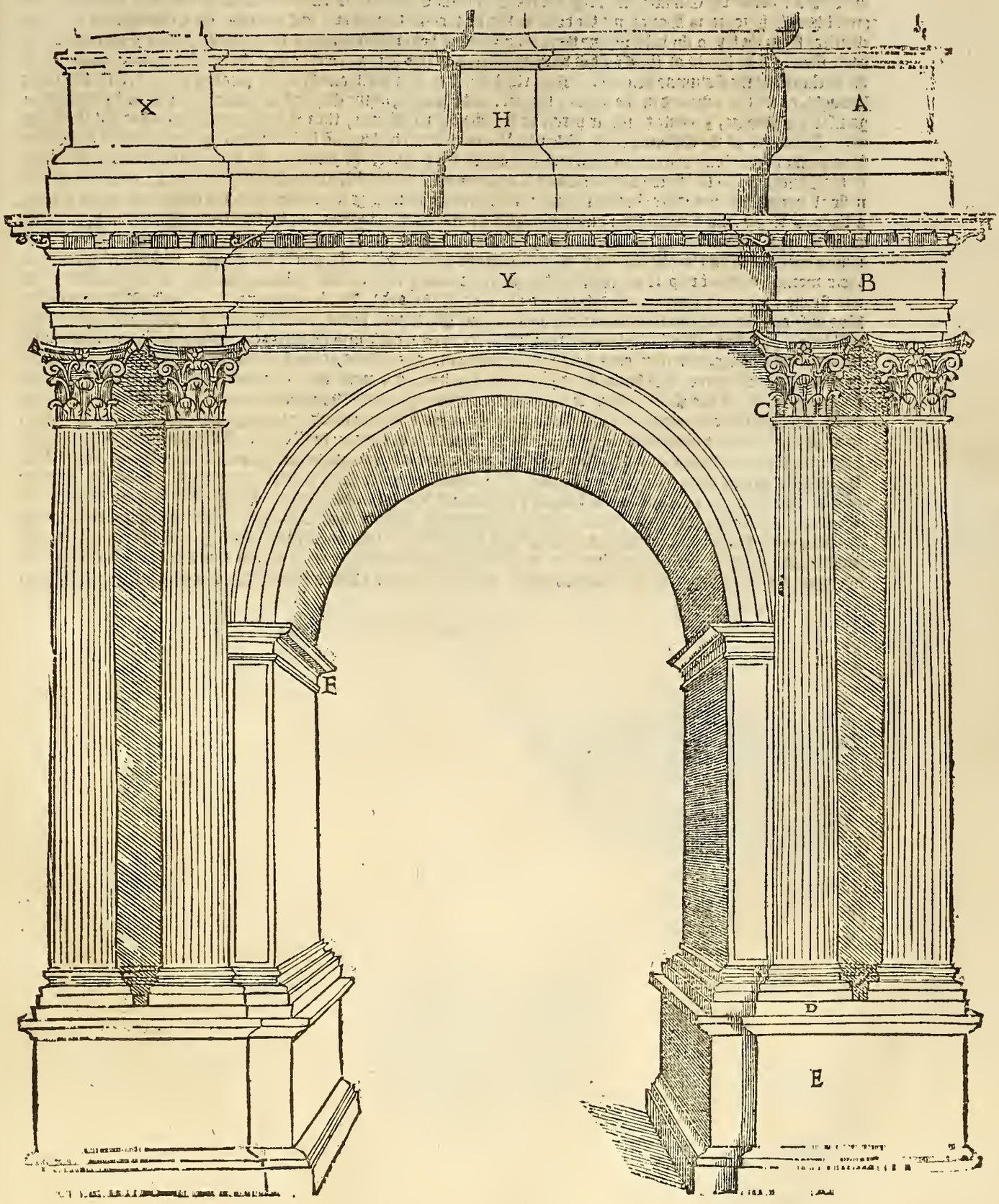
The measure of this present Arch is set downe before: in this side following, the particular parts shall bee shewed.

These great letters hereunder, stand in the Frese, marked Y.

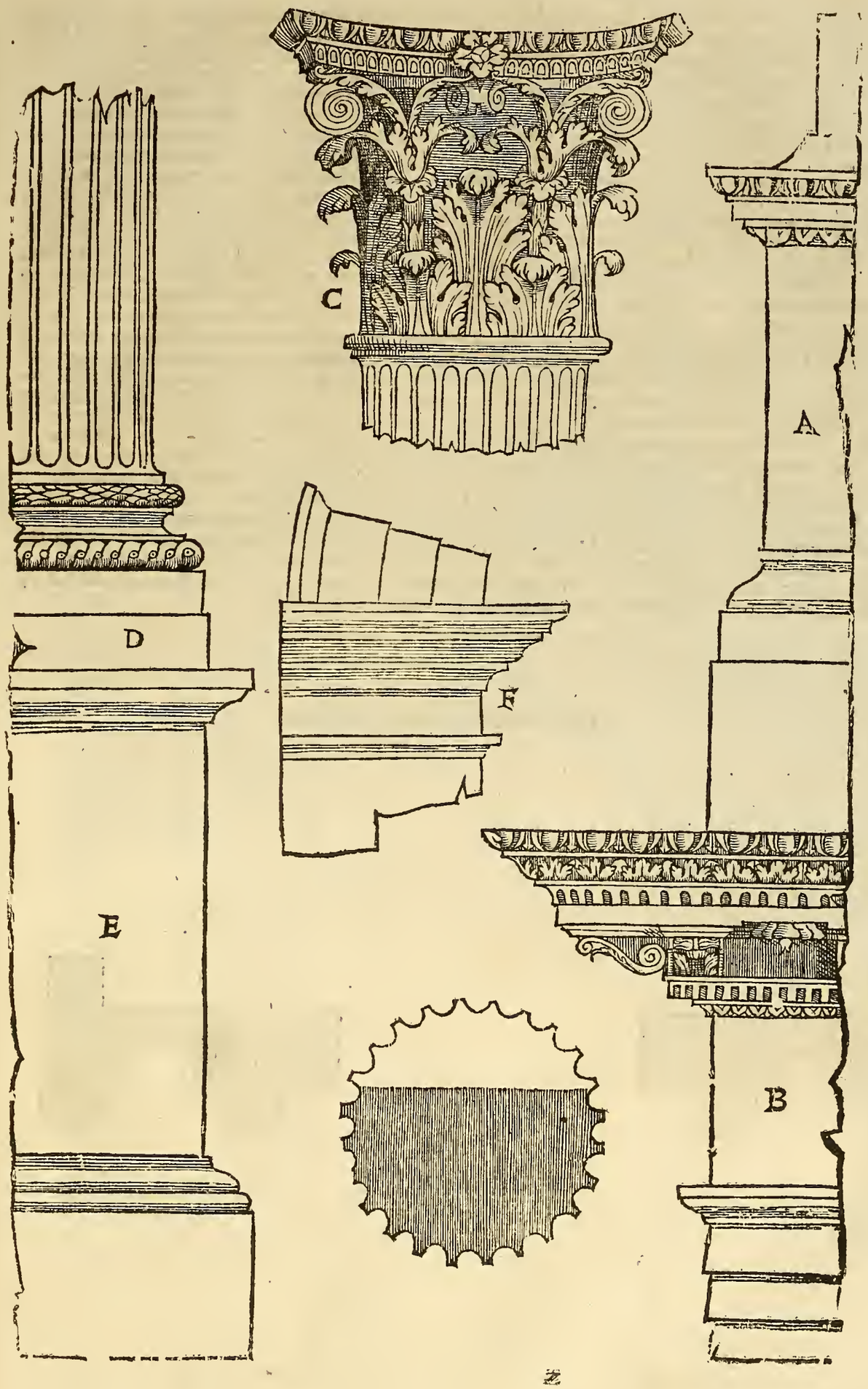
SALVIA. POSTVMA. SERGI, DE SVA PECVNIA.

These vnder marked, stand in three Pedestals, marked X. H. A.

L. SERGIVS. C. F. AED. II. VIR. L. SERGIVS. L. F. LEPIDVS. AED. TRI. MIL. LEG. XXIX. C. SERGIVS. C. F. AED. II. VIR. QVINQ.

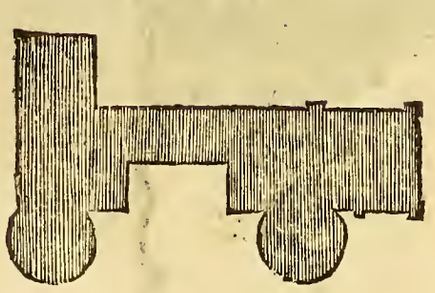


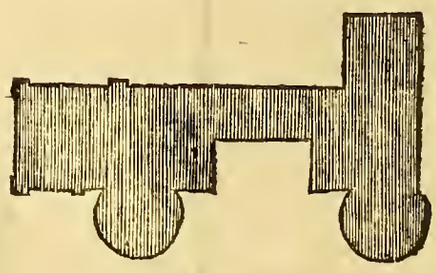
IN the side before, I haue spoken of the vniuersall measure of the Arch triumphant of Pola, and haue also shewed the figure thereof, and partly set downe some of the richest and fairest ornaments of the same: Now I will set downe the particular measures of the parts thereof: and first, I will begin with ye nether parts, as that was placed first aboue the ground. The height of the Plinthus vnder the Base of the Pedestall, is one foot; although that vnder it there lieth another of much more height, but it is vnder the earth: the height of the Cimatie turned about aboue it, with the Astragalus, is 4. ounces: the flat of the Pedestall, is 3. foot high: the Cimatie aboue, it is 4. ounces, & so much also is the vnder-Base, aboue the Cimatie: the height of the Base of the Columnes, is 10. ounces, and is very well cut and grauen: and although the forme is Dorica, yet the delicate works thereof shew that it is Corinthia: the Columnes are fluted or chanceled from the top to the bottom; and there are also many hollowings without the Pilaster, as the Figure hereafter doeth shew. The height of the Capitall with the Abacus, is two foote and one ounce: the which Capitall is higher then the thicknesse of the Columne beneath. Neuertheleſſe, it is very well, and sheweth pleasing to sight; it is also richly wrought, as it is here shewed in the Figure thereof: and alwayes, as the Capitall of Corinthia is in such proportion against the Columne, I would thinke it better to the view of workemen; then if with the Abacus it had but the height of the Diameter of the Columne: and although Vitruuius writeth thus (as is before sayd) yet may his text be falsified. The height of the Architraue, is one foot and one ounce: the height of the Frése, is one foote and two ounces: the height of the Cornice, is a foote and ten ounces: which Cornice is very licencious, although it be rich of worke, because such richnesse of worke confoundeth it: but that which is most vnsémely in it, is the Echine with the Doule aboue the Scima, a thing, in troueth, much vnsightly: and that, which is more worthy laughter, is, that the said Echine in the vpper part, is cut through, without being couered with any lift, that it might not bee consumed with the water. But there hath alwayes béene licencious workemen, as there are yet in our dayes, who, to please the people, make much graning in their workes, without respecting the qualities of the orders, and will also in Dorica worke, which should bee fast and strong, vse much graning and cutting, as in Corinthia worke, which, by their folly, asketh many ornaments. But wise and iudicious workemen will alwayes obserue Decorum: and if they make worke after Dorica maner, they will follow good Antiquities: which, for the most part, agrée with Vitruuius precepts. If they make any worke after the Corinthia maner, then they couer them with Ornaments, as that kind of worke requireth. This I haue set downe, to aduertise those thereof that know it not; for they that know it, néde not my aduice. Now to come to the purpose agayne: Aboue this Cornice there is a Basement, which maketh out the Pedestals; the Plinthus vnder the Basement, which is there set against the proiecture of the Cornices, (for otherwise, in loking vp, it would darken the Base) is a foot high; aboue it standeth the Base, whereof the height is 10. ounces: the flat of the Basement, is 2. foot & 1. ounce high: the Cornice aboue it, is halfe a foote high; which Cornice is very sémely, and the parts thereof deuide themselues very well from each other, for that betwéene the two carued members there standeth one playne aboue: the Cornice is that member or part, called Corona lisis, as I vnderstand Vitruuius, whereof the height is 5 ounces. Aboue these there are some stones that shew to no end at all, but it may be thought, that some things stode vpon them: the height of these stones is 10. ounces: the height of the Impost of this Arch is 10. ounces; the which Impost is very licenciously made: and although those 3. members one aboue the other, are diuers, yet they are like each other in proiecture: and therefore in the worke they stand to no good effect: the other parts you shall know by the Caracters in the great Arch.


C
A
D
F
E
B

IN Verona, there are many tryumphant Arches; among the rest, there is one Gate, called Castel Vecchio: the which, truely, is of good proportion: this Arch, as men conceaue, was wrought both before and behind, and also on the sides: it had two goings in, as you may perceaue by the ground which is yet seene, although I shewed but one side onely. This building was measured by the same foot, wherewith the Arch of Pola aforesayd was measured. The widenes of this Arch is ten foote and an halfe: the thicknesse of the Columnes, is two foot and two ounces: the intercolumnes are 4. foot and 3. ounces: the Pilaster or Pillar of the Arch, is 2. foote and 2. ounces broad. The thicknesse of the Arch in the sides inward, is 4. foot and an halfe: the widenesse of the Tabernacle betweene the Columnes, is two foot and ten ounces: and thus much for the widenesse and thicknesse: but comming to the height, the Base of the Pedestall of the Columnes, together with the Plinthus, is one foote and three ounces high: the flat of the Pedestall, is foure foot, three ounces and an halfe: the Cornice is ten ounces and an halfe: the height of the Base of the Columnes, is one foot: the height of the body of the Columne, without Base or Capitall, is 17. foote and three ounces: the height of the Capitall, is two foot, foure ounces and an halfe. The height of the Architraue, is one foot and an halfe: the height of the Fraise is one foote, 7. ounces and an halfe: the height of the Cornice, is one foot and ten ounces: and although that in this Figure there is the Frontispice, yet you see it not in the Arch; for from the first Cornice vpwards there is nothing at all: neuertheless, although the wall is this yeare consumed yet you may see there some signes, whereby a man may conceaue that the Frontispice hath beene there. The vppermost Cornice is not there, and therefore I set no measures, according to all Antiquities: but I haue made one, with such measure and formes, as my selfe would haue made it, hauing for a common rule, that the vppermost things stand the fourth part lesse, then the nethermost: this Cornice therefore shall be the fourth part lesse then that which standeth vnder it, and is thus deuided, that the whole height should be set in foure parts and an halfe: the halfe part shall be for the Astragal with the list, and the fourth part shalbe for the Scima. The Proportion must be like the height, so shall this vppermost Cornice be made in manner aforesaid. Betweene the Columnes stand Tabernacles, wherein there were Images, whereof the widenesse is two foot and ten ounces: the height is ten foote, and the depth thereof in the wal, is one foote and ten ounces: the height of their Basement, is 4. foot, with the Base and Scima: the little Pillars on eyther side, are halfe a foot thicke: the Architraue is 7. ounces and an halfe: the Fraise is 6. ounces high: the height of the Cornice without the Scima is 4. ounces: the height of the Tympanum of the Frontispice, is 8. ounces. Aboue these Tabernacles are small tablets with other Cornices: the which tablets are two foot broad, and hold one foot in height: the height of each Cornice is 11. ounces: the height of the opennesse of the Arch, although it be somewhat digged below, is yet twise higher then broad: for the widenesse thereof, is 10. foote and a quarter: and the height is 25. foote and an halfe. The Capitall vnder the Arch, is as high as broad: the worke of this Arch is Compolita, and brauely set out with Images of Marble and Copper, as you may perceaue in the voyd places.

This is the ground of the Arch following.



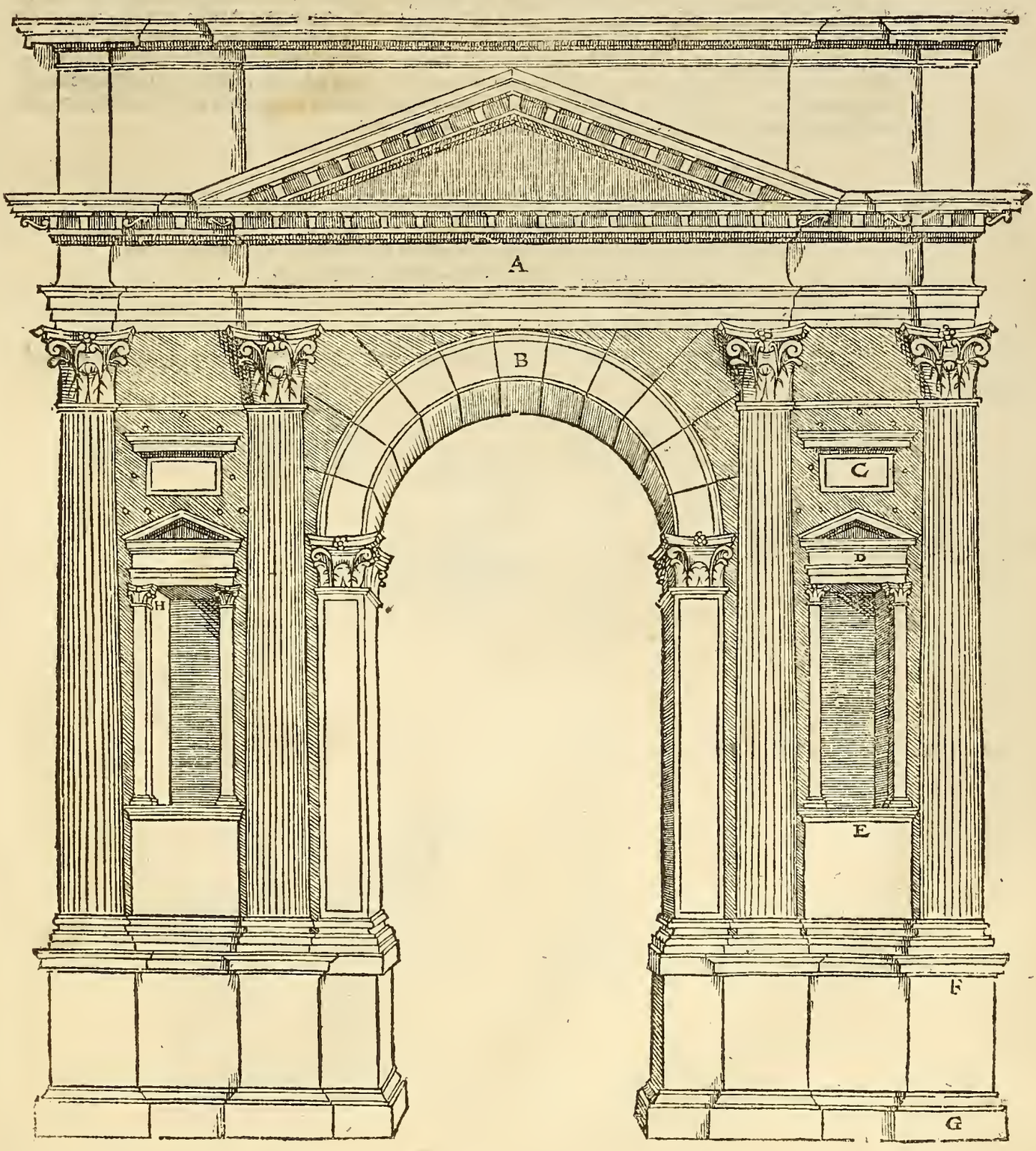


THis forme of the Arch Tryumphant of Castel Vecchio in Verona, is made as it is here set downe: and although from the Frases vpwards, there are no signes of ornaments; neuertheleſſe, it did ſtand ſo. And for that the parts hereof are ſo ſmall that you can hardly vnderſtand them, in the next ſide they ſhall bee ſet downe in a greater and playner forme. This Arch tryumphant (by that which is found written within the inner parts thereof) by ſome is ſayd, that Vitruuius cauſed it to be made: but I beléue it not, and that for two reaſons or cauſes. First, that I ſée not in the Inſcription, that it ſaith, Vitruuius Polio: but it is poſſible that it was another Vitruuius that cauſed it to be made. The ſecond reaſon is this, that Vitruuius Polio, in his writing of Architecture, doeth vtterly condemne and reject Mutiles and Dentiles, ſtanding together in one Cornice, and ſuch a Cornice is found in this Arch. And therefore I conclude, that Vitruuius, the great and learned Architector, made it not: but bee it as it will, this Arch hath a good forme and proportion.

These letters are vnder the Tabernacle in the Pedeſtall.
C. GAVIO. C. F.
STRABONI.

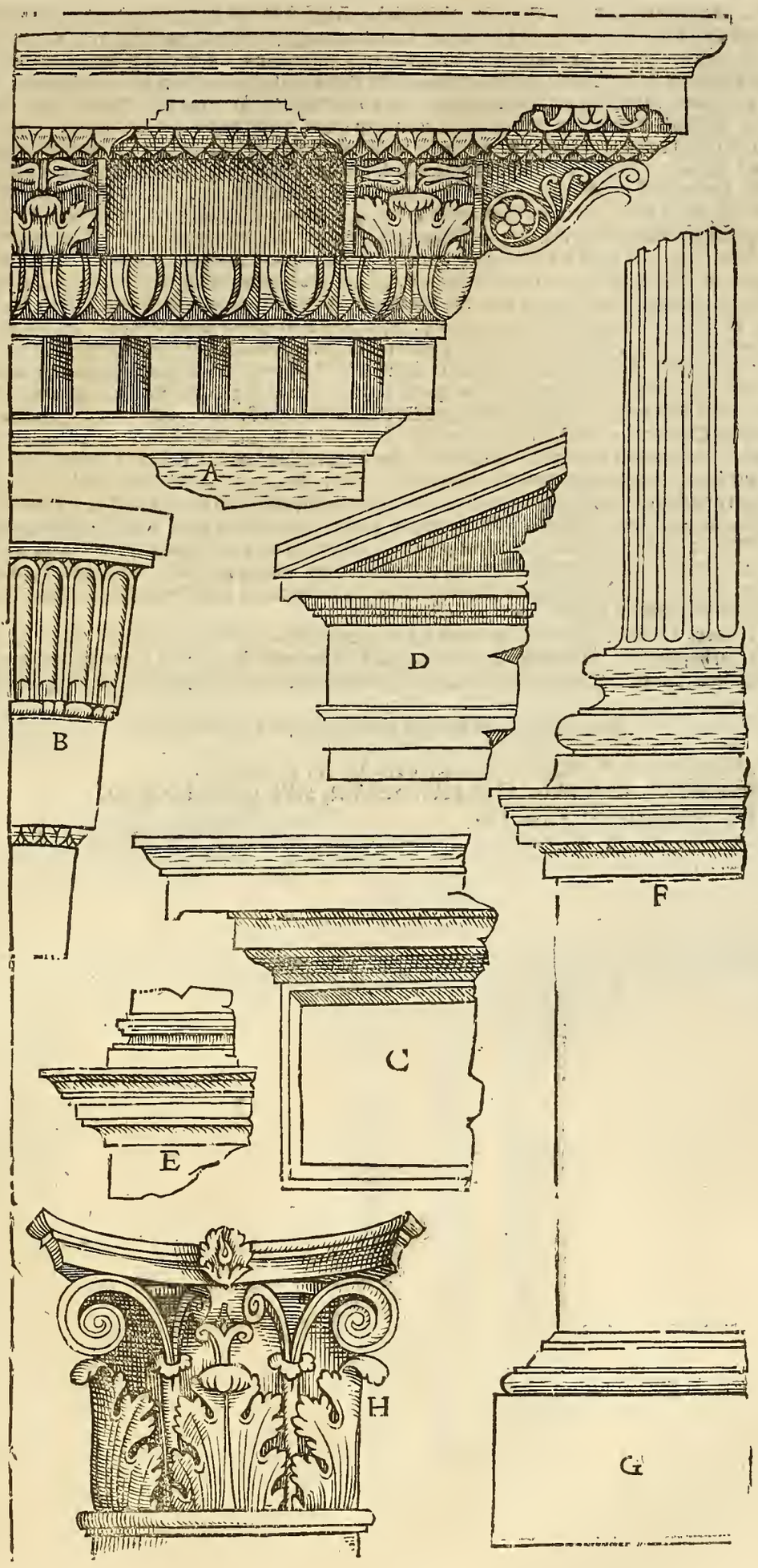
These letters are cut in the inward ſide of the Arch.
L. VITRVVIVS. LL. CERDO
ARCHITECTVS.

These letters are alſo in the Pedeſtall of the Tabernacle.
M. GAVIO. C. F.
MACRO.



BEcause I haue not fully written the particular measures of the members of the aforesayd Arch, neither haue I shewed it in such forme that a man may conceaue the particular measures: therefore you may see them here set out in greater forme, and in such sort as they are: and first, the height of the Plinthus, vnder the Base of the Pedestall, marked G. is a foote and three ounces. The height of the Base aboue vpon it, is 6. ounces. The flat of the Pedestall, marked F. is 4. foot, 3. ounces and an halfe high. The Cornice vpon it, is 10. ounces and an halfe high. The Base of the Columne, is one foote high. The Plinthus of this Base turneth into a Corona lisis; which me thinkes, is very pleasant: for that I haue seen some Greeke Pedestals so. The Columne is stricked, chanelled or hollowed, from the top to the bottom. The height of the Capitall of this Columne, is one foot, 4. ounces and an halfe: but the forme is not here, because it is shewed in the beginning of the Order of Composita: which Capitall, in effect, is Composita, although the Arch may be wholly accompted to bee Corinthia: and this Capitall standeth in that place, maked C. Also, in the same place you see the Capitall of the impost of the Arch, which is marked with D. But the little Capitall of the Tabernacle betweene the Columnes, is here marked H. And the Cornice also, with the Base, marked E. is that which is vnder the Tabernacle. The Figure C. is the table aboue the sayd Tabernacles, and the Figure marked D. is the Architrane, Freese and Cornice, of the Frontispicium of the Tabernacle. The Figure marked with B. is the worke which goeth about the Arch: the Cornice marked A. is the principall Cornice aboue the Arch; the which, in effect, is very comely, and well wrought: yet it is vicious, as I haue often sayd; that is, the Mutiles and the Dentiles therein are by Vitruuius reiected, with many strong reasons. But in this, many men affirme, that sithence Vitruuius time, many workemen haue made Mutiles with Dentiles, in most places of Italy, and there round about, so that now there is no question made thereof; but euery man hath libertie to make that in his worke which he findeth and seeth in Antiquities: whereunto I answere, that disprouing the same, they haue proued their cause to be good. But if they will acknowledge Vitruuius for a learned Architector, as most workemen affirme, then (reading Vitruuius with good indgement) they must confesse and acknowledge, that they haue done amisse therein.

The halfe of the foot, wherewith the Ichnographie, and the Orthographie, together with the ornaments of this Building, are measured.

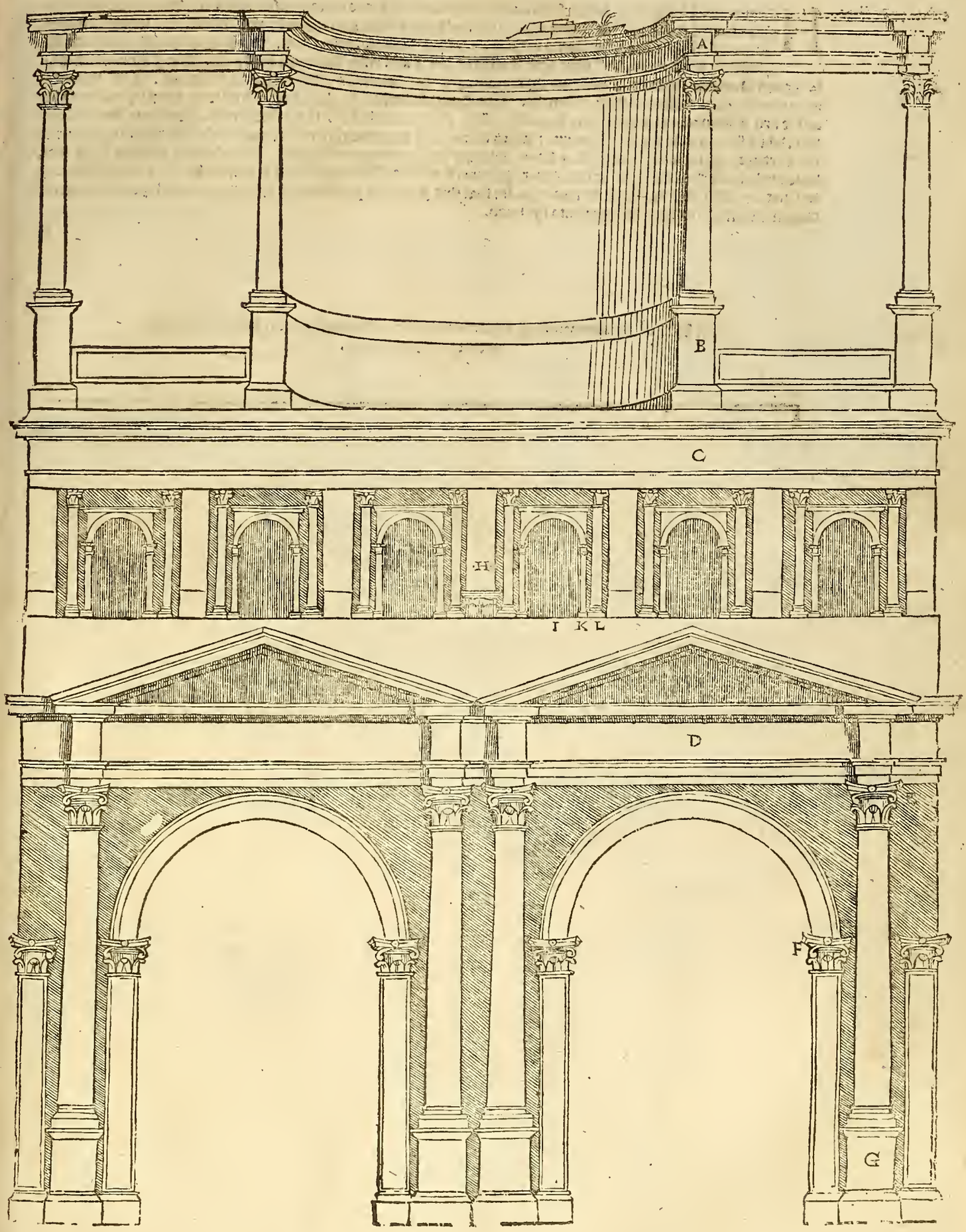

A
B
D
F
C
E
H
G

IN Verona, at the Gate Dei Leoni, there is a Tryumphant Arch, with two like goings through, which I neuer saw in any other place besides, but many with 3. Arches: which building, although it hath the figure of 6. windowes, yet go they not through, neyther yet very deepe in the wall: whereby you may iudge, that some round Images stode in them. Aboue the first Cornice this building is hollow, in maner of a Nich or Neate, but not very deepe in the wall, but yet with helpe of the proiecture, or striking out of the Cornice, men might stand there to doe some thing or other, while the Tryumph lasted: but for that this concerneth the workeman very little, I will speake of the measures. And first, the opening of the 1. Arch is 11. foote wide, and 18. foote high: the Blocke vnder the Pedestall, is one foote high: the Base of the Pedestall is 3. Ounces: the flat of the Pedestall is 2. foote and one Ounce high: and the Cornice is 3. Ounces: the height of the Bases of the Columnes is 8. Ounces and a halfe: the height of the Columnes, without Bases or Capitals is 12. foote and 1. third part: their thicknes is 1. foot, 4. Ounces: the height of the Capitall is 1. foote, 8. Ounces: the height of the Architraue is one foote, 5. Ounces: the height of the Frese is one foote, 8. Ounces; and so much is the height of the Cornices: from the Cornices to the second Rose is 3. foote and a halfe, whereon there are certayne Putiles, whereupon Images had stode, made fast to the 7. Pilasters, betwéne which, little windowes, beautified with small pillars, stand, but not much bearing out: the widenes of a window is 2. foote, 2. Ounces: their height is 4. foot, 3. Ounces: the height of the greatest Columnes is 5. foote, 4. Ounces, with Bases and Capitals which are flat, not not much rayled vp. The height of the second Architraue is 6. Ounces and a halfe: the height of the Frese is one foot and a halfe: the height of the Cornice is 10. Ounces and a halfe: the Corona licis aboue the same Cornice, is 10. Ounces high. The Base of the second Pedestall is one foote; the flat of it selfe is 3. foote, 7. Ounces and a halfe high: the Base of the second Columne is 8. Ounces: the height of the Columnes is 8. foote, 3. Ounces and a halfe. The thicknesse of the sayd Columnes is 10. Ounces and a halfe: the height of the Capitall is one foote, one Ounce and a halfe: the height of the Architraue is one foote and one Ounce: the height of the Frese is 1. foote, 2. ounces: the height of the Cornice is one foote, whereon there standeth some part of the wall, but a man cannot perceiue what it might be. This Arch is not very thicke, neyther beautified on the sides; for that behind this Arch there is another, standing so nére together, that a man can hardly goe betwéne them both, as I will shew hereafter when I speake of the other figure: the windowes stand not in any good order, but somewhat vnsémely: for the 2. windowes are not right in Perpendicular vpon the sharpe poynt of the Frontispice, but some part aside, which sheweth not well: and for that I could not endure such disorder, I haue placed them orderly. The Capitals of these Arches are part Composita, and part Corinthia, as hereafter I will set downe in Figure.

Louing Reader, Corottus, a Paynter in Verona, hath counterfeited this Arch: the Cornice vnder the Timpanum is not there: for he placeth there certayne order of figures resting vpon the Architraue: the which Architraue, you must vnderstand, is betwéne the 2. Columnes ouer each Arch, and is somewhat flat, because of the writing following.

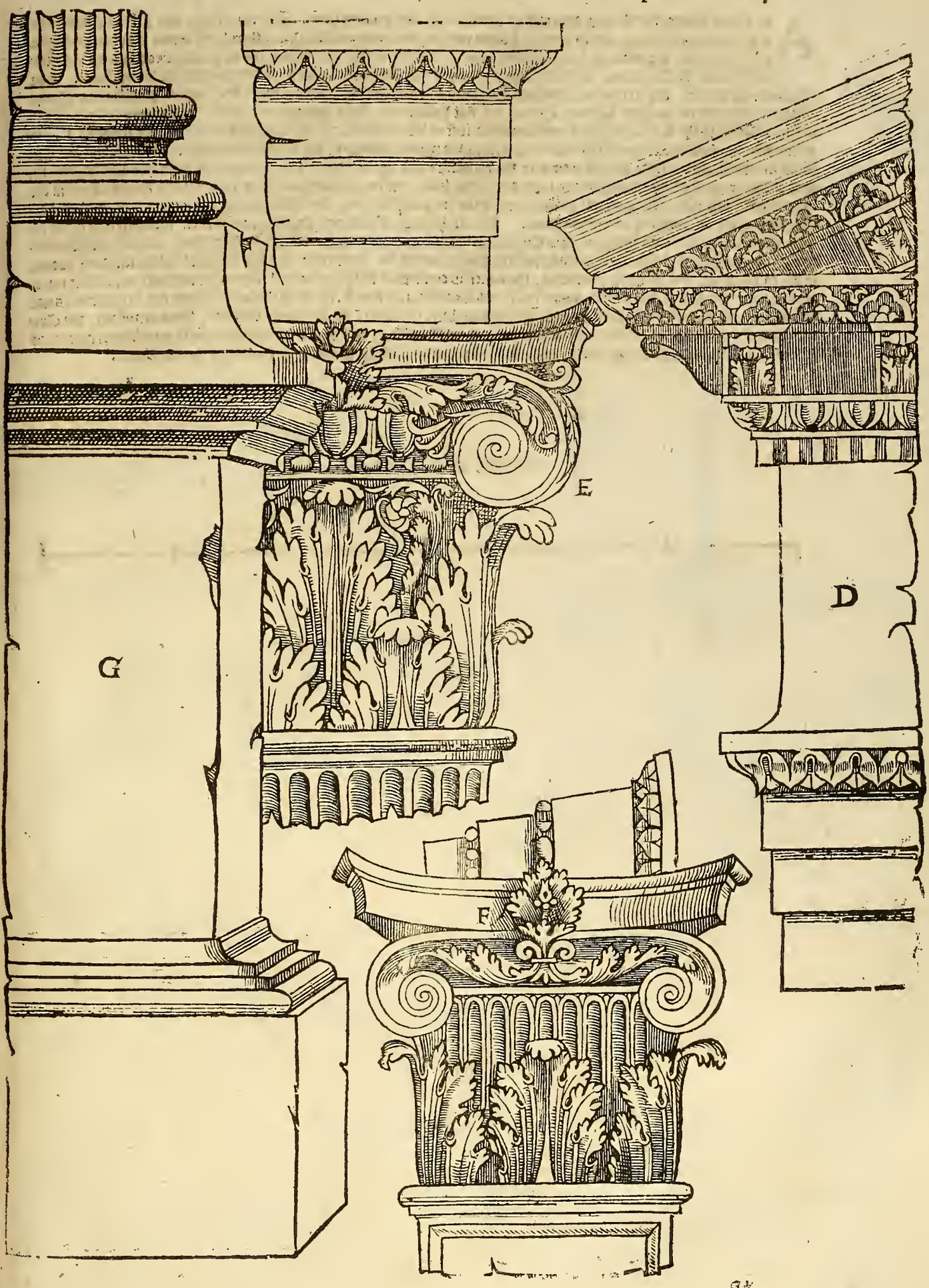
Ouer this Arch, on the right hand, these letters following stand.

T. FLAVIVS P.F. NORICVS, IIII. VIR. ID. V. F. BAVIA. Q. L.
PRIMA SIBI, ET POLICLITO, SIVE SERVO, SIVE LIBERTO MEO,
ET L. CALPVRNIO VEGETO.


A
B
C
H
I K L
D
F
G

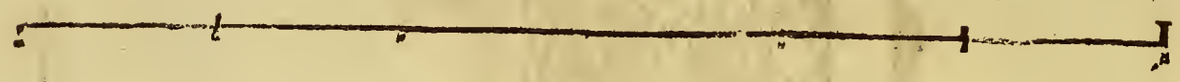
HEre before, I spake of the vniuersall measure of the sayd Arch, and thereunto set downe the forme, according to the proportion of the same, but cannot giue perfectly the particular parts in so small a forme. Of which members, for that there are diuers ornaments in them, I will in this leafe declare them: touching the height and thicknesse, I will speake no more; for I haue done it already: but I will onely shew which they are. The Figure marked G. is the first Pedestall, with the Bases, and the beginning of the Columnes, the which is hollowed: all the members are proportioned according to their greatnesse. The Capitall marked E. hauing the Architraue vpon it, followeth vpon the first Columne, as the hollowing sheweth. The Figure marked D. is the Architraue, Frese and Cornice together, which stand aboue the first Columne: which Cornice, by the authoritie and example, which is by me in many places alledged, the iudicious Reader may know, whether they be erroneous or good. The Capitall marked F. is that, which vpholdeth the Arch vpon the foursquare Pillars; these two Capitals are called, Latine worke, and very fayre. I will not, as I haue said, speake of the measures, for that this Figure is proportioned after the principall, and with great diligence transported from the great into the small.

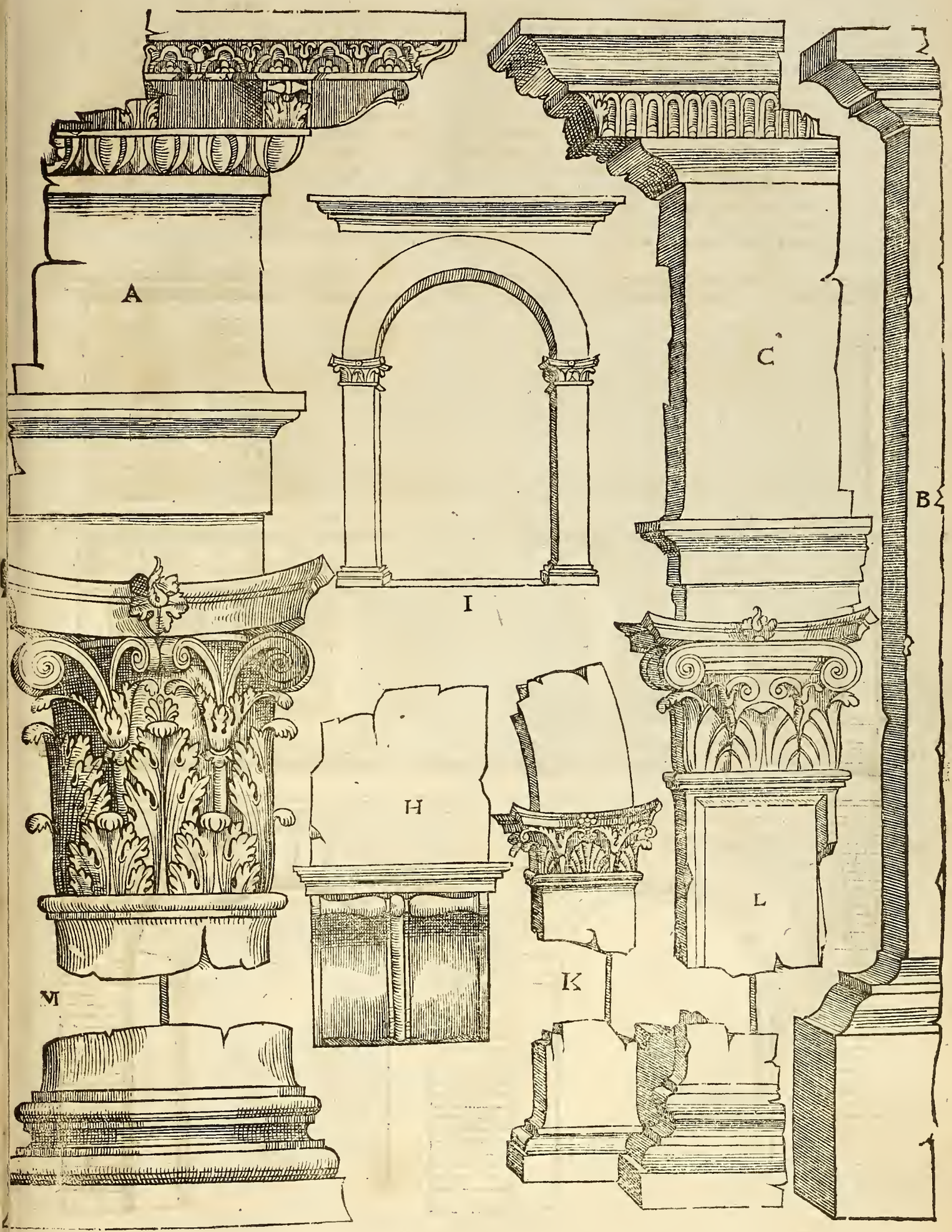
The halfe of the common foote, wherewith the aforesayd double Arch, with the following ornaments, is measured.


E
D
G
F

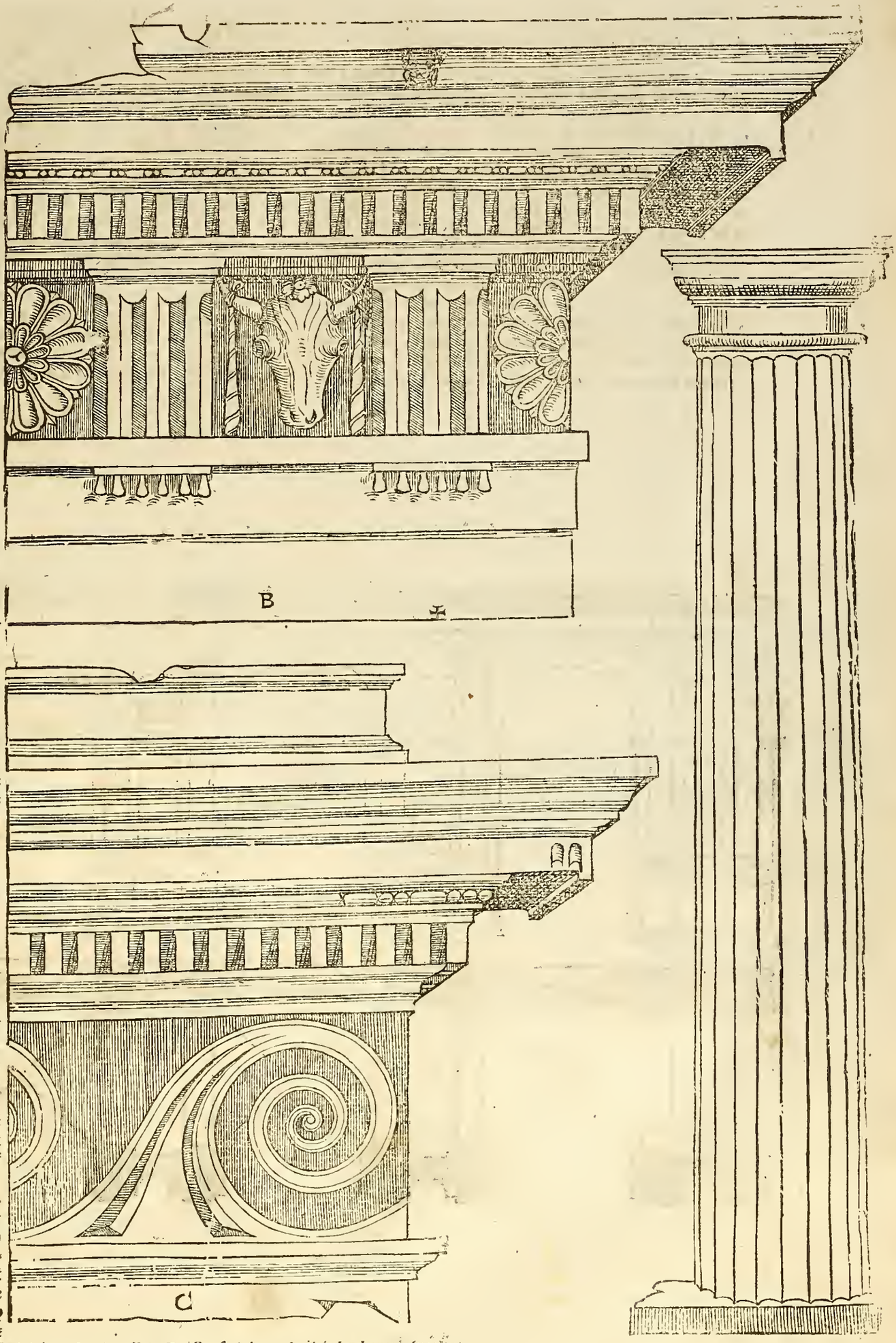
AS I sayd before, the Arch is very rich of ornaments, and among them, some very fayre and perfect; some also very vicious & ill made: and in truth, I finde nothing that more misliketh me, then the Cornice marked D. in the other leafe, for the reasons beforeshewed: but all the rest before set downe are of good proportion, as well the workes as the Cornices. And as the parts of the first story are, so are these following of the second story. The Putiles marked H. are in the beginning of the second story above the Frontispicie: vpon which Images (as I haue declared) there were Images fastened against the flat Pilasters. The window marked I. is the forme of one of the Windowes with the Cornice vpon it, and therefore inst of his measure. That Capitall and the Base marked K. is of the same windowes, shewed in greatest forme, that the members may be the better vnderstood. That Base and Capitall marked L. is the little Pillar betweene the Pilasters and the window: and in truth, in these two Bases, that is, that of the greatest of the small Pillars iopned with the lesser, the workeman was very indicious to accord or agree the one with the other, that the greatest Pillar should haue his due Base, and the lesser should also haue a lesse Base, according to proportion, which I commend much. The Architraue, Freese and Cornice, marked C. sheweth that of the second story, above the small Pillars: this Cornice is very seemely, and not confused with cutting. The Pedestall marked B. sheweth that of the last story, whereof the Base marked M. doth rest: also the Capitall which standeth above, is his companion, and is truly Corinthia, the which is confirmed to the principall, for worke and fashion, and in my opinion, very seemely. That Architraue, Freese, and Cornice, marked A. sheweth the last Cornice: the Architraue is not vicious, because it hath onely two Facies; for if it had three, it would, by the farre distance, stand cumbred: the Cornice with the Putiles, liketh me well, because it hath no Dentiles; and is also well deuided with members: neither is it confused with much grauing, but hath a seemely Proiecture, which heaueth vp the height thereof a little.

The halfe of the common foot.




A
C
B
I
H
K
L
VI

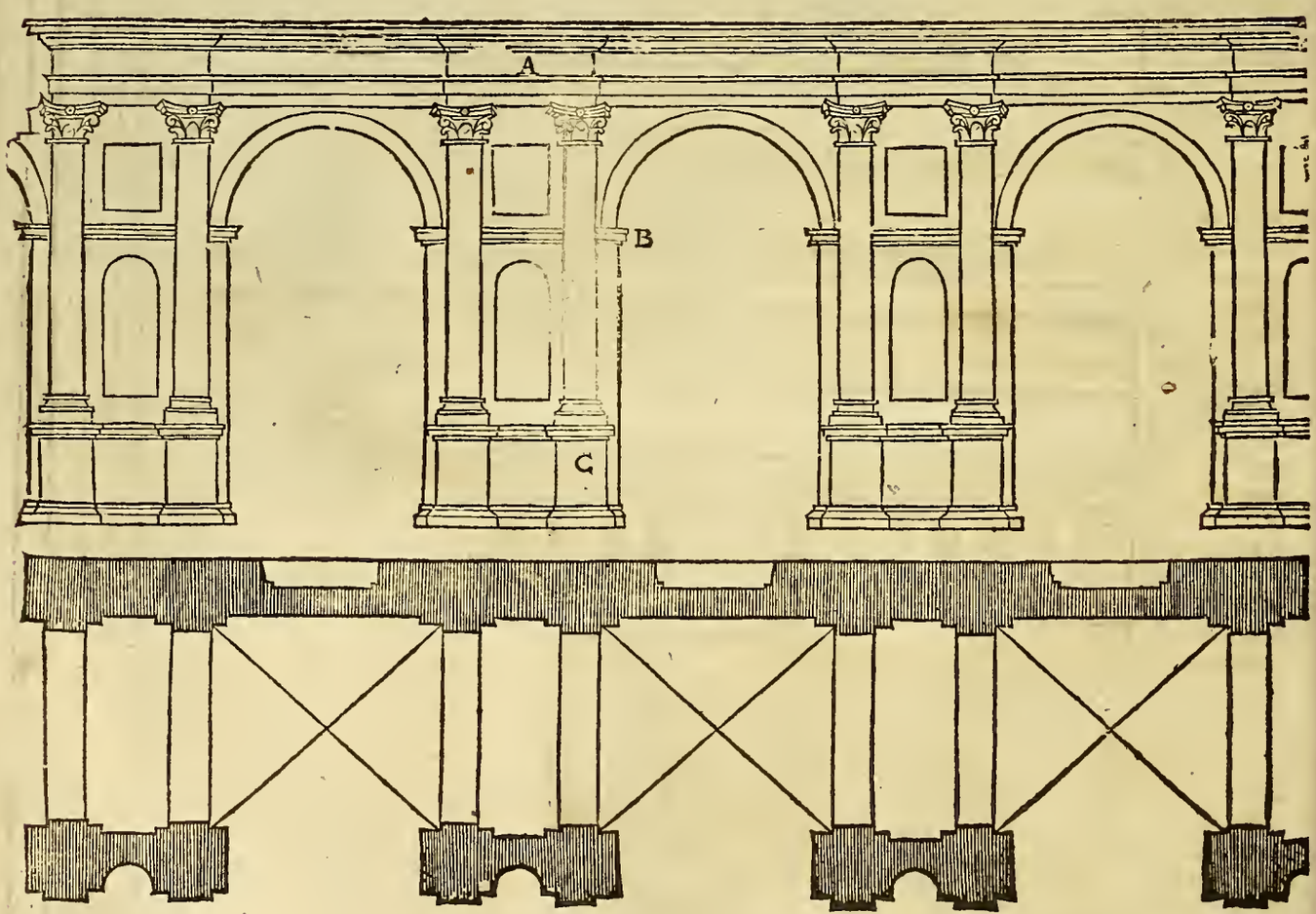
THis Arch triumphant was made before the Arch aforesayd, which the table sheweth, wherein there standeth P. VALERIVS. Q. CECILIVS. Q. SERVILIVS: P. CORNELIVS. it is thought it was set vp in the time of Hanibal. This is measured with the same measure that the other is: the widenes of each Arch is 11. foote: the height is 17. foote: the Pilasters of the Arch are one foote, 8. ounces broad: betweene the 2. Pilasters are 5. foote, 4. ounces: the sides, eche holdeth 3. foot. The Cimatie vnder the C. in place of an Architrane, is 6. ounces and an halfe: the height of the Frese, is one foote, 7. ounces and an halfe: the list aboue the Frese is 2. ounces: the Cimatie vnder the Dentiles, is 4. ounces and a quarter: and the Cimatie aboue it, is one ounce and an halfe. That Astragali is one ounce. The Cimatie vnder the crowne, is one ounce and a third part: the crowne is 3. ounces and an halfe high: the Cimatie thereof, is 2. ounces and a quarter. The Scime is 3. ounces and an halfe high: but the list is 2. ounces: the Proiecture of all, is as much as the height. The Basement aboue this Cornice, is one foote, one ounce and an halfe in height: the thicknesse of the hollowed Columnes, is 1. foot, 3. ounces: the height without Capitals, is 7. foot, one ounce and an halfe. The Capitall is 10. ounces high. This Columne hath no Base nor Cinthe. Carettus, who also counterfeited this Arch, saeth but foure places where Histories are graven, and 5 Columnes in this third story: in the second story but 4. windowes, and 5. Pilasters: and aboue them, 5. Columnes: the third Cornice you cannot come vnto.



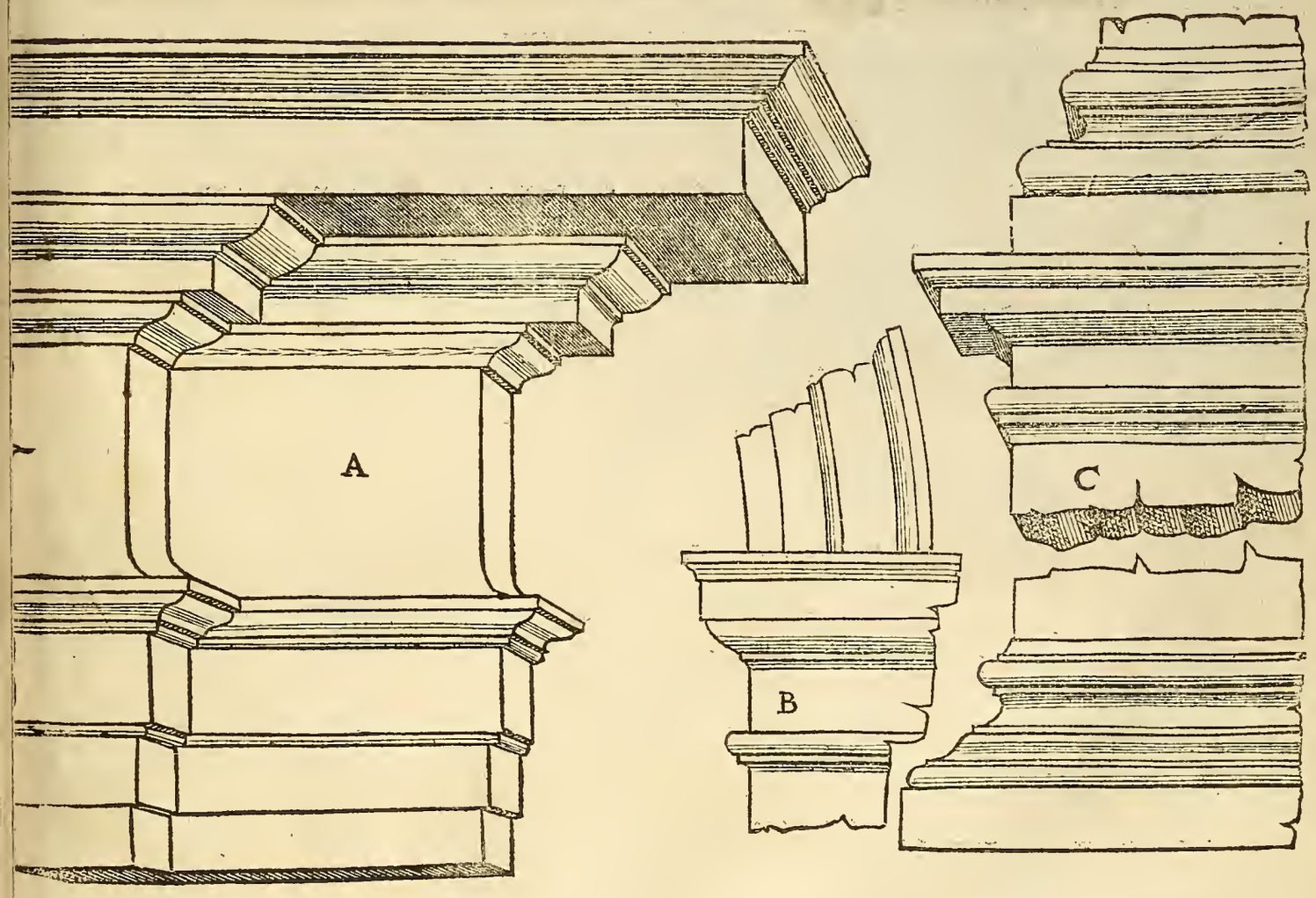
This figure B. is the Architraue, Freese & Cornice aboue the windows, and the height of the first Facie is 8. ounces, & a 3. part. The second Facie, is 9. ounces & an halfe. The Tenia is three ounces. The Freese is 1. foot and 4. ounces high: ý breadth of ý triglyphs is one foot: the list thereabout is a 3. part of an ounce. The other aboue that, is 1. ounce and a 4. part. The Cimatie onder ý Dentil, is 2. ounces and a 4. part. The height of the Dentile is 4. ounces and a 3. part. The Cauet aboue it, is 1. ounce. The Astragals are 3. quarters of an ounce: the Cimatie aboue it, is 1. ounce and a quarter: the height of ý Corona is 4. ounces: the Cimaty is 2. ounces: the height of the Scime is 4. ounces: the list is 2. ounces & an halfe: the Protecture of all, is like the bright: ý whole height may be called Dorica, only the graue Astragali: but it was a toy of the workemans braine. Many other things are in Verona, whereof I will not speak, because they are very licencious; & specially the Arch triumphant, called Dei Burlari, because it is barbarous worke.

Of Antiquitie

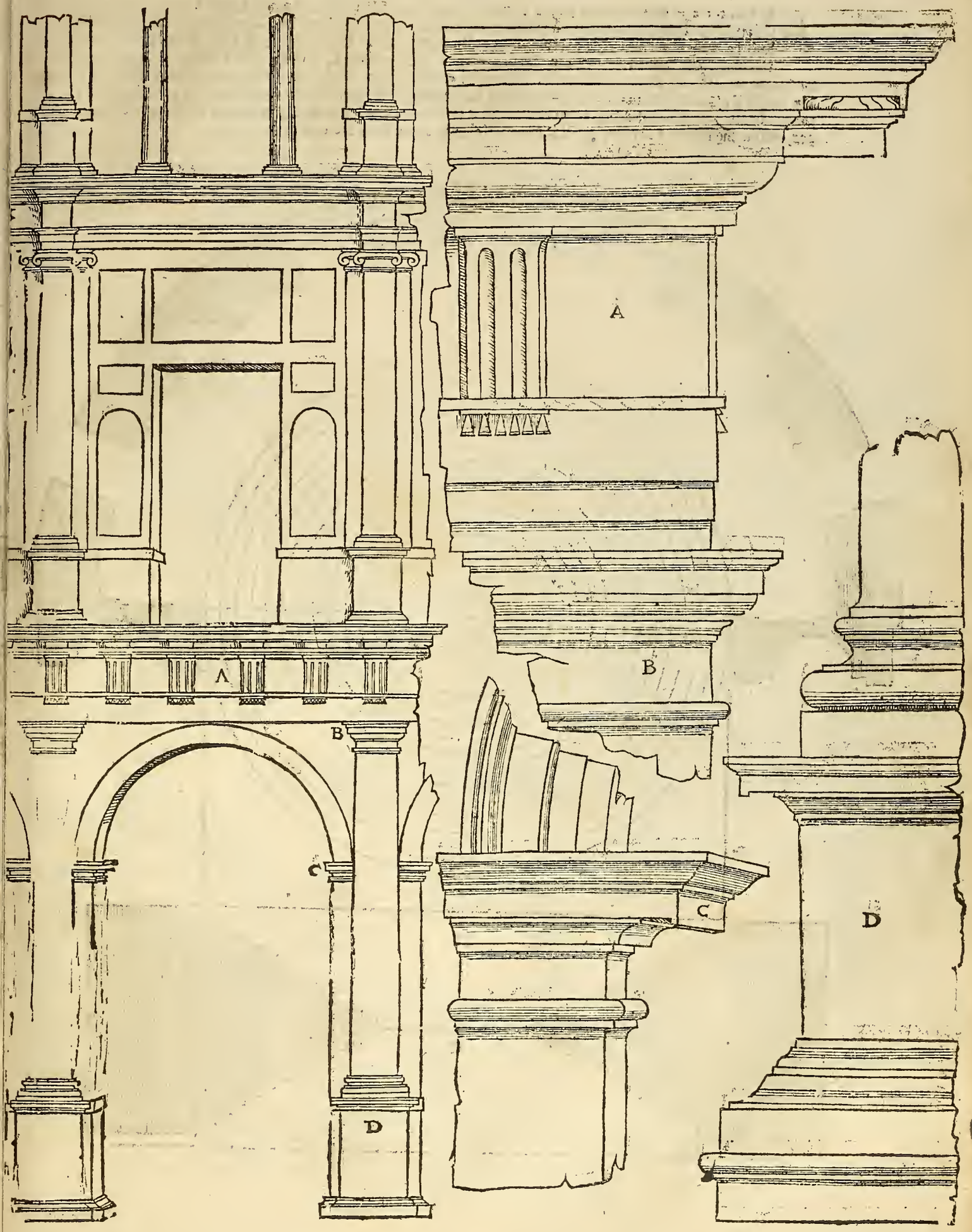
HAuing spoken of many Antiquities, and placed them in Figure; it is requisite that I also shew some of those that were made in these dayes, and specially, of Bramants worke, although I haue not altogether omitted it, hauing shewed the wonderfull worke of S. Peters Church, and other things belonging to holy Temples. And in truth, a man may well say, that he restored good and perfect Architecture, as yet, by the meanes of Iulio P. M. many fayre pieces of worke were made by him in Rome, do witnesse; of the which, this set here, is one: this is a Gallery made in Beluedere, in the Popes Court, wherein are two fayre things to be séene: the one is, the strength thereof; the which, for that the Pilasters are of so great bredth and thicknesse, will last, while the world endureth: the other, for that there are so many accompagments so well set out, with good inuention, and excellent proportion: this worke is measured with the ancient Palme. The bredth of the Arches, is 18. Palmes: and so much are the Pilasters: the bredth of the Pilasters is deuided into 11. parts: one part on eyther side of the Pilaster, which beareth the Arch shall haue, which is two parts: other two parts shall be giuen vnto one Columne, that is 4. parts: 2. parts shall be giuen to the little Pilasters of the Niches, or hollow seates, and 3. parts to the Niches themselues: so are the 11. parts distributed. The height of the Pedestals shall be halfe the widenesse of the Pilasters. The height of the Base of the Pedestals, shall haue one part of the beforesayd 11 parts. The Cornice is the 9. part lesse then the Base. The height of the Columnes, with Bases and Capitals, are of 9. Diameters, and thereunto also the seuenth part. The Base is halfe the thickenesse of the Columnes. The Capitall is of the same thickenesse: and the seuenth part for the Abacus. The height of the Architraue, Freese and Cornice, is as much as the Pedestall without his Base. And this height is deuided into 11. parts, foure for the Architraue, 3. for the Freese, because it is vngrauen, and 4. for the Cornice, as the halfe Circle of the Arch is drawne; then the heights of the lights will be double: after that, the impostes being drawne in their places, the which are of halfe a Columne thicke, and so the Niches or seates, and the Quadrans aboue them, haue their certaine proportion.



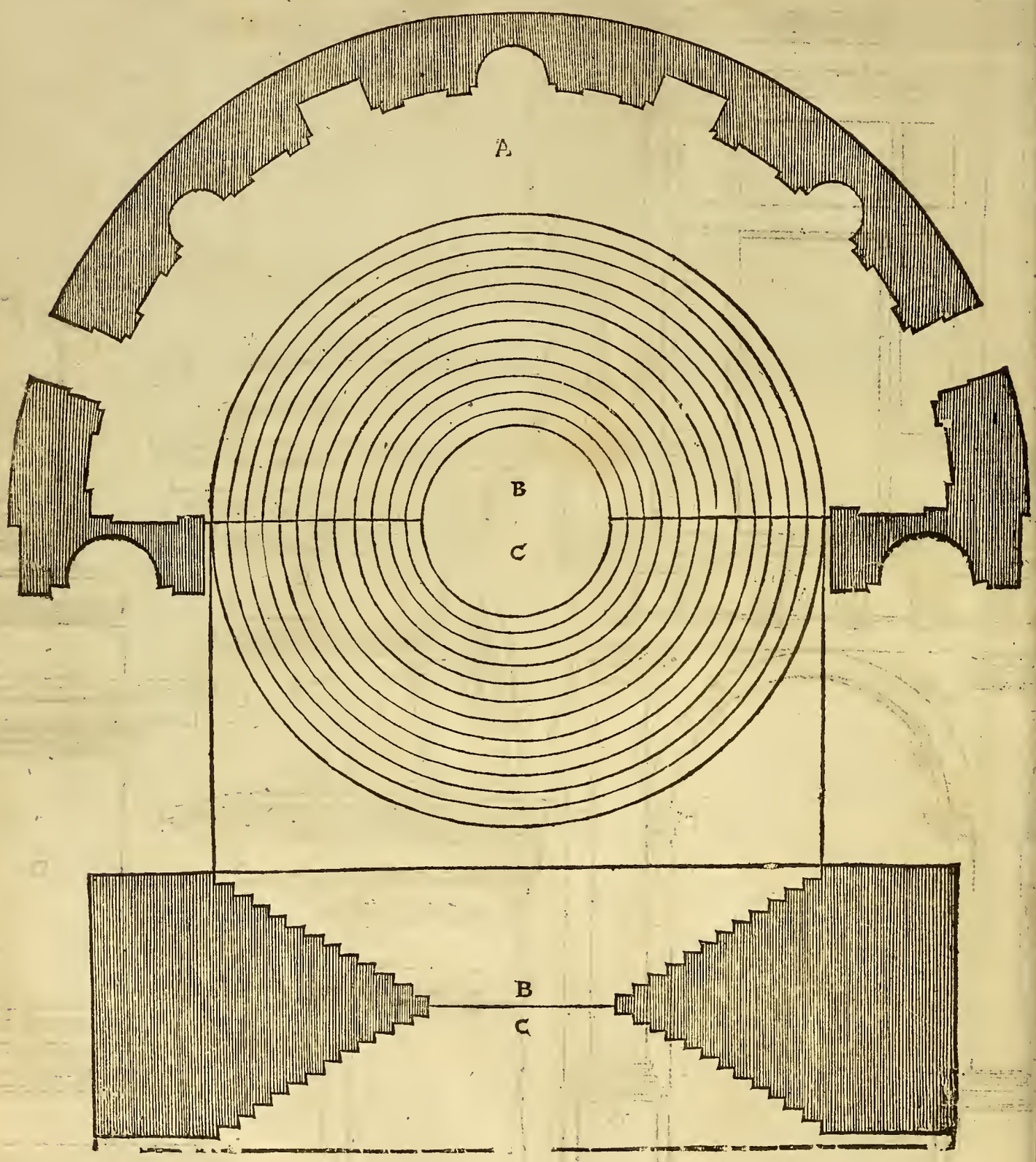
Because I could not (by reason of the smalnesse of the Figure) perfectly shew the parts of the Gallery aforesayd, therefore I haue shewed them hereunder in greater forme: the part C. is the Pedestall of this Gallery, and vpon it the Base of the Columne standeth, proportioned according to the great: the part B. sheweth the impost of the Arch, with a part thereof. The Figure marked A. sheweth the Architrave, Frese & Cornice aboue the Columnes. The generall measures, touching the height, are already shewne, therefore not to be mentioned againe: for they are proportioned after the great. In this Cornice the workeman was very indicious, that he suffered the Corona to go through vnbroken; and suffered the other parts of the Corona to beare outwards, which is very seemely, and the crowne the stronger, and keepeth the whole worke from water: with which inuention, the workeman may helpe himselfe in diuers accidents; for the reaching out of Cornices stand not alwayes well, but in some places well, and in some places ill; and the bearings out vntolerable, where the Columnes on the sides haue no Pilasters: of these bearings out, I will say more in the fourth Booke, in the handling of foure maner of Simmetrie of Columnes.



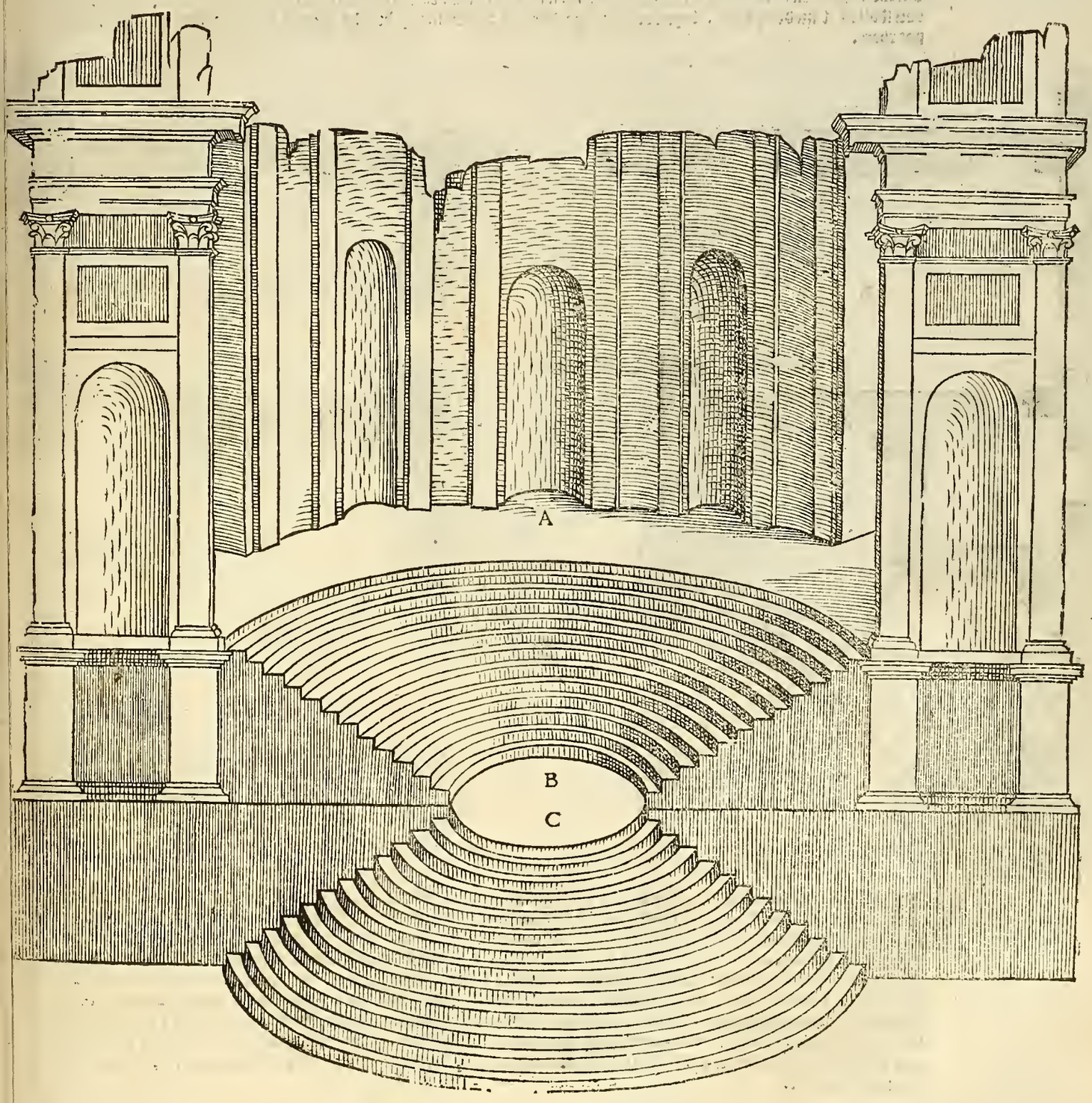
IN the leafe before, I shewed a peece of worke of Bramants making: and now I will shew another of his workes, from whence a wise workeman may helpe himselfe much, by meanes of the diuers and sundry ornaments that are in it. In this Gallery, the workeman would shew three stories or orders one aboue another, viz. Dorica, Jonica, and Corinthia: and in trueth, the orders were faire, well set out, and placed: notwithstanding, that the Pilasters of the first story or order being Dorica, were somewhat too weake, and the Arches too wide, to the proportion of the Pilasters; and therewith the weight of the wall of the Jonica order standing vpon it, was an occasion that it was broken, ruinated and decayed in short time. But Balthazar of Siene, a skilfull workeman, repayred the decayed ruines, making counter Pilasters, with vnder-Arches; therefore I haue said, wise workemen may learne of this building; not onely to imitate fayre and well made things, but also to beware of errors, and alwayes to consider what weight the vtthermost story is to sustaine: therefore I counsell a workeman rather to be timerous, then ouer-bold; for if he be timerous, he will alwayes chuse the surest way, and make his worke with consideration, and will vse counsell, yea of such as are lesse skilfull then himselfe, of whom sometime men often learne: but if he be high-minded, and trusteth too much to his own skill and knowledge, then he will scorne another mans counsell, whereby oftentimes he deceyueth and ouer-shooteth himselfe; so that oftentimes his worke falleth out badly. Now I will turne to speake of this Gallery, and set downe some notes of the proportion thereof. The widenesse of the Arch shall bee deuided into eyght parts, whereof three parts shall be for the breadth of the Pilasters, and the height of the Arch shall containe 16. of such parts. The forepart of the Pilasters shall be deuided into foure parts, whereof two parts shall be for the Pilasters of the Arches, and the other two shall be for the thicknesse of the Columnes: the height of the Pedestals shall containe halfe the widenesse of the lights: the height of the Columnes shall bee eyght parts of their thicknesse, with the Bases and Capitals. The height of the Architraue, Frese and Cornice, is a fourth part of the length of the Columne. The second story shall bee lesse then the first by a fourth part, viz. That from the Pauement of the Dorica story, to the highest of the Cornice, shall be deuided into 4. parts, and 3. of them shall be for the whole story of the Jonica worke, and so shall all the parts particularly bee lessened in themselues a fourth part. The like also shall be done with the third story, which is Corinthia, in regard of the second order, although it standeth not here, because the Figure is drawne too great: but not to put the Reader in a maze or doubt at the Columnes which stand here in the middle, as desirous to know how they end at the top; you must vnderstand, that you shall finde such inuention in the fourth Booke, in the Order of Dorica in the side H 2. that although that those Columnes are Jonica in the sayd Booke, notwithstanding, you may make them Corinthia. And that the workeman might the better vnderstand the members and Cornicements of this worke, I haue shewed them in greater forme, and proportioned them according to the principall: I speake of the members of the first story: for a man could not easily come to measure the other.


A
B
C
D
A
B
C
D

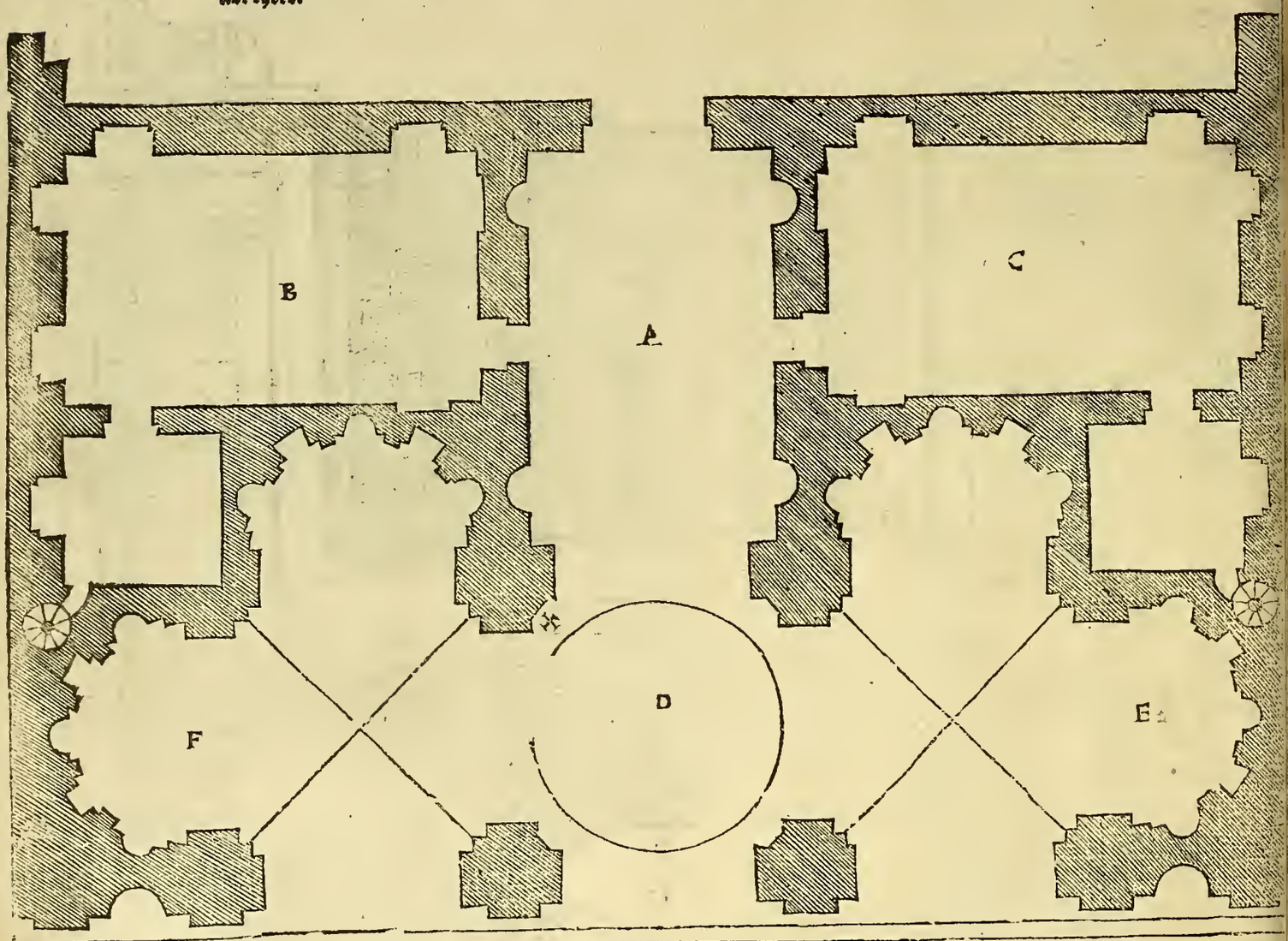
AT Beluedere, at the entry of the Popes Court, through the Gallery, which I haue set downe before, for the places alwayes goe vpwards, there is a going vp which is very fayre: at the head whereof, you come to a plaine, which hath the forme of a Theater; the ground whereof is shewed vnder this: and thereto I haue set the Profill, that you may vnderstand it. Here I haue kept no account of the measures, desiring onely to shew the inuention of the stayres, and the halfe Circle as it standeth. This halfe Circle is very much eleuated from the Court of the Popes house to the Palace-ward: and behind the halfe Circle, you find a great playne with fayre appertements; at which place, you goe through the two Gates, which you sée in the sides of this halfe Circle; in which places there are many faire Images, and among the rest Laocoon, Apollo, Tyber, Venus, Cleopatra, and Hercules.



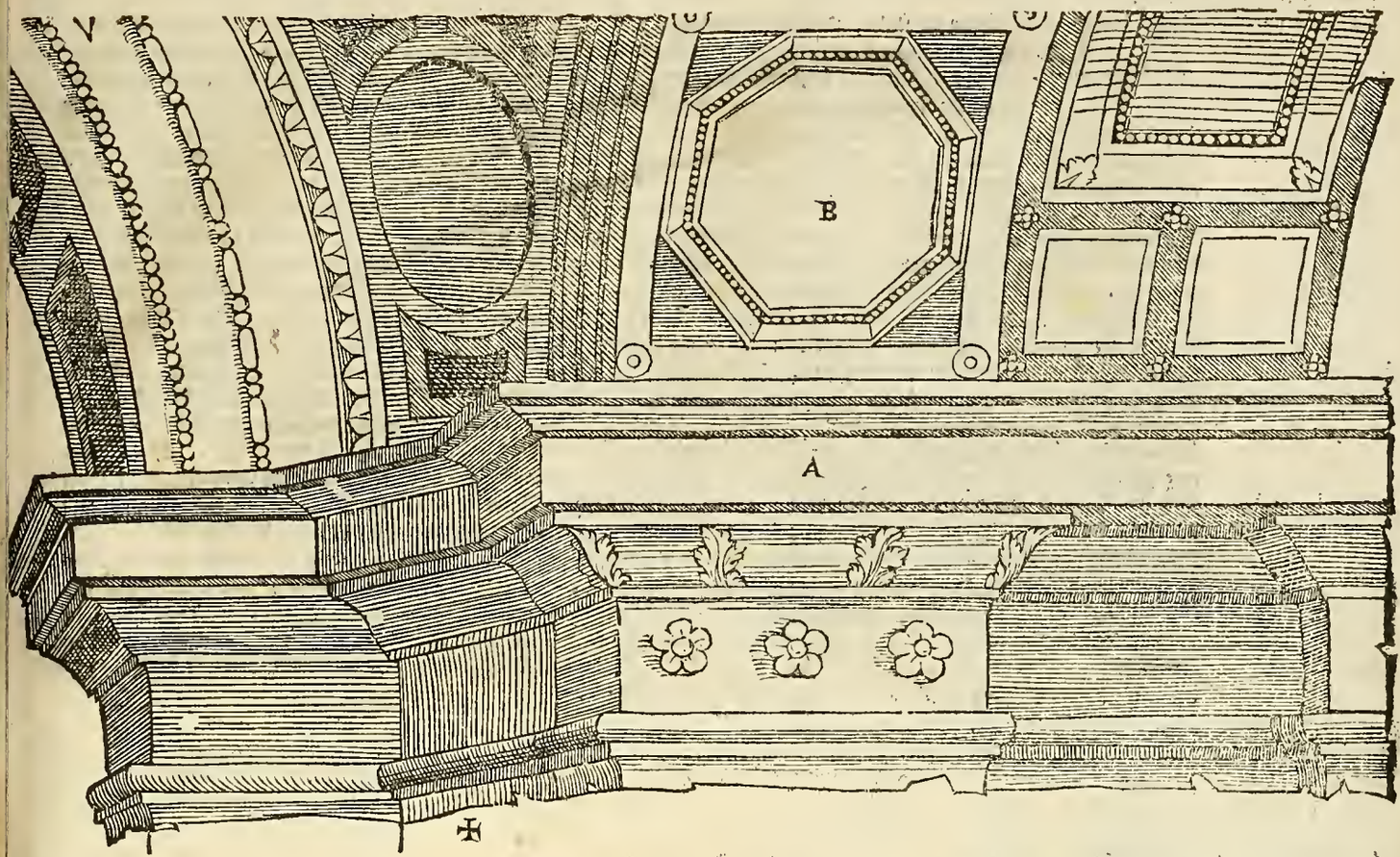
THis is the Orthography of the ground shewed Folio 69. and as I haue sayd, I will not speake of the measure thereof, but onely of the inuention: and although that here on eyther side, onely one Pilaster, with his Columnes, is shewed, yet is it not vnlike some Galleries, whereof I haue spoken before, and that appeareth by the double Columnes, together with the Niches or hollow seates, with the Quadrans aboue them. In Beluedere there are many other things, which I haue showne, & among other things, there are wonderfull winding Stayres, in the ground whereof, there standeth a Fountayne, flowing exceedingly with water, the which going vp is all full of Columnes in the innermost part: which Columnes are of foure Orders: viz. Dorica, Ionica, Corinthia, and Composita: but that which is most wonderfull and ingenious, is that betwene one and the other Order, there is no difference or distance, but men goe from the Dorica to the Ionica, and from the Ionica to the Corinthia, and from the Corinthia to the Composita, with such cunning, that a man cannot perceiue where one Order endeth and goeth into the other: so that I am of opinion, that Bramante neuer made a fairer nor costlier piece of worke then this.

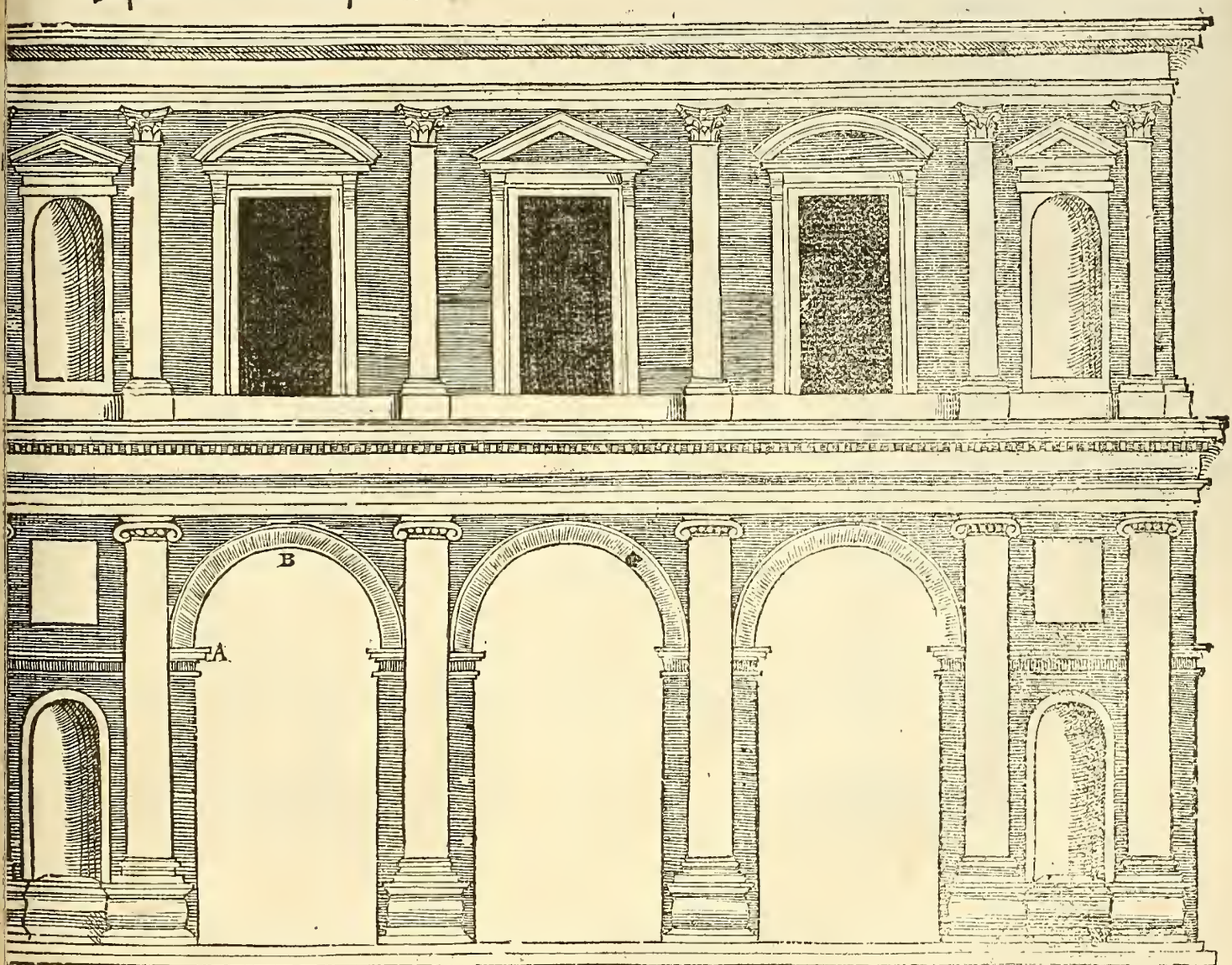


WIthout Rome, at Monte Mario, there is a very fayre place, with all things belonging to a place of pleasure; of which particular parts I will rather refrayne to speake, then not shew them sufficiently, onely I will speake of a Gallery, with the Facies thereof, made by an excellent workman Raphael Durbin, who hath made diuers appertements and beginnings to other workes, as the Courtill, although that it is foure square, yet he had fashioned it round, as the foundation partly sheweth. That Vestibulum marked A. and the two places, B. and C. stand not in such forme, but I haue placed them there to fill vp the ground: for the part C. endeth in an hill, as also the part E. but in the other side of the Gallery marked F. there is no halfe Circle, and that was left out, not to pinch some of the appertements, but to accompany other members by it. The order of this Gallery is very fayre: the roofe whereof is concordickly altred: for that the midole part is with a round tribune; and those two on the sides are crosse-wise. In which roofe, and also in the walles, Ian van Vdenen hath made wonderfull great pieces of paynted worke: so that regarding the fayre and excellent workemanship of Architecture, with the beautifying of paynting, together with diuers ancient Images, this Gallery may well be called, one of the fayrest that euer was made. And whereas it is spoken of an halfe Circle which doth not answere the rest, neither the workeman not willing to leaue it vndecked or vnfurnished, his Disciple Iulio Romano, in the Facie thereof, paynted the great Gyant Poliphemus, with many Satyres round about: which worke, Cardinall de Medicis, that after was Pope, by the name of Clemente, caused to be made. The measure of this Gallery I will not set downe, but the inuention shall suffice the workeman, for that all things are proportioned according to the great; and hereafter you shall see it made vpright, together with the Facie of the Gallery, but the Niches or hollow seates on the sides are not there.



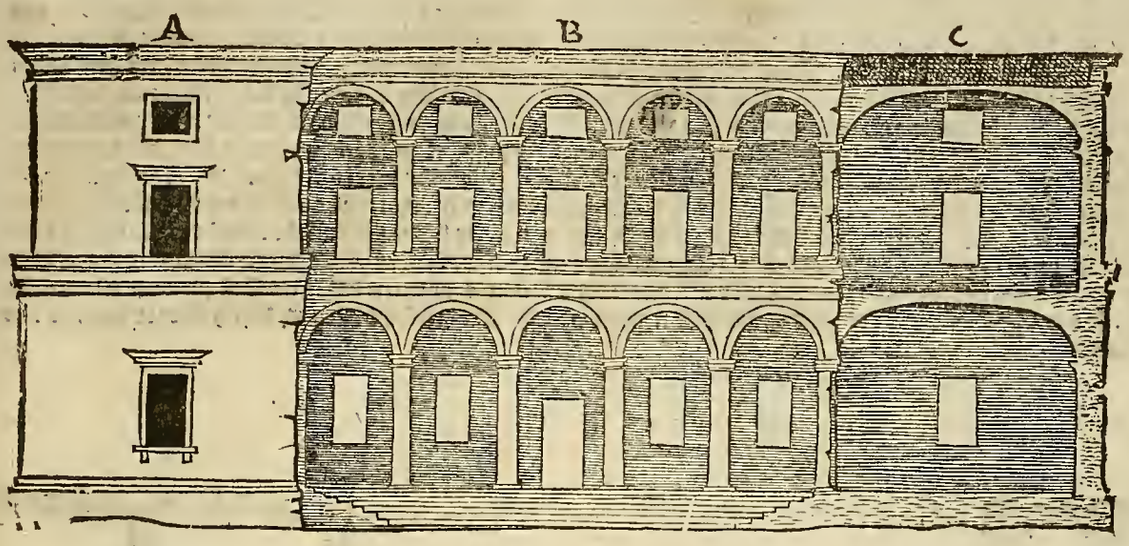
By this part following, marked B. A. you may conceiue the roofe of the aforesayd Gallery, the fayrenesse whereof consisteth much in the corner marked ✠. (the which giueth to vnderstand also the three others, being well placed) and shew well in the heauing vp of the tribune in the middle, going alwayes binding with the duplication of Pillars, to each Facie of the Pilasters: which Pillars (in regard the Coronas remayne whole) make not the Pilaster shew bare, but rather such breaking of Pilasters into two Pillars, maketh a large seeing vpwards, and stands (neuertheleſſe) in manner and place of a firme Pillar: for the Base of the sayd Pilasters follow also. And for that in the Figure following in the Pilaster, there is but one Pillar with a peece shewed, yet to make it better to be vnderstood, is, that each Facie of the Pilasters within the Gallery is to be deuided into three, of the which a man may make two flat Pillars, and at the corners one Intercolumne: so that (as it is sayd) although there are two flat Pillars with one Intercolumne, yet, altogether, it is but one Pilaster.


V
B
A

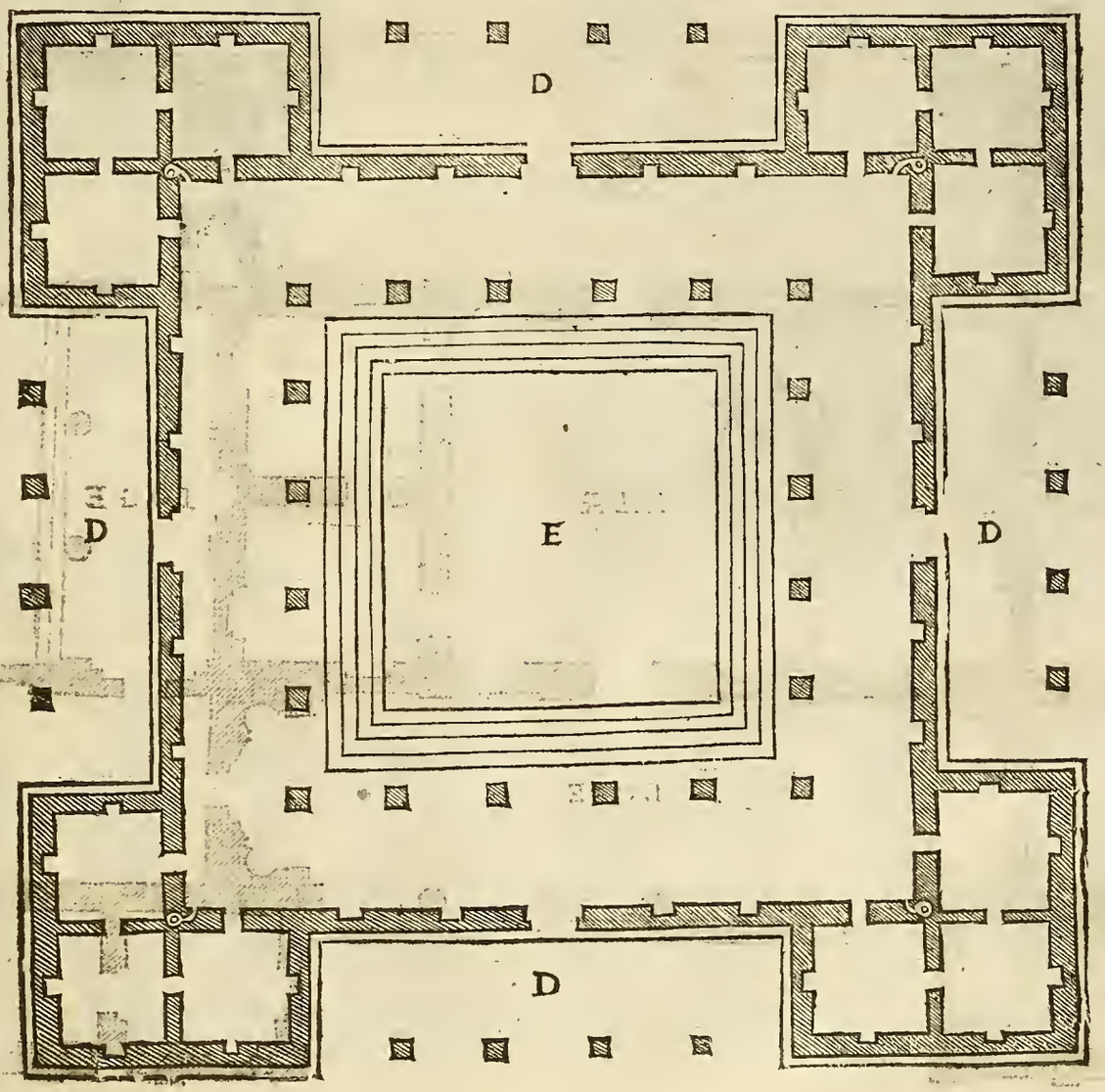

B
A

AMong other Cities of Italy, Naples is called, La Gentile, and that not onely in respect of the great Barons, Lords, Earles, Dukes, and great numbers of Gentlemen therein, but also, because it is so well furnished with stately Houses and Palaces, as any other parts of Italy. And among other pleasant places that are without the Citie, there is a place called Poggio Reale, which King Alphonsus caused to be made for his pleasure, in that time (then most fortunate) when Italy was in peace, and now unfortunate, by reason of the discords therein. This Palace hath a very faire scituation, and is well deuided for Roomes, for that in each corner thereof might bee lodged a strong company of men: in the middle there are sixe great Chambers, besides the Roomes vnder the ground, together with some secret Chambers. The forme of this faire building in the ground, as also, the building that standeth vpright, is here set downe in the next leafe: the measure thereof I set not downe vnto you, onely, because I will shew you the inuention: for a workeman may imagine of what greatnesse he will haue a Chamber, being all of one greatnesse; and then from those Chambers he may imagine all the measures of the rest of the building: which building the Noble King vsed for his pleasure, because men accustomed to dwell in the Countrey in the Summer time. The Court of this Palace is compassed with double Galleries: and in the middlemost place, marked E. men go downe a payre of Stayres into a fayre eating place, in which place, the King and his Lords vsed to banquet and eate at pleasure; in which place he caused certayne secret places to bee opened, whereby in the twinckling of an eye, the place was full of water, so that they sate all in water: likewise at this Kings pleasure, all ẏ water voyded out of the roome againe, but there wanted no shifts of clothes to put on, nor yet rich and costly beds for them to lye in, that would rest themselues. O voluptuous Italians, how are you impouerished by your discords! I will not speake of the most beautifull Gardens, filled with all kind of flowres, with diuers compartements of the Orchards and Trées of all kind of Fruits, with great abundance of Fish-ponds and Fishes, of places and cages of diuers Birds both great and small, of fayre stables, filled with all sorts of Horses; and of many other fayre things, which I will not speake of, for that Marcus Antonius Michaell, a Gentleman of that Towne, very learned in Architecture, hath seene it, and hath written of it at large in a Latine Epistle, which he sent to a friend of his. But to turne againe to the parts of the said Palace, which is right foure square, it is within, Galleried round about, one aboue the other: in the foure Corners, within the thicknesse of the walls, stand the winding stayres to goe vp into the building. The foure Galleries without, marked B. are not there, but for the commoditie and beautifying of the house, they would stand well there.

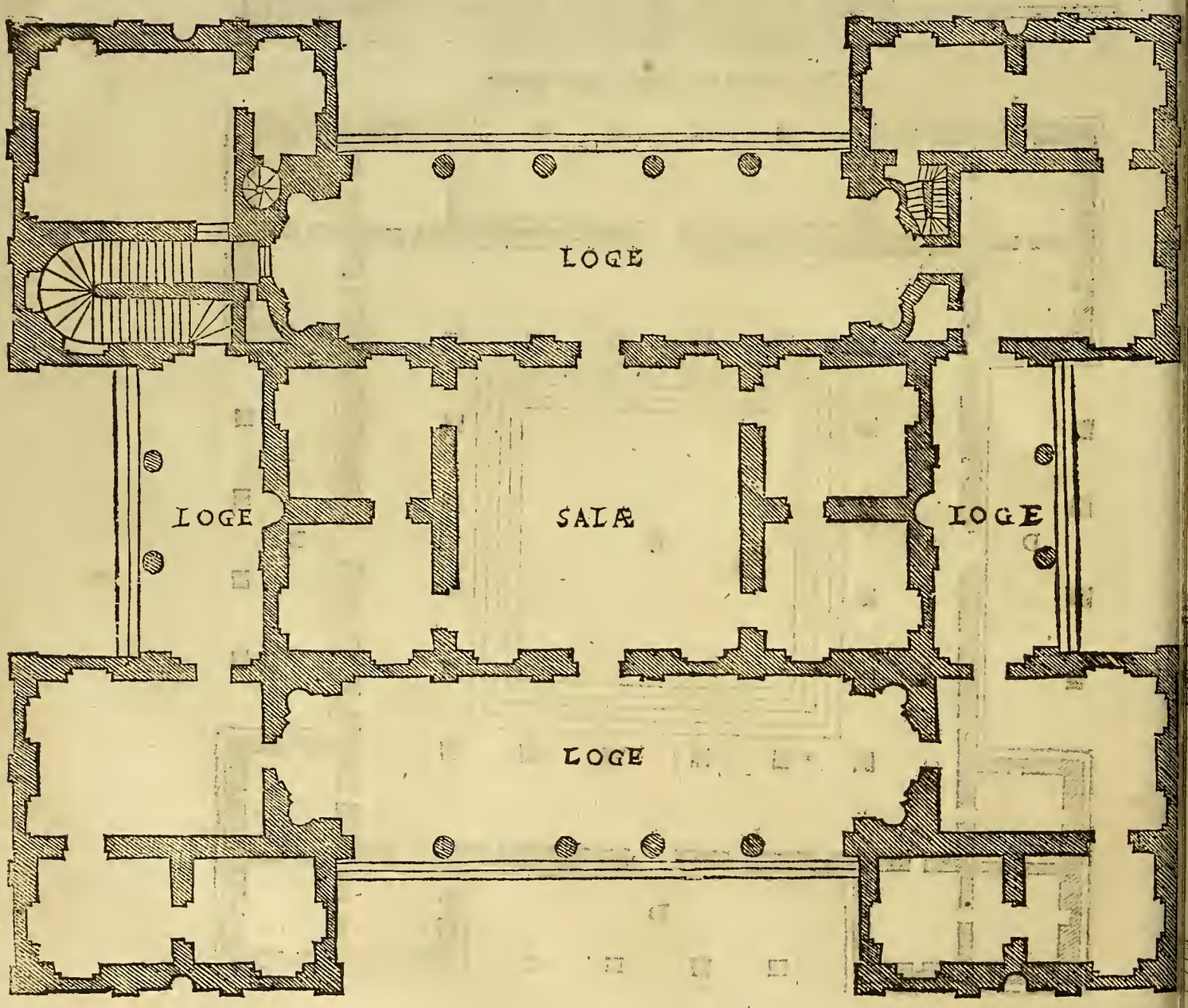
In this Figure hereunder, I haue shewed the Orthographie both within and without: the part marked A. sheweth the part without: the part marked B. representeth the Galleries within: the part C. sheweth the ruines within. I haue not set downe the couering or rofe of this house: for according to my opinion, I would haue playstered such a building, that it might onely be vsed for a walking place, to behold the countrey about.



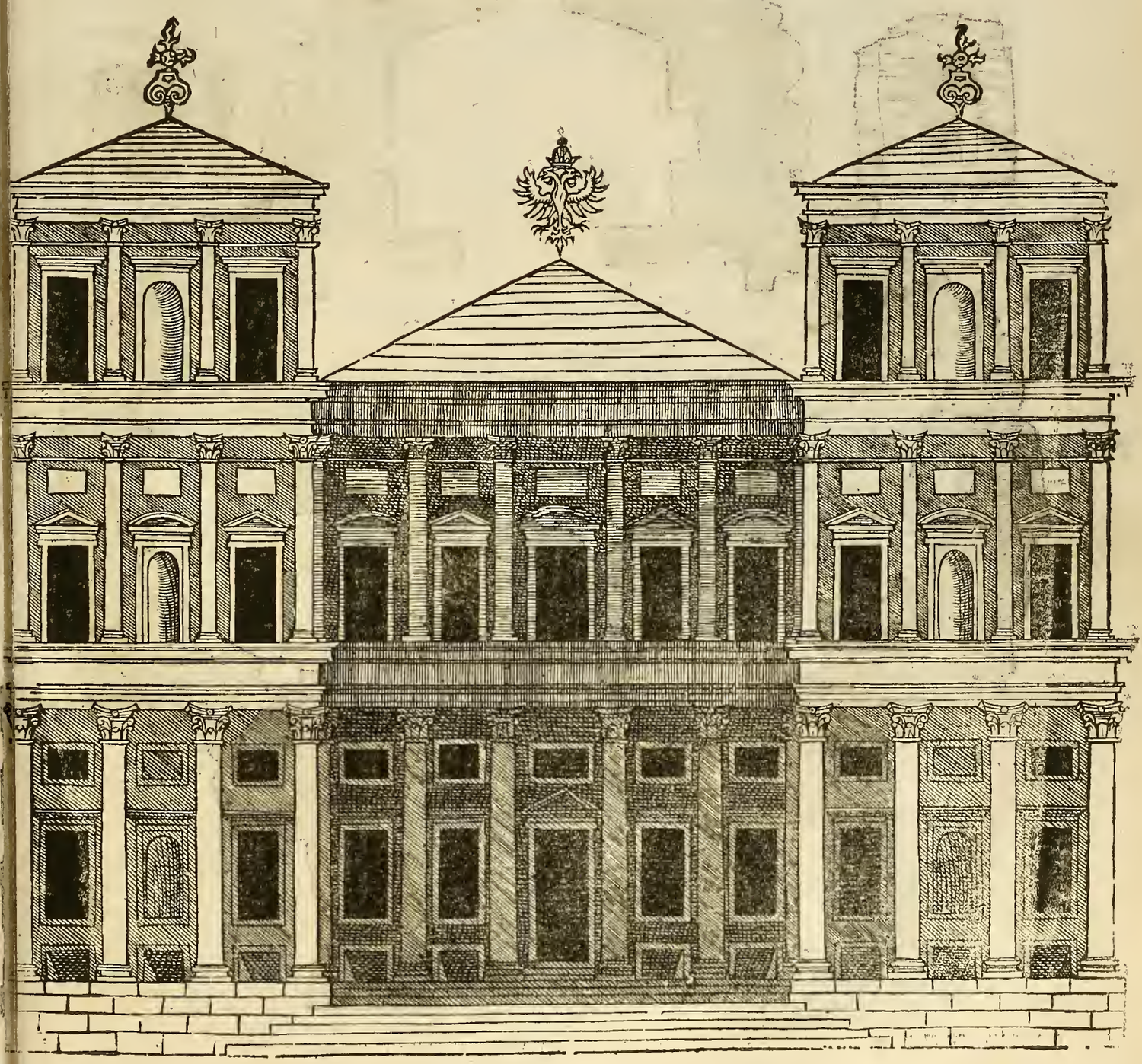
The ground of the Poggio Real of Naples.



Considering the fayre Building of Poggio Real, I haue thought good to set downe such an other here in this place; but in other forme for appertenments, and peradventure with more ease, for that the places are all of one greatnes, which is not so good a forme: but it is necessary that the first should be greater then the second. In this place I make you no place for lights within, for that it is a place in the countrey, being not cumbred on the sides; it hath light inough on all the foure corners: but some men may say, that the Hall with the foure Chambers, because they haue no light but through the galleries, are darke, for it is no perfect couer: to which I answere, that the house being made to be vsed in the time of great heat, hauing no place in the middle, the Hall and the Chambers will alwayes be cold, by reason the Sunne cannot come vnto them. These places will be very pleasant at none time, for that the said places haue not so great lights as the other dwellings; yet haue they so much light as they need: such like may be seene in Bolonia, which are made in this manner with Galleries, and daily inhabited. This Building is so disposed, that the corner places being of great thicknesse, the rest shall be strong inough, yea, although the walls had no great thicknesse, in regard they are all counterforts one to the other, yet shall they be of sufficient strength. I will not speake of the measures, for that this being proportioned, the skilful workman may imagine (according to his pleasure that caused it to be built) first the greatnes of the roome, then deuide it into so many fæt or other measures, thereby to measure all the rest of the building, as the situation of the place may beare it. Then this building, aboue all things, shall be placed, that the Sunne may rise vpon one of the corners, and so shine vpon all the sides thereof: for if it stands with one side to the East, and the other to the West, then it will follow, that the North side shall neuer enioy the Sunne-shine vpon it, which were rumaticke and vnwholesome.

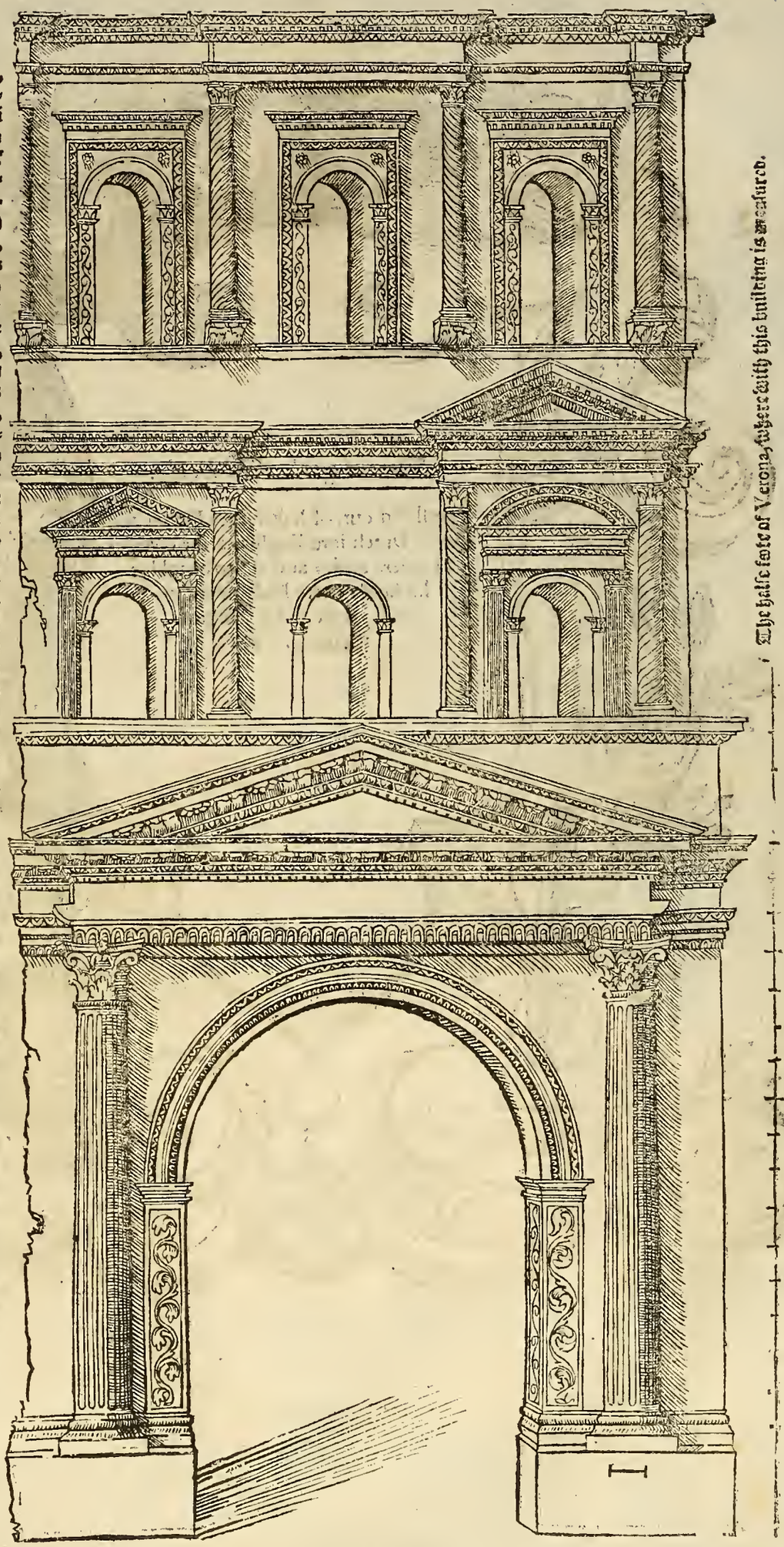


MEn may build in diuers and sundry sorts vpon the ground aforesayd: but for that this is a place of pleasure, I thought good, for the brauenesse thereof, to make it after the Corinthia maner. I will not trouble my self to speake of the measures nor heights; for in my fourth Booke, in the Order of Corinthia, O 2. you shal find a Treatise, which, together with the iudgement of ẏ wise workman, will serue to set down this measure. And, for that in this Facie there is no shortening at all, whereby you may know the Galleries, the flat and closed places eche from other; therefore I will set downe the two highest sides at eche end: you must conceaue it to haue flat Pillars from beneath vpwards; that part betwéne both, which is lower, you must suppose hath two Galleries, one aboue the other, the Columnes whereof would be round: the same is to be vnderstood to be both behind, and on both sides. Men may also make aboue the Galleries a Tarrace or Pauement, to defend the raine, the Gallery being made with a Leane-to, or Raile, out of the Cornices of the first order of the Figures aforesayd: and so also the Hall in the middle, together with the 4. Chambers of ẏ second story, would haue more light. For 2. causes I haue made the small windows aboue the great, in the first story. The 1. is, if you will make the windowes so low, that a man sitting, may easily sée out of them, then (if you should make the windowes no higher then the dore) there would bee too much space betwéne the windowes and the rose of the house, which would greatly darken the house: and otherwyse the windowes bring much more light into the Hall. The 2. is, that the Chambers by the Hall néed not bee of such height, but you may make hanging Chambers therein, whereto those windowes will serue. I might speake of many other things, which I referre to the iudgement of the workeman.



AT first, I was not minded to set this ground, nor yet the building of the 100. Columnes, placed in M. 1. in this Booke; for that they are things which the Author hath made by reports and heare-say, which I esteeme not worthy to be set by things that are counterfeyted and measured: yet that it should not be sayd, that I haue published this Booke lame and imperfect, and not full as the Author made it, which might haue giuen slanderous and enuious persons occasion to scorne and scandalize this Booke; therefore I haue not onely set this here, but also added this other Figure following by him set downe in the leafe R. 3. And now to turne to this ground, our Author sayth, that in Ierusalem (as it was told him) on a hill, there is a building cut out of a reasonable greatnesse, in manner hereunder set downe: and for that by meanes of the widenesse of the middlemost part, the roofe should not fall in, therefore the two Pilasters were left in the middle, and withall, two of a middle sort by them, with two lesse also before, vnderholding the roofe, which altogether were cut out of the rocke with instruments. In the first entry are foure little Chappels. In the middle there are 18. and behind there stand 2. and a dore locked, which sheweth, that men went further: the greatest Chappel is wide the length of a man, whereby you may iudge the greatnesse of the building. This place hath no light, nor can be perceaued that it had any light. The Chappels are taken out, as the Figures A. and B.

For that our Author before, speaketh of an Arch triumphant in Verona, called Dei Borsari, which he termeth to be barbarous and confused of parts and members, as (according to the writing of Vitruuius of good Antiquities) in effect it is: Neuertheleſſe, for that Iohannes Carottus (which our Author alledgeth) hath ſet it downe for an ornament of Verona, in his booke of Antiquities, much better, and with more deliberation then all ye reſt of the Figures by him made (for in trueth, ye reſt are very groſſe: Therefore I thought it good to ſhew it here to the curious Reader that he may ſee and alſo note (by Vitruuius rule aforeſaid) what is good or ill in it, which may peradventure pleaſe ſome of this countrey better then another, becauſe they vſe to ſeeke for much worke in their Architecture. And for ye this Figure was too great in forme, therfore I haue hers ſet downe but the halfe; and you muſt conceaue the other ſide, that is, an Arch with windowes and other ornaments, like theſe: the foot of Verona, wherwith this building is meaſured, ſtandeth here on the ſides in halfe proportion: of which foot, one ſmall ſtandeth in the Pedeſtal, vnder ye great Columne; whereby the meaſure is to be conceyted: for the ſayd Carottus giues no other warrant of all his Figures (but onely of the Figure of the wonderfull ſpectacle, as hee termeth it) with the Theater aboue it: but aboue all, with the goings vp to the hill, where a Temple of Ianus ſtandeth, as our Author ſheweth afterward in Folio l. 3. in this preſent Booke. Of this building, Carottus ſaith more then of all the reſt: and for that I may ſatiſfie the Reader at full, of all that is ſayd in this Booke, therefore I haue cauſed this figure to be printed alone, becauſe it was too great, and (in my opinion) too groſe, to ſet hereby. Vale.



The halfe foote of Verona, wherewith this building is meaſured.

The end of the third Booke.

Tranſlated out of Italian into Dutch, and out of Dutch into Engliſh, at the charges of *Robert Peake*: and are to be ſold at his houſe neere Holborne Conduit, next to the Sunne Tauerne. 1611.

The fourth Booke.

Rules for Masontry, or Building *with Stone or Briche, made after the fiue maners* or orders of Building, *viz.* Thuscana, Dorica, Ionica, Corinthia and Composita: and thereunto are added examples of Antiquities; which, for the most part, agree with the instructions of *Vitruuius*: with some Figures more added vnto them, which were not in the first, and some deuices of the Author, which are corrected, and hereunto annexed.

Translated out of Italian into Dutch, and out of Dutch into English.

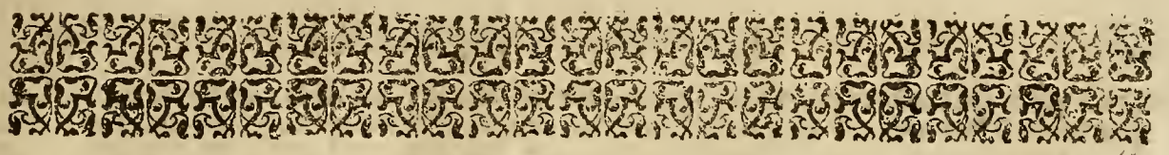
LONDON

Printed for Robert Peake, and are to be sold at his shop neere Holborne conduit, next to the Sunne Tauerne.

ANNO DOM. 1611.

To the wel-willers of Architecture.

VItruuius *sayth, that such as haue built without learning or instruction (although workemen) could neuer make any famous or commendable pieces of worke: no more can others, being no workemen, such as haue followed the letter or writing onely, and made no proofe: of which, some haue presumed to father their doings vpon* Vitruuius: *yet in diuers places of their writings, which are found, they could not close vp their rules orderly, but haue left many things doubtfull, and (more) haue esteemed that to be good and commendable, which in worke is not to bee endured. The cause of this errour, is, that the last Booke of the sayd* Vitruuius, *wherein the Figures are, was lost: whereby men might haue knowne and found out his meanings: so that hereby it appeareth, that some Antiquities haue beene very bare in their workes, and especially, in their Orders of Dorica, because* Vitruuius *nameth no Dorica Bases: but in stead thereof, speaketh of an Attica. Now it may be, regarding that he there speaketh not of any Order of Attica, therefore they durst not make any Dorica Bases or Columnes: on the contrary, others possibly contemning the darknesse of the writer, (or for want of knowledge) haue so far exceeded their Author in many things, that they haue not onely forsaken and left the examples and reasons of good Antiquities, but also (more then that) haue made their workes vnseemely, and ridiculous to mens eyes, as may be seene in diuers ancient works, whereby, gentle Reader, many workmen, well seene in both, haue beene cumbred therein, and especially in this our time.* Bramant *of* Castle Durant, Balthazar *of* Scienne, *and many others, for that (not onely by meanes of* Iulius *the 2. Pope, but) also by others, good Architecture was bettered in their times: who, after long disputation and searching of many, aswell Authors and Commentaries, together with the examples of good Antiquities haue with authority (to make an end of all doubts) not only added this Spira Attica, of the Dorica, but also as many orders as now are vsed, beginning at the Thuscan, as the grossest and slenderest of all the rest, and haue reduced the same into a certaine and common forme, together with their ornaments and measures: which rules* Sebastian Serlius, *a workeman and scholer of the sayd* Balthazar, *hath written, and set out in figures; so that, leaning the obscurities of* Vitruuius, *we may make an incorrigible worke. And for that all those that loue workemanship, vnderstand not the Italians, therefore (in my opinion) I haue translated the most certayne and best rules out of Italian into Dutch, and out of Dutch into English; onely the names of all Procels, Bases, Capitals, Cornices, &c. which are not named in Dutch nor English, for that* Bastian, *by* Vitruuius *termes, vseth the common and moderne Italian words, which by some should be as hardly vnderstood as the Latine. But I would commend him, that seeing we take vpon vs to follow* Vitruuius *writings, that we giue him the name of* Vitruuius, *that the learned might bee vnderstood of the workeman, and the workeman also vnderstood of the learned. And for that the workeman might the better read it, I haue printed it in our ordinary Dutch letter. And although this fourth Booke of seuen was first set out, because it is the best, yet the other also are no lesse fit and conuenient to further Architecture or Art of Building, as in the ensuing Epistle you shall see.*



Sebastian Serlius to the Reader.

LOuing and friendly Reader, after I had collected certaine rules of Architecture, thinking that not only those of deepe conceyt would vnderstand them, but that also each indifferent man of wit might conceaue them, as he is more or lesse addicted to such an Art; which rules are deuided into seuen Books, as hereunder shall be set downe: but for that this Art requireth it, therefore I thought it requisite to begin with this fourth Booke, and to set it out, first, which is more to the purpose, and more necessary then the rest, for the knowledge of many sorts of Building and ornaments thereof, to the end that euery one may haue some knowledge of this Art, the which is no lesse pleasing to the mind of those workmen that thinke vpon things that are to make, then also to mens eyes when they are made. Which Art, by the wisedome of the famous and excellent spirits that are now in the world, doth flourish in these dayes, as the Latine tongue did in the time of *Iulius Cæsar*, and *Cicero*. Then with glad and ioyfull heart receyue at least my good will, (though the effect ensueth not) which, in trueth, I haue (to pleasure and satisfie your minds) in this respect.

In the first Booke, I will entreat of the beginning of Geometry, and of diuers cuttings through of lines, in such sort, that the workman may yeeld reason for that he worketh.

In the second Booke, I will shew in Figure, and by reason, as much of Perspectiue Art, that if the workeman will, he may declare his conceyt or purpose, by reasons and figure.

In the third Booke, workmen shall see the Ichnographie, that is, the ground: the Orthographie, that is, the raysing vp of a Building before. The Scenographie or Sciographie, that is, the insight, by shortening of the most part of the Buildings that are in Rome, Italie, &c. diligently measured, and set by them in writing, with the places where they are, and their names.

In the fourth, which is this, I will speake of fiue maner of Buildings, and of their ornaments, as Thuscana, Dorica, Ionica, Corinthia and Composita, that is to say, mingled. And by these, the whole Arte is learned.

In the fift, I will speake of diuers kinds of Temples, set downe in diuers formes, that is, round, foure-square, six-cornerd, eyght-cornerd, Ouall-wise, and crosse-wise, with their ground, heights and shortenings, diligently measured.

In the sixt, I will speake of all dwellings, which, at this day, may bee vsed, beginning at the meanest house or cottage, and so from degree to degree, proceeding to the most rich, fayre and princely Palaces, as well in Countrie villages, as in great Cities or Townes.

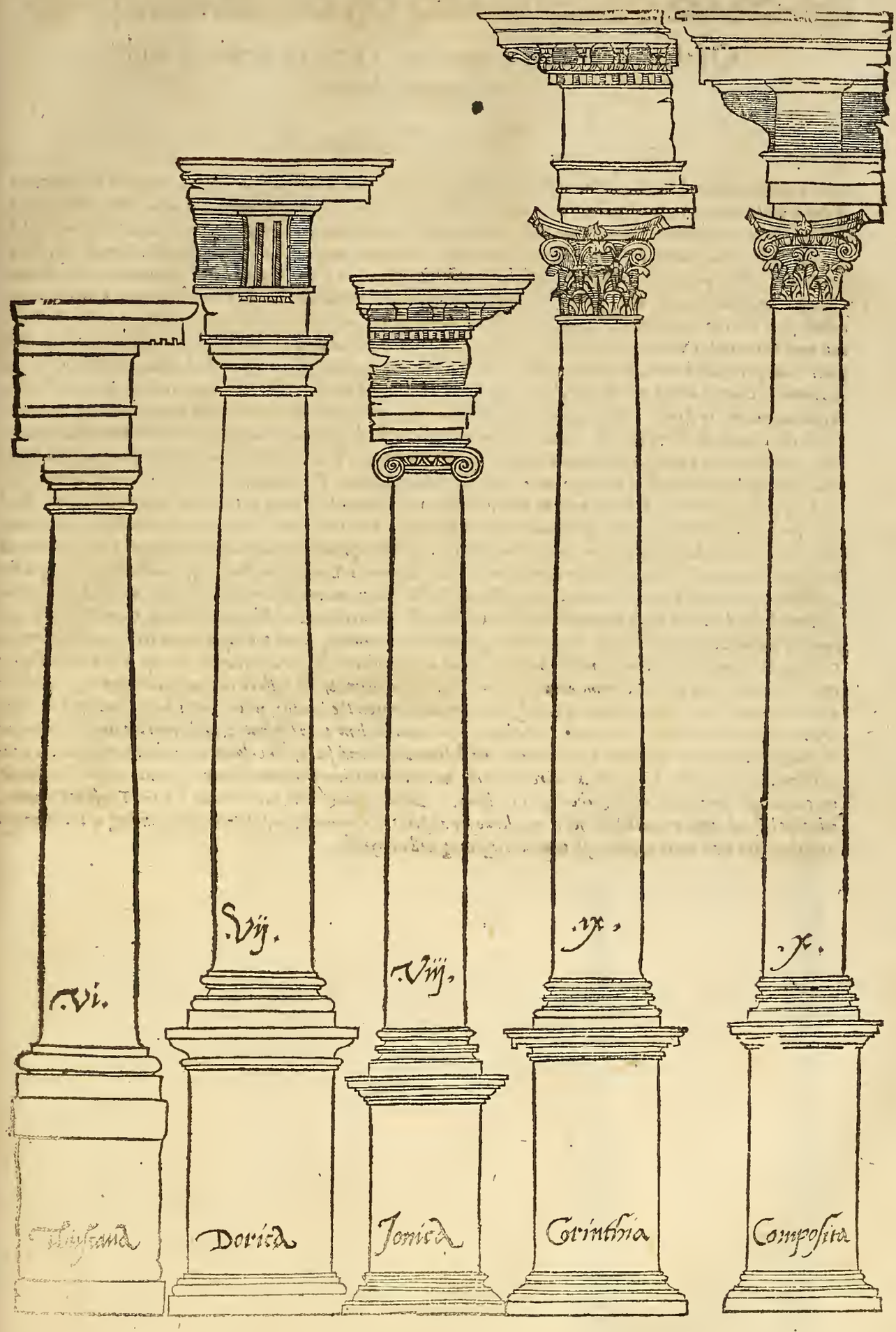
In the seuenth and last, shall be set downe many accidents, which may happen to workemen in diuers places, strange maner of situation, repayring of decayed houses, and how we should helpe our selues with pieces of other buildings, with such things as are to be vsed, and at other times haue stood in worke.

Now then, to proceed readily herein, I will begin with the greatest and rusticke order of Building, that is, the Thuscan, being the playnest, rudest, and strongest, and of least grace and seemelinesse.

The Author to the Reader.

THe ancient workemen in times past (as Vitruuius affirmeth) dedicated their workes and Buildings to the gods, according to their natures, strength or weaknesse; so is the forme called Dorica ascribed to the gods, Iupiter, Mars, and vallant Hercules, taking such formes from strong men. The forme called Ionica, is ascribed to the goddesse Diana, Apollo and Bacchus, as of the nature of Matrons, that is, of wise & sensible women, which are both tender and strong: for Diana, by her feminine nature is tender, but by vsing to hunt, shee is strong: Apollo, by reason of his beauty, is tender; but being a man, he is strong: the like of Bacchus. But the Corinthia is taken of mayds, and they ascribe all to the goddesse Vesta, and her chaste mayds: yet at this time I thinke it good to proceed in another sort, nothing differing from the ancients aforesayd. My meaning is, to follow the maner and customes of the Christians, that I (as far as I may) will ascribe holy Buildings to God and to his Saints: and prophane buildings, as well publicke as priuate, I will ascribe to men according to their professions. So say I then, that the Thuscan maner (after my opinion) is fit for strengths, for Gates of Cities, Townes and Castles, places for treasure, munition and Artillery to keepe them in; for prisons, hauens of the Sea, and such like things, seruing for the warres. It is true, that rusticke and playne worke, that is, such Buildings as are made of rough stones, and others that are made somewhat smother, according to the pleasure which the Stone-cutters take therein, are sometimes mixed with Dorica; and sometimes with Dorica and Corinthia. Neuertheles, for that the Thuscan order is the roughest set forth, farre more then the other are, I am of opinion, that the Country Bulding is more like vnto the Thuscan, then any of the rest: which you may playnely see to haue beene obserued by the Thuscans, as wel in their chiefe Cities and Townes of Florence, as without in their Country Villages, in so many rich and fayre Buildings, made after the rusticall maner, as may be seene in all Christendome, mixed with such a slight manner of worke, as the workeman thought good. Therefore I conclude, that such Buildings are more agreeable to Thuscan order, then any other. Therefore, altering somewhat from Antiquities, and some others of ours, I will in diuers sorts shewe of such workes, viz. how to make Gates of Cities, Townes, or Forts; as also, in publike and priuate places, Houses, Gallories, Windowes, Niches or seates, hollowed in worke, Bridges, Water-courses, and such like seuerall Ornaments, as may happen into a workemans hands to doe. Men may also (not differing from the ancient rules) mixe this rusticall maner with the Dorica, and also with Ionica; and sometimes with Corinthia, at the pleasure of those that take to please their owne fantasies, which a man may affirme to bee more for pleasure then profit: therefore the workeman ought to proceede with good aduice, especially in publike buildings, wherein comelinesse is commendable.

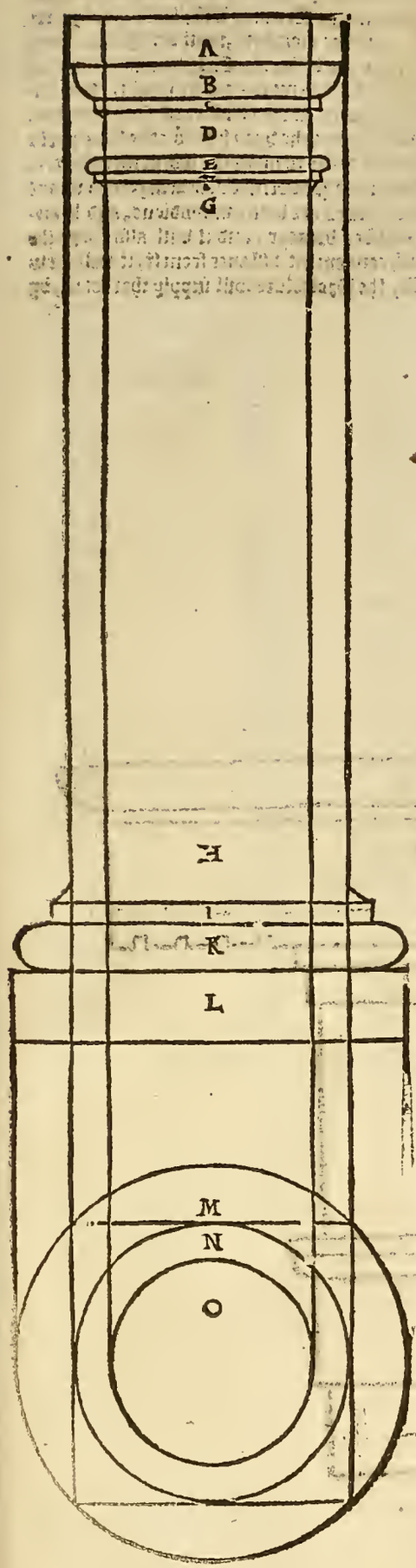
In the beginning of this Booke, I obserued the Comedians order, who (when they intend to play any Comedy) first send out a Prologue, who in few wordes giueth the audience to vnderstand what they intend to entreat of, in their Comedie. So I, meaning in this Booke to entreat of fiue maner of Buildings, viz. Thuscan, Dorica, Ionica, Corinthia and Composita, haue thought good, that in the beginning thereof, men should see the Figures of all the seuerall kinds whereof I purpose to entreat of. And although that in the Columnes and their ornaments, all the measures and proportions are not set downe, but onely the principall, by generall rules; yet will I not fayle, as occasion shall serue, to set them downe in particularities: but this is done, as I sayde, to shew in generall rules for an Introduction onely, the better to be vnderstood of euery workeman, and in the beginning will obserue Vitruuius order and termes, marked on the sides with A. B. C. that euery workeman may name them according to his country speech. And first, the Stilobato, or Thuscan Pedestall, I meane the flat, without Crowne or Base, shall bee a perfect foure square. The perfect Dorica shall be as much more as the drawing of a line from corner to corner, of the perfect foure square, placing it vpright. The Pedestall Ionica, shall be of one foure square and an halfe: the Pedestall Corinthia, shall be a foure square and two third parts thereof. The Pedestall Composita shall bee of two perfect foure squares. Also, wonder not, that the Chapter next ensuing is the fift, which others would esteeme the first; for that the first Booke doeth contayne a Chapter of Geometry: the second of Perspectiue, shall be of two Chapters: the third of Antiquities, shal be of one Chapter, which maketh foure Chapters: so that, this considered, the next shall be the fift.


.vi.
Vlyssana
.vij.
Dorica
.viij.
Jonica
.ix.
Corinthia
.x.
Composita

Of the order and maner of Thuſcan workes, and the Ornaments thereof.

The fift Chapter.

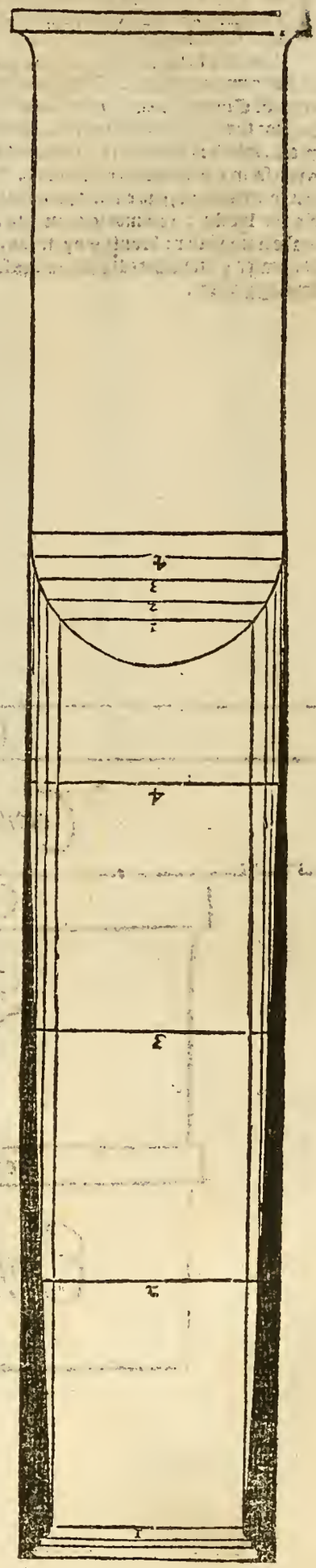
IN Vitruuius *fourth Booke and ſeuenth Chapter, we find, that a man ſhould make a Thuſcan Columne of ſeuen parts high, with Capitall and Baſe, which meaſure ſhould be taken from the thickneſſe of the Columne below. The height of the Baſes or Baſement, ſhould be the halfe of the thickneſſe of the Columne, which ſhall bee deuided into two equall parts, whereof one ſhall be the Plinthus, the other deuided in three, two parts thereof ſhall bee the Thorus, the third the Cincta. The Proiecture you ſhall make in this maner: First, make a Circle as great as the Columne is thicke below, placing it in a foureſquare: without the foureſquare draw another Circle, cloſe about the corners of the foureſquare, which ſhall bee the Proiecture. And although all other Baſes haue their Plinthus foureſquare, yet this of Thuſcan muſt be round, as* Vitruuius *teacheth. The height of the Capitall muſt bee like the Baſe: that deuide into three parts: one part ſhall be the Abacus: the other ſhall be deuided in foure parts, three for the Echino, the fourth for the Annulo or Cintho, which may be called, a Girdle, Band, or Liſt in Engliſh. The third part reſting, ſhall bee for the Hypotrachelium, or Freeſe. The Aſtragall with the Cincta, is halfe the Freeſe; but that deuided in three, two ſhall be for the Round, the third his Liſt, the bearing out muſt bee as the height: and although this Liſt is here named with the Capitall, yet it is a part of the Columne, which Columne ought to be made thinner aboue a fourth part; alſo the Capitall in the vppermoſt part ſhall not be greater then the Columne below. The maner to leſſen the Columne is thus: Let the body of the Columne be deuided in three parts: the third part below ſhall hang at the leade, and the other two third parts you ſhall deuide into as many equall parts as you will: then at the third part of the Columne draw halfe a Circle, and from the lines that hang there, from the outtermoſt corners of the Capitall inwards, meaſure the eyght part, which in all ſhall be a fourth part: from vnder the corner (where the Columne is thinneſt) you ſhall draw two lines by a leade, to the halfe circle, and thoſe parts of the circle outwards, you ſhall ſet below, in as many euen parts as the two third parts of the Columne holdeth: which being done on both ſides, then there ſhall be as many Paralels or croſſe lines, drawen from the one poynt of the halfe circle to the other, each line being marked with number, from the top downewards, and the like vpon the lynes that deuide the Columnes; which numbers being orderly placed, then it is certayne, that the firſt line ſhall agree with the thinneſt part of the Columne aboue: after, take the ſecond line of the halfe circle, and ſet it vpon the ſecond line of the Columne, then the third vpon the third, and the fourth vpon the fourth: when that is done, there muſt be a lyne drawne from the Baſe of the halfe circle, to the lyne 4. and from the lyne 4. to the lyne 3. and from the line 3. to the lyne 2. and from the line 2. to the lyne 1. alſo a lyne: and ſo from the ſecond ſide of the Columne: and although that the lynes in themſelues are right, yet they make a crooked lyne, which the iudicious workeman knoweth how to regeire and moderate at his will on all ſides in the gathering of the lynes. And although this rule is made for the Thuſcan Columne, which is leſſned aboue a fourth part, yet it may ſerue for all ſorts of Columnes; and the more the deuiding of the Columnes and the halfe Circle are in number, ſo much the leſſening will dimyniſh.*



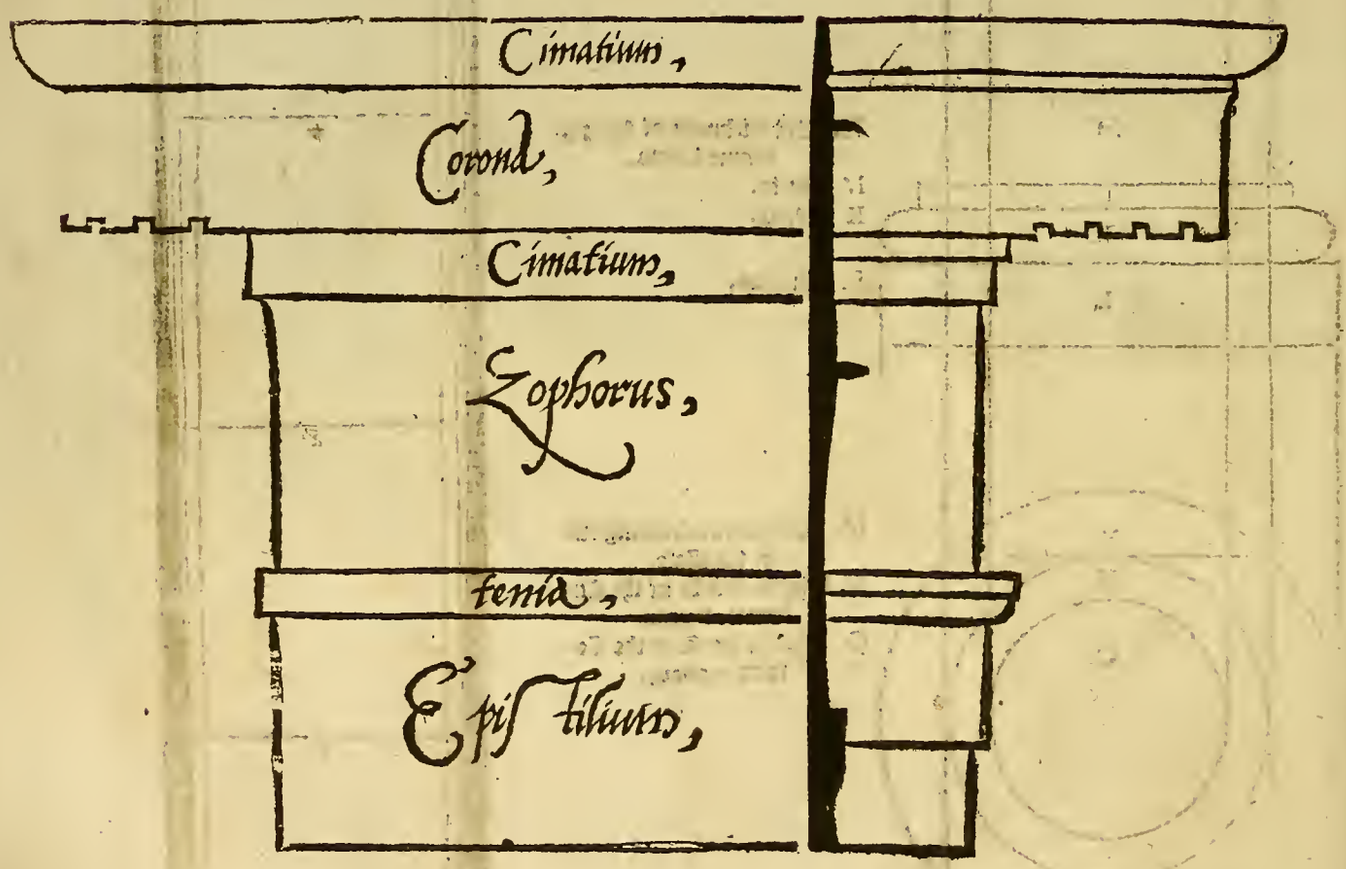
A. Abacus or tailloer.
B. Echinus.
C. Annulus or Cincta.
D. Hipotrachelium or Frée.
E. Astragalus.
F. Annulus or Cincta.
G. The thickenesse of the Columnes aboue.

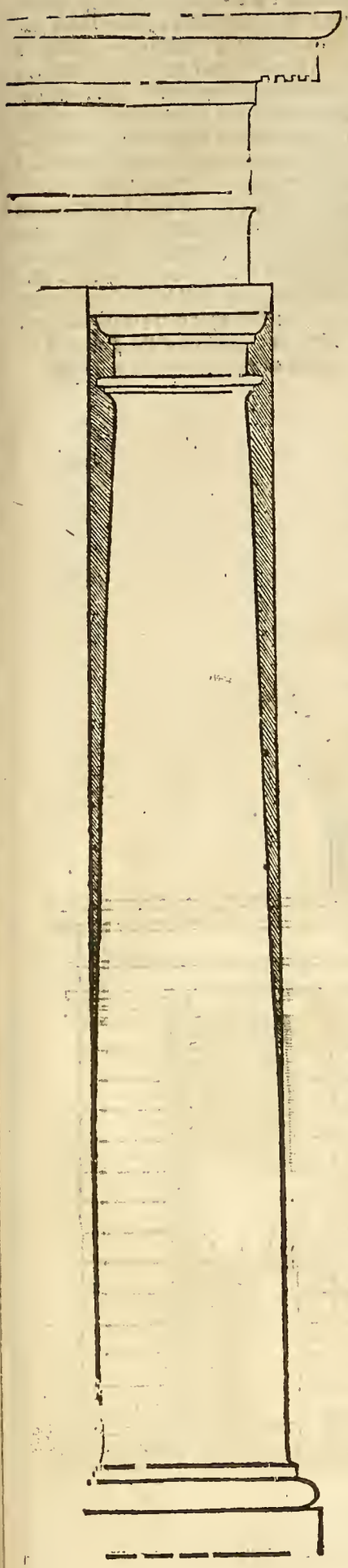
H. The thicknesse of the Columne below.
I. Cincta.
K. Torus.
L. Plinthus.

M. Projecture or bearing out of the Base.
N. The thicknesse of the Columnes below.
O. The thicknesse of the Columnes aboue.

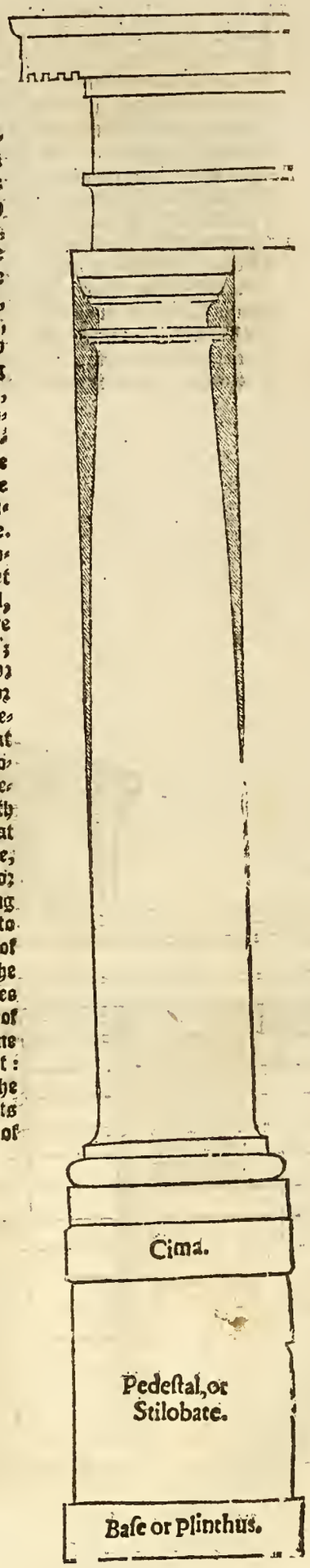


The Columne being finiſhed with the Capitall and Baſe, then the Architraue, Fréſe and Cornice are to bee ſet thereon. That Epiſtolium or Architraue muſt bee as high as the Capitals, and the Tenia or Liſt, the firſt part thereof. That Sophorus or Fréſe of the ſame height. The Cornice alſo, with her members, muſt bee the like: and the ſame being deuided in foure parts, one part ſhall be for the Cimatie, two parts for the Corona, and the laſt for the Facie vnder the ſame. The Proiecture or bearing out of them all, muſt be at leaſt ſo much as their height. And vnder in the Corona you may cut channels or hollowings, great or ſmall, as the worke is, at the pleaſure of the workman. But, for that this worke is groſſe, and plaine of members, a man (in my opinion) may take vpon him to adde ſome parts vnto it, which may ſéeme to belong vnto the ſame; which muſt be done when men deſire to make the worke ſhew better, as you ſée in this hereunder ſet downe. I commend alſo thoſe crownes that haue moſt Proiecture or bearing out, without their foureſquares; eſpecially, when the ſtones are fit to beare it: Which Proiectures are both commodious, and beautifie the worke: commodious in this, that the walking place vpon them will bee broader, and it will alſo kéepe the worke from water: beautifying in this, that when men behold the worke with conuenient diſtance from it, it will ſhew the greater; and where the ſtones bee ſcanted, by reaſon of their ſmalneſſe, the Proiecture will ſupply that want, by ſhewing greater.



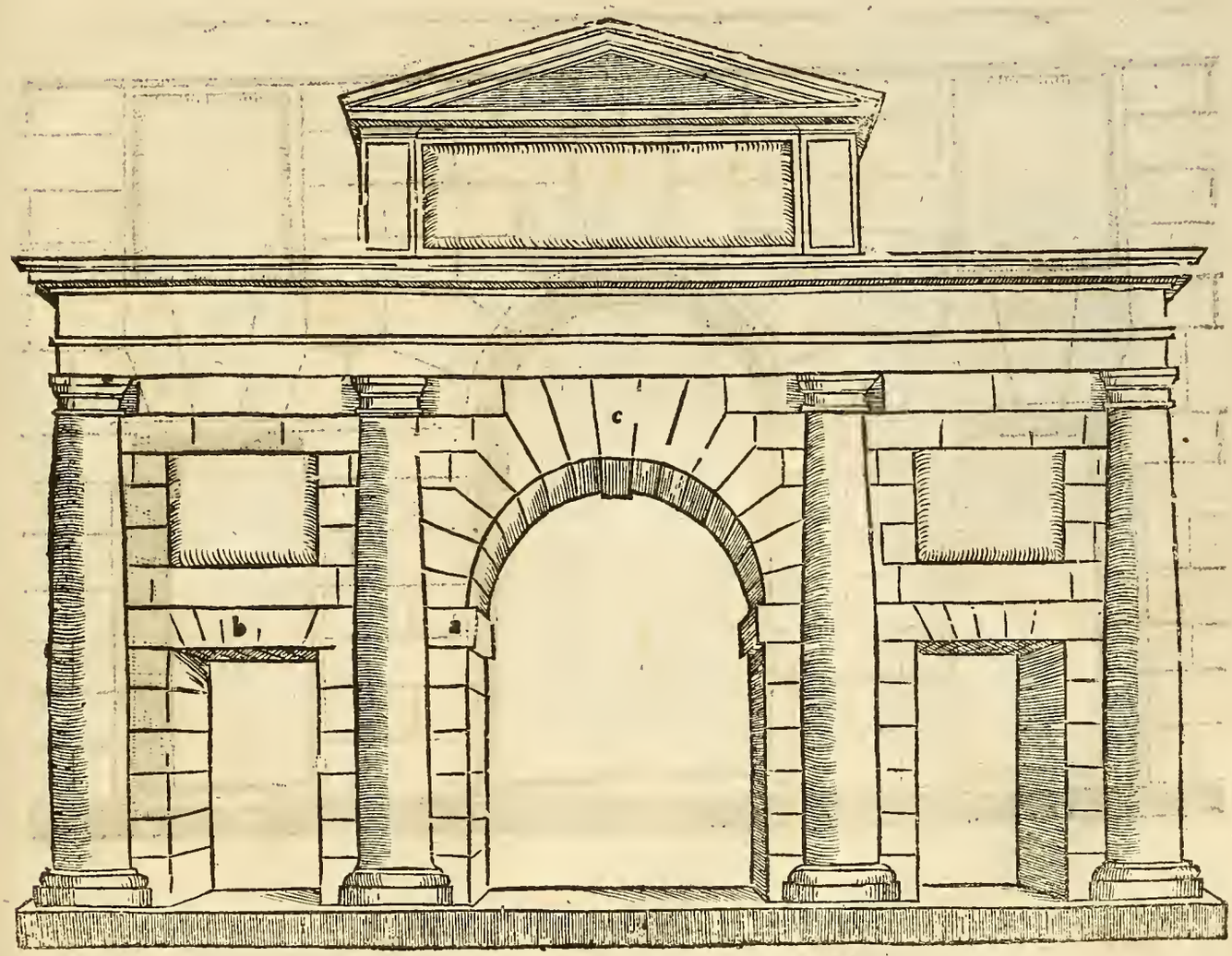


ALthough I said before, that the Thuscan Columne (according to Vitruuius rule) ought to be of seuen Diameters high, with Bases and Capitals, which proportion is approued good; neuertheleſſe, for that the firſt Columnes (as you haue heard in my ſmall Booke) were made in fiue parts, taking the meaſure from mens feet, which is the firſt part of the ſame: And alſo, for that ẏ Columnes called Dorica, are now of ſeuen parts, the ancient workmen hauing another part vnto them, to heighten them, therefore, in my opinion, by the ſame authoritie, for that the Thuſcan Columne is ſtronger then the other, I iudge, it might be made lower then the Dorica; and, by my aduice, be made but of fiue parts, with Bases and Capitals, this you may hold for a comuen rule. And, for that neither Vitruuius, nor any other workeman that I haue ſeene, haue ſet downe no rule for the Stilobato or Pedeſtal, and in Antiquities, as far as I can ſee, were by workemen made, as neceſſitie required; whether it were for rayſing of Columnes, or to a going vp with ſtayres, to Galleries, or by any other occaſions: Therefore, not being cōpelled thereunto, I am of opinion, that euery workeman ſhould to each kind of Columne ſet a conuenient and ſeemely Pedeſtall, as reaſon requireth, and as hee ſeeth cauſe. It is certaine and well knowne, that the Pedeſtall at leaſt muſt bee foureſquare, that is, the body thereof, without Base or Cime, therefore the Thuſcan Columne being the beſt of all, the Pedeſtall thereof ought to be a perfect foureſquare: the forepart thereof ought to be as broad as the Plinthus of the Base of the Columne: the height ſhould bee deuided into foure parts, one part whereof ſhall be ſet vnder, for the Plinthus, and one for the Cime, which members ſhall be vncut: ſo then, if the Columne bee of fiue parts, the Stilobato or Pedeſtall ſhall bee of fiue parts alſo in it ſelfe, according to the proportion of the Columne.



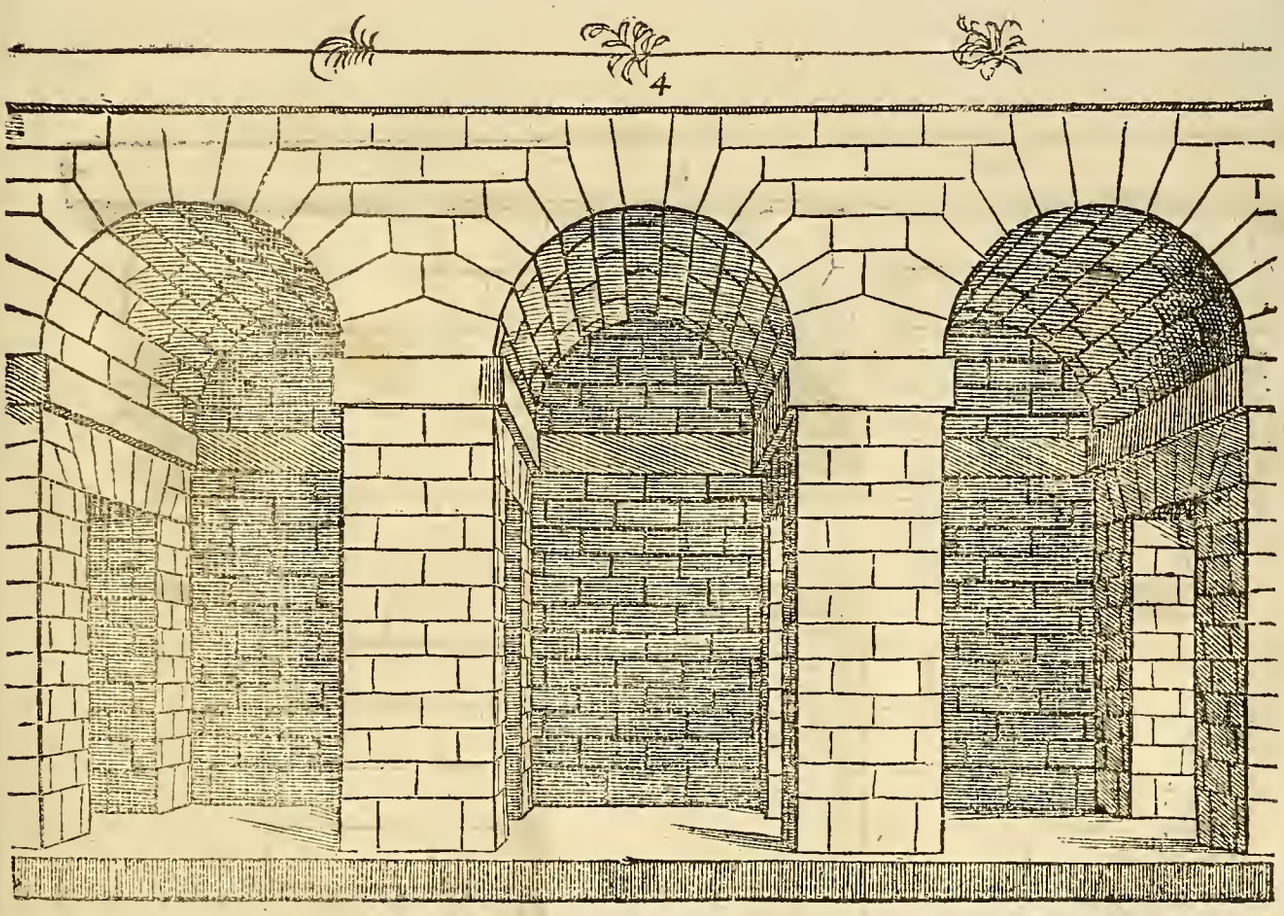
I Haue promiſed in this Booke, onely to intreat of the ornaments and different maner of Buildings: therefore I will not, at this time, ſhew how men ſhould place the Gates of Townes and Forts, with their ſides, places to lay out Cannons, with other circumſtances of defence, leaning ſuch care to the workemen belonging to warres, according to the ſituation and accidents of time and place. But I will ſhew you, that when the Gates of the Citie, Towne or Fortreſſe are placed, how men, in my opinion, ſhould ſet them forth, ſetting down ſome Figures thereof. You muſt vnderſtand, that each Gate or Port is to bee after the Italian maner, and ought, of neceſſity, to haue a Poſterne Gate, which are called Porten van Secourſe, which are the ſmall Ports on the ſides. But to obſerue the Semetry, that is, a due meaſure, they ought to be made in this manner. The meaſure of the Gate is thus, as much as the breadth of the light ſhall be, the halfe whereof ſhall ſerue for the height. The breadth of the light is deuided into fiue parts, whereof one part ſhall be for the breadth of the Pilaſters on eyther ſide of the Gate: the flat of the Pillars thereof ſhall be as broad as the third part of the light, and the height, with Capitals and Bases. The height of the Bases ſhall be a third part of the breadth of the Pillars, and ſo much alſo the Capitals, obſeruing the rule ſet downe in the firſt Columne. That Epiſtolum, Zophorus, and Corona ſhall be altogether of ſuch height, as the breadth of the Pillars, by the rule aforeſayd. Betwane the one Pillar and the other, the Poſternes or ſmall Gates ſhall bee, and the widenesſe ſhall bee as broad as the flat Pillars. The height ſhall be twice as much as the breadth: the Pilaſters ſhall be the third part of the ſayd Poſterne. The eleuation or rayſing vp aboue the gate, ſhall bee at the workemans will. But the proportion of the Faſtigies or Frontiſpicie (which is called with vs, the ſpanning, couer, or roofe) I will ſhew in two ſorts in the order of Dorica.

And for that the workeman ought to be copious of inuentions, to please himselfe and others, the Gate of the City, Towne, or Fortresse, may be set out in this maner, obseruing this rule: that so broad as the going through of the Gate is, the height shall be as much, and halfe as much agayne, that is, 2. parts in breadth, and 3. parts in height. The Pilasters shall be the 8. part of the widenesse of the Gate: and the Columnes stand for the round Columnes and flat Pillars, being the fourth part of the Gate. But for that the Columne is a third part set into the wall, and is bound fast with other stones, more for shew then bearing, it is to be made 7. parts high, and also of 8. at the workemans will, which will set forth the Gate with more shew. The widenesse of the Posterne shalbe the halfe of the middle Gate, the Pilasters also (as the greater) that is the halfe. The height thereof shalbe such as the Facie that beareth the Arch, and it shalbe the Supercilie, or Architraue thereof, as we call it: and if you find not a stone all of one peece fit for it, then you shall make the Cunei or Pennants as you see them heere in the Figure. And thus the proportion of the Posterne shall bee, that is, 3. parts in breadth, and 5. of the like parts in height. The Cunei or Pennants of the Arch, shall be 15. In the Bases, Capitals, Architraue, Freese, and Cornice, you must obserue the rule aforesayd; and the elevation in the middle shall be at the workemans will, as I sayd of the other: and all such workes, the greater they be made, and bost out, the stronger they are for fortification.



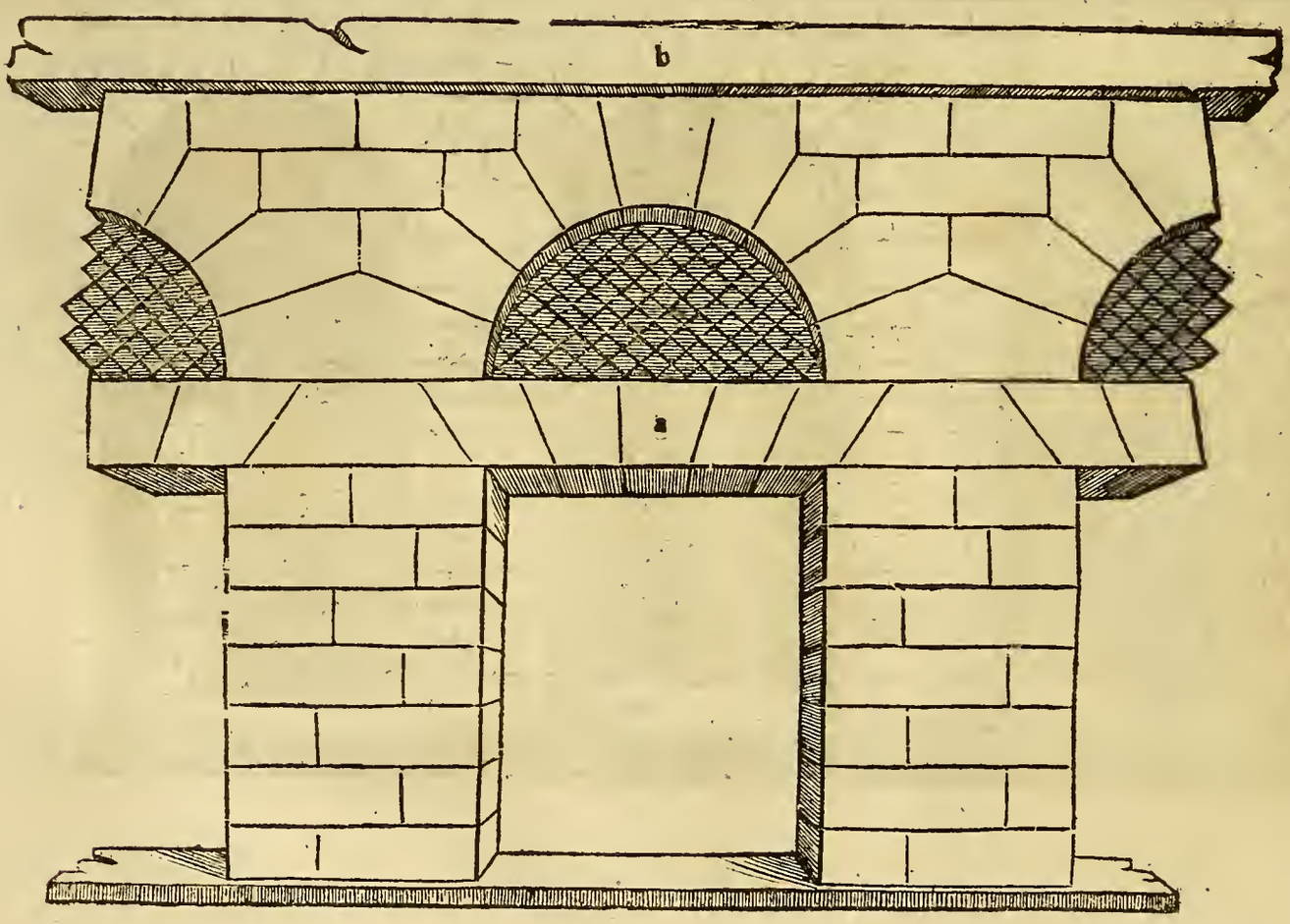
A Man may make Gates of Townes and Forts in another maner, both playner and ſtronger, following the order hereunder ſet downe: and the proportion of the widenelle of the Gate ſhall be as much as the height is vnder the Facie, which beareth vp the roofe: and from the Facie vpwards, as much higher as the halfe Circle; yet alwayes at the workemans will to be increaſed or diminiſhed, and eſpecially, as he is by accident reſtrayned. The two Poſternes are to be made, as I haue before ſhewed: Their widenelle muſt be the halfe of the middle Gate, and ſo much of the wall ſhall be left betwéene the great Gate and the two ſmall: which height ſhall be doubled with the breadth, and the Facie, which vpholdeth the Arch, ſhall alſo hold vp the Cunei of the ſmall Gates. Yet muſt wee take ſuch order, that the Facie ſhoting through, ſhould bee the Supercilie, which, as I ſayd, may bee altered at the will of the workeman, without altering them from the Figure.

DIuers kinds of ornaments, many times, put the workeman in mind of things which he peradiuenture would not haue thought of: Therefore the Figure ensuing will serue the workeman to good end in building, as occasion shall serue: as in the wall of a fortresse, where the wall being of a good thicknesse, this worke within it would first serue for a place to stand dry in, making the walking place aboue broader; and easily for defence in time of warre: and for more securitie, it might within be filled vp with earth. It might also be the workemans chance, to build about an Hill: and to frée himselfe thereof from the waters, that alwayes with the raine fall from it, & make the earth to sinke, it is therefore necessary for the workeman to set the like buildings against such an Hill, whereby he shall be assured from such suspicion, and it will also be a great strengthening to the worke. The like inuention Raphael Durbin vsed at Monte Mario, a little aboue Rome, in the Vineyard of Clement the seuenth, by him begun in the time of the Cardinall Ieronimi Genga: and without Pisera, for the defence of water against a Hill, was made the like.

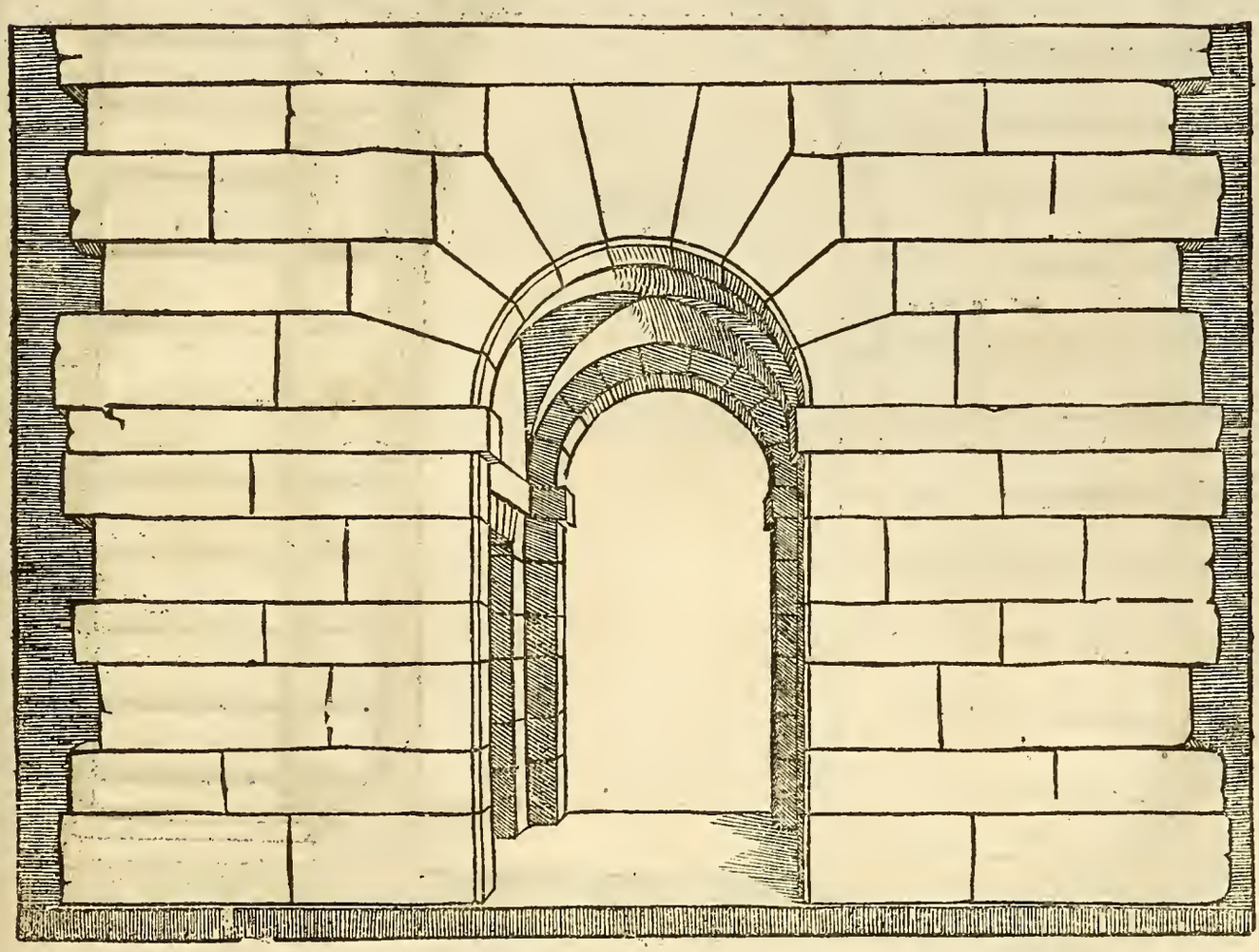


Of the Thuſcana

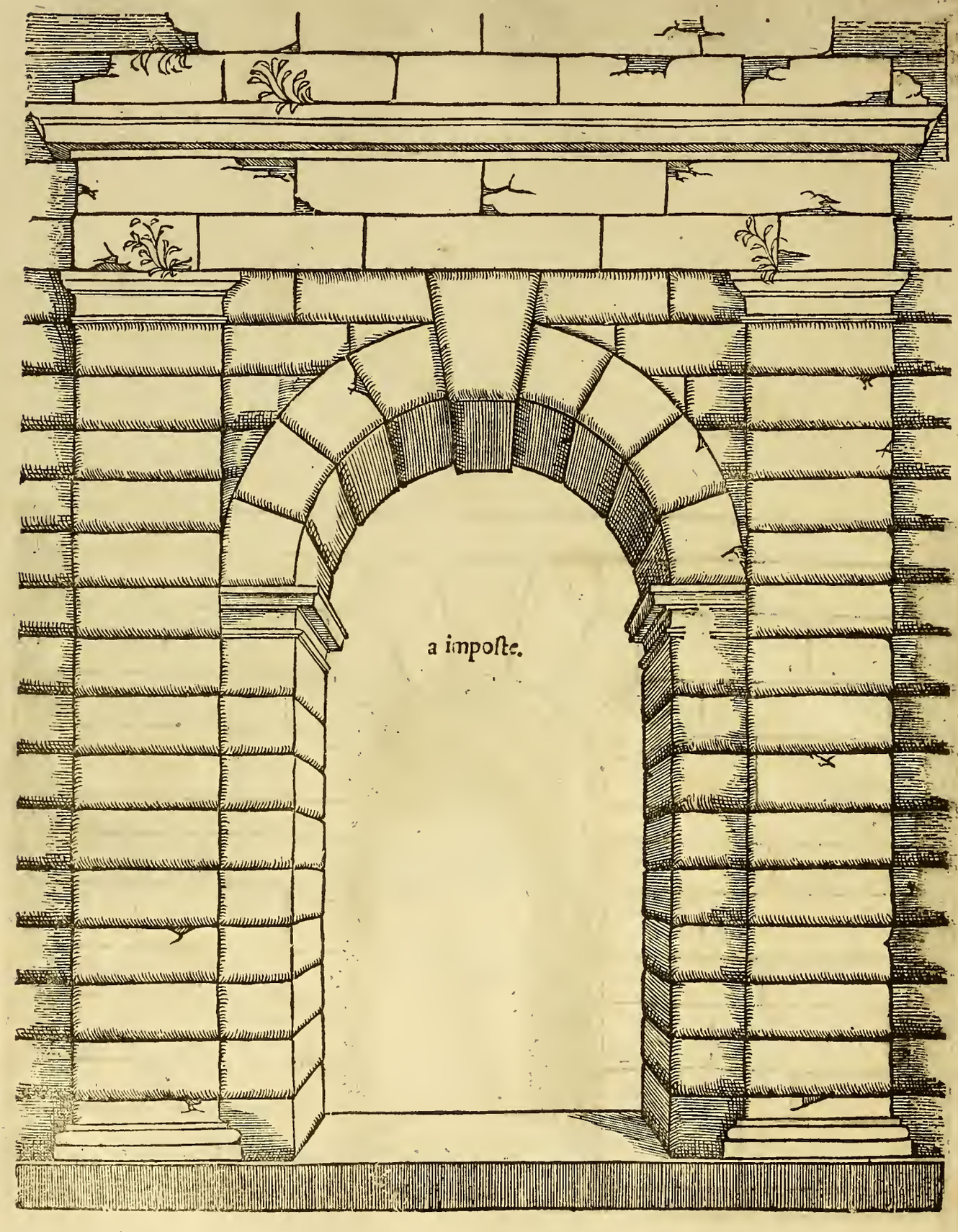
Ancient workemen, in this kind of rusticall worke, haue vsed many and seuerall kinds of Buildings, as you may sée hereunder, wherewith a workeman may helpe himselfe in many things, as necessitie requireth: the measure shall be, that the light shall be a perfect foursquare, and the wall betwéene both, shall be a fourth part lesse. That Supercilie or Architraue, shall haue the fourth part of the light, and shall be made of Pennants which run vpon the Center in vnequall numbers: and aboue the Supercilie shall be layd an halfe Circle, deuided in nine equall parts, the lines being also drawne vpon the Center. The Cunei or Arch-stone being formed, and the thrée pieces layd betwéene it, with the Facie aboue it, will in this sort be an euerlasting worke. But for that the Cunei of the Architraue must lye fast, it shall be needfull to fill the halfe Circle with Brickes. And for the more beautifying, you may vse Rotes, as the ancients vsed to doe, as you may, at this day, sée in Rome at S. Cosmians and Damian; which, although the stones be old, yet it is very strong.



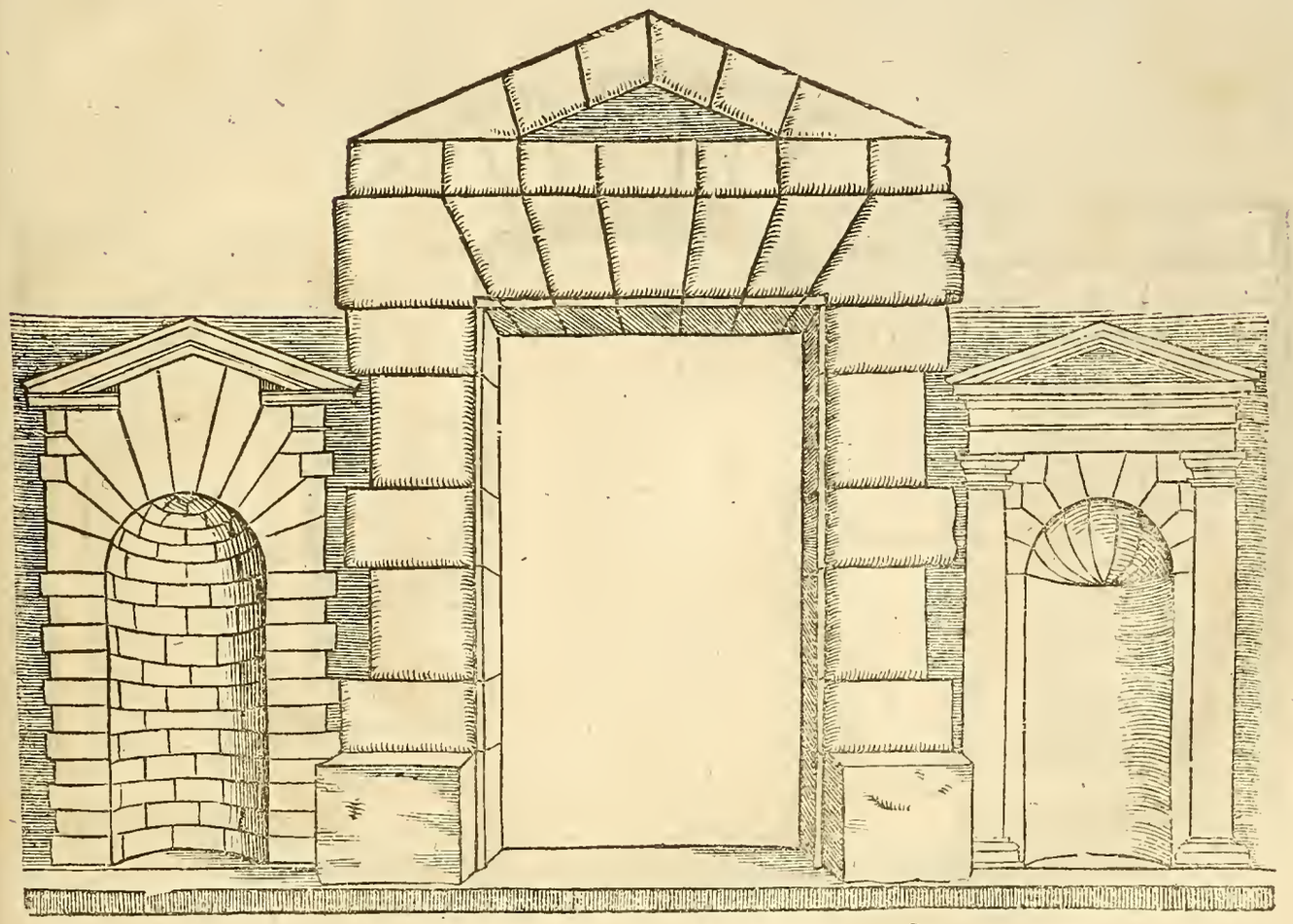
As in the beginning I said, the workeman may vse this Gate in diuers places, but not for Fortresses, for the passage through serues not for Artillerie, or other great preparation for wars; nuertheless, this part may well serue for the outtermost Port or Gate: The proportion shall be, that the light or opening shall be twice so high as the breadth. The Arch-stones of the halfe Circle shall be nine; drawing vpon the Center of the Circles. The Facie vnder the Arch shall be the seuenth part of the Gates; from the Facie downewards to the Pauement, shall bee deuided into seuen parts and an halfe, and shal be fire stones broad: three whereof, shal be each a part and an halfe, the other three of one part; and thus the seuen parts and an halfe are deuided. The height of the middlemost Arch-stone, or the closing stone, which you will, shall be halfe as broad as the Gate. The Facie aboue the Arch-stone, must bee as broad as a foot, that is, the thinnest part of the sayd Stone: but the middlemost Arch-stone, and also the foote vnder, shall be a fourth part broad.



The proportion of this Gate, viz. the opening is twiſe as high as broad: the Pilaſter and the Arch are a fift part of the bredth of the light: the great Pillar ſhall be once ſo broad againe, and the height of fire bredths. The height of the Baſe ſhall be a fourth part, and the Capitall a third part, and ſo great the Capitall or impoſt onder the Arch ſhall bee. The Facie in the place of the Architraus ſhall be as high as the Capitals: the Fræſe alſo as much, and alſo the Cornice, following the rule aforeſayd: the reſt may bee found with the Compaſſe.

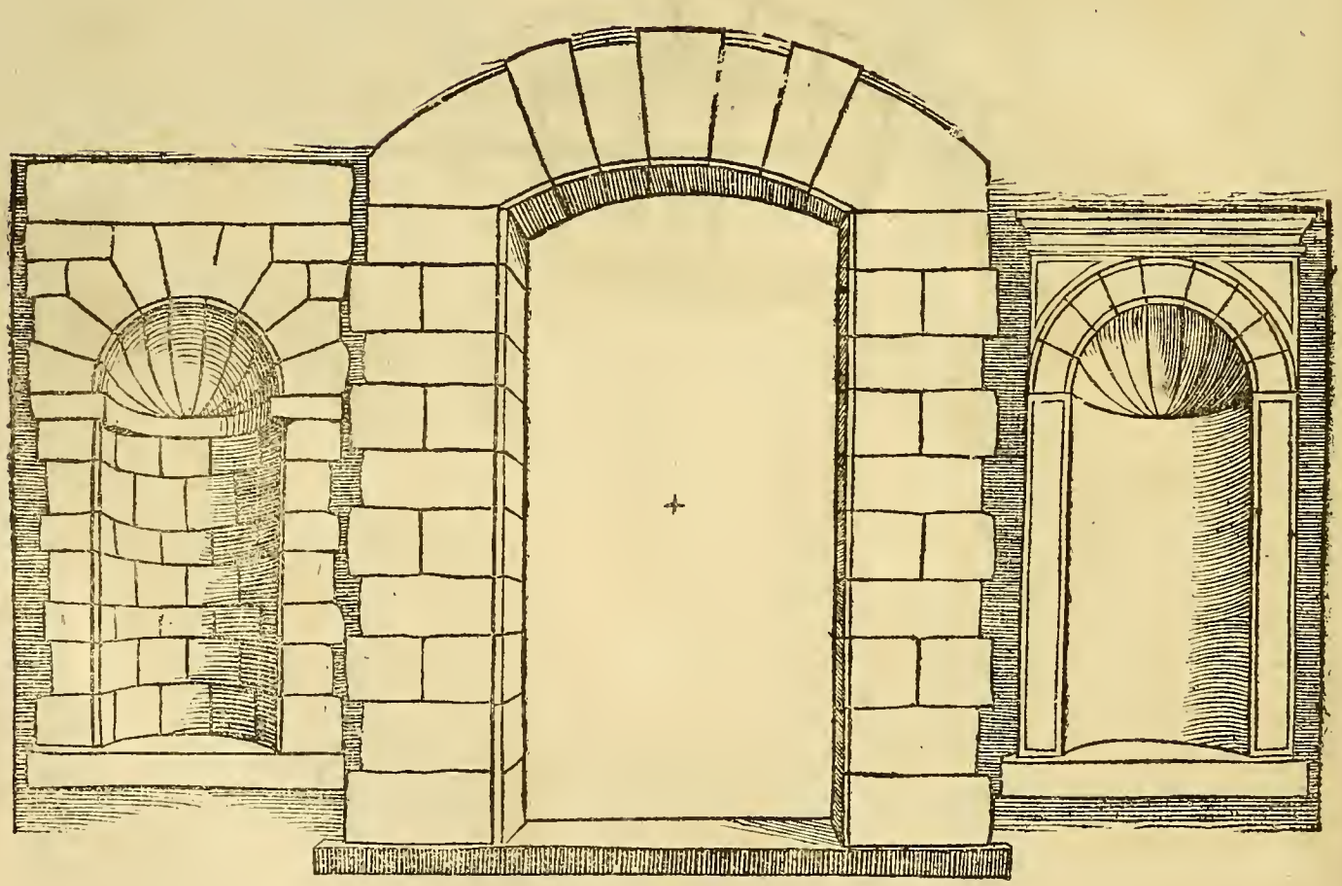


ALthough the Gate hereunder set downe is much different from the fashion of the rest, yet, for that it is Thuscan worke, and ancient, I thought good to set it here, the which, in former time, was in Rome, En Capo de la milicia Traiana, although by the decayes thereof, now not to bee seene: the two Niches or seates that stand by it on the sides, are out of their places, with which the ingenious workeman may serue his turne withall, if he place them where they should stand. The proportion of them (by the rule aforelayd, may easily be found: touching the gate it selfe, I will set downe no measure, for it is very easie to be found.

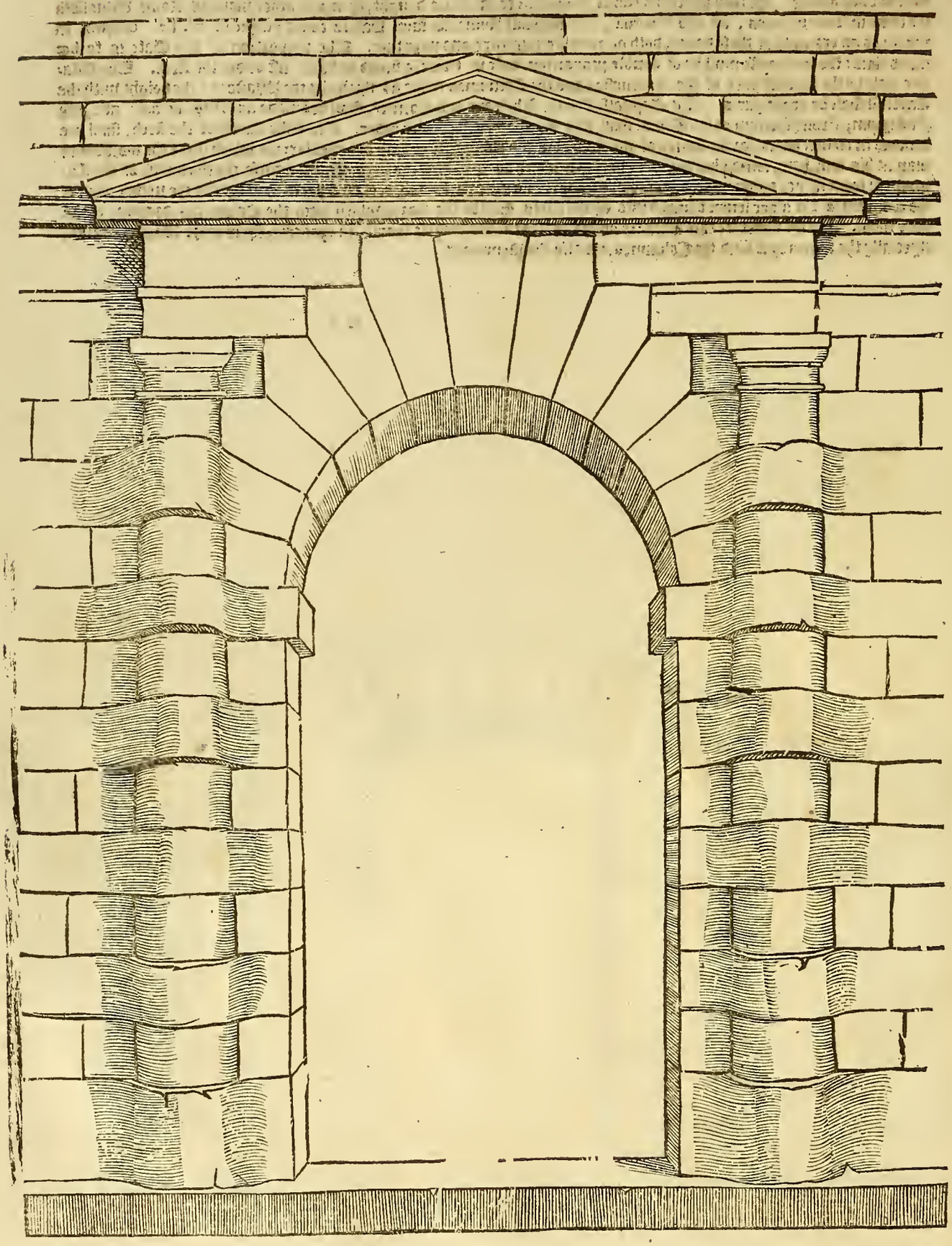


Of the Thuſcana

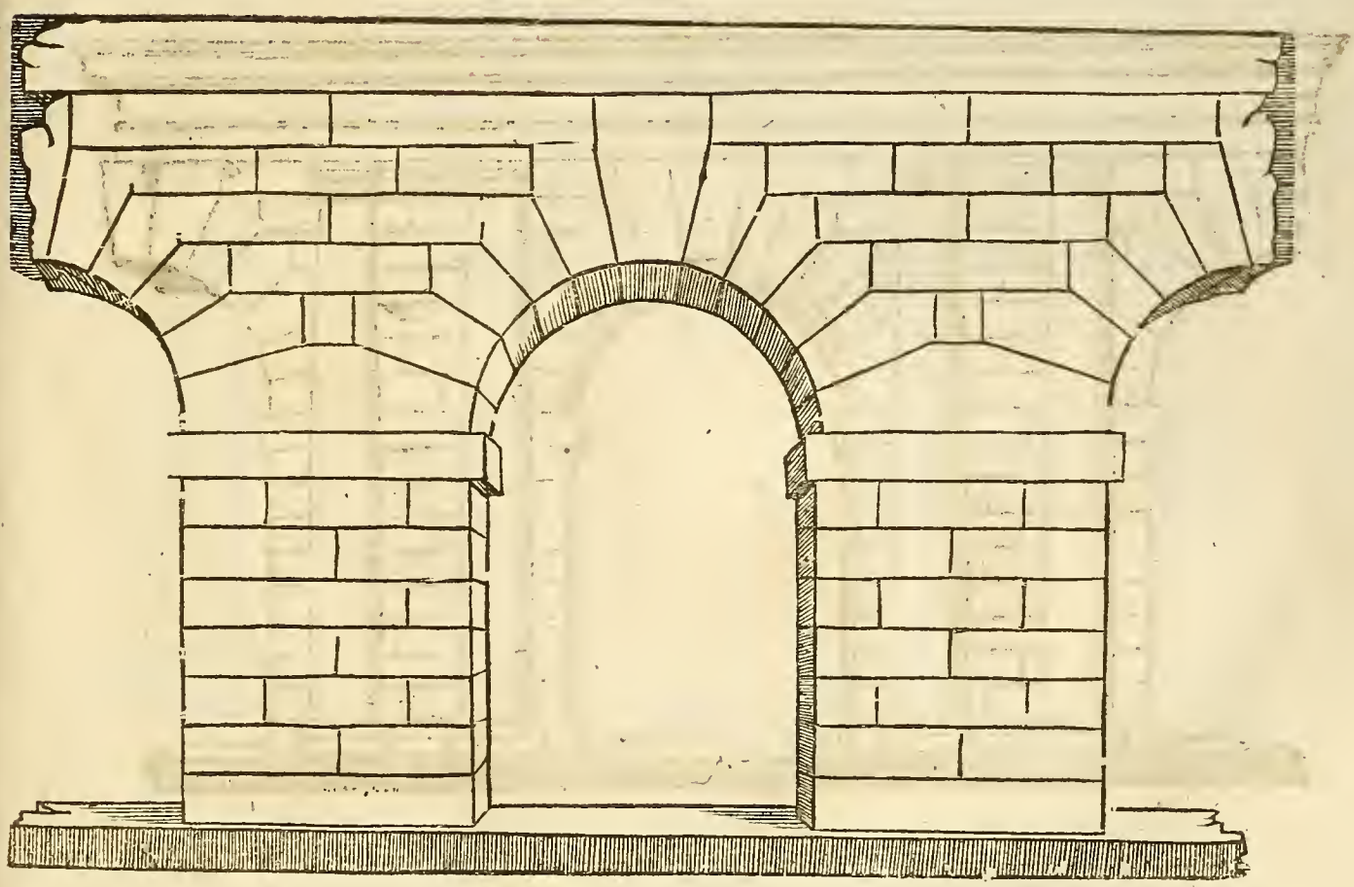
THis maner of Gate is couered by the firſt part of the Circle, and is very ſtrong worke, yet the Pennants will not agree with other Buildings of Stone: therefore if a man will make ſuch worke, it would ſtand well in a wall of Bricke. Touching the proportion, I will not ſpeake, for that it is eaſie with a Compaſſe to find the meaſure thereof. But the Niches or ſeates, placed by it to fill vp the place, the workeman may, at his pleaſure, ſet where he thinketh beſt, and they may not onely ſerue for Niches, but alſo for windowes: if they ſhould bee vſed for Niches to place Images therein, it is neceſſary, that the height ſhould exceed the double proportion of the breadth or ſomewhat more, that they may be more fit and correſpondent for Images to ſtand in, which is alwayes referred to the workeman.



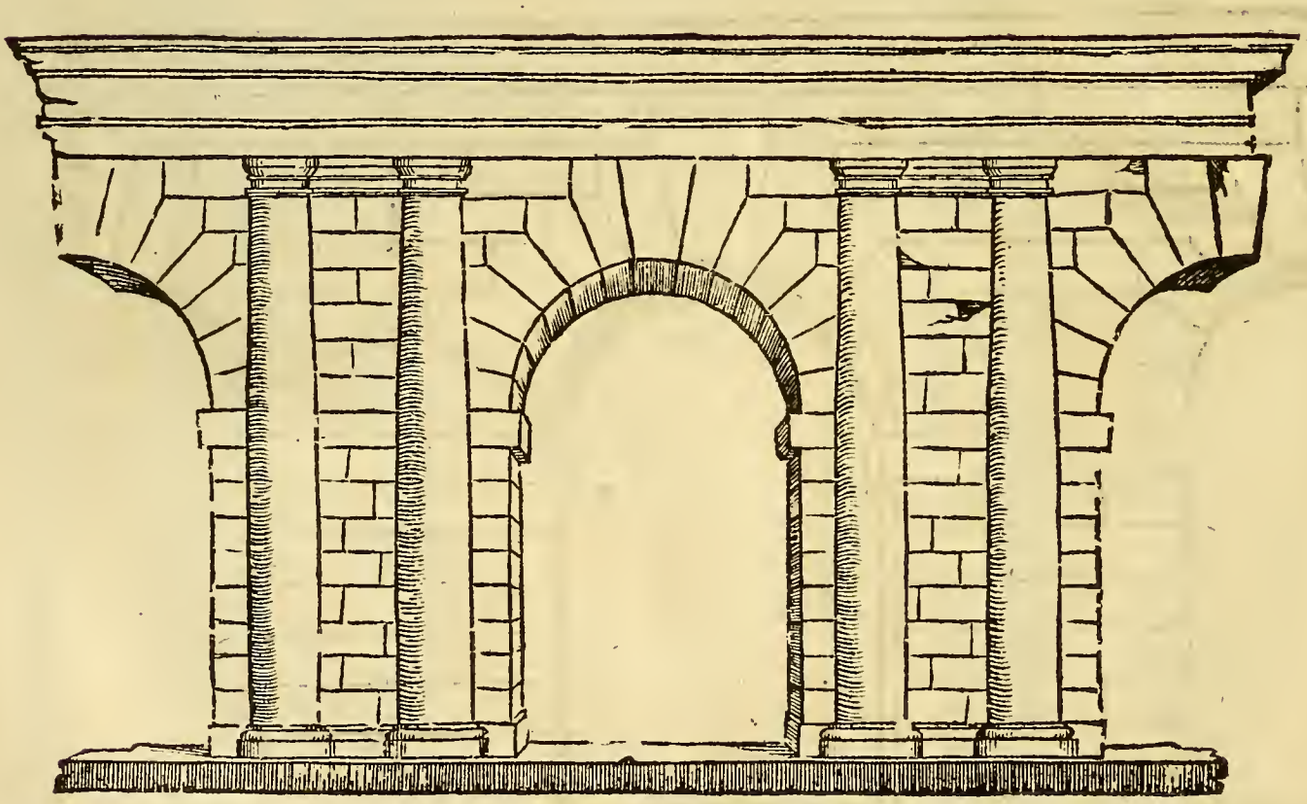
IN times past, the Romanes vsed to mingle Dorica, Ionica, and sometime Corinthia, among their rustical buildings; but it is no errour, if a man mixe one of them in a piece of rude worke, shewing in the same, nature and Arte, for that the Columnes mixed with rough stones, as also the Architraue and Frese, being corrupted by the Pennants, shew the worke of nature: but the Capitals, and part of the Columnes, as also the Cornice, with the Frontispice or Gevell, shew works of Art. Which mixture, in my concept, is a good sight, and in it selfe sheweth good strength, therefore fitter for a Fortresse then for any other Building: neuertheless, in what place soeuer the rustical worke is placed, it will not dor amisse. In such mixtures Iulius Romanus tooke more delight, then any other man, as Rome witnesseth the same in sundry places, as also Mantua, and without Rome, the fayre Palace called vulgariter El. Te. Which, in trueth, is an example in these dayes, both of good Architecture and paynting. The proportion of this Gate is to bee made thus: the widenesse must be of double proportion, that is, twice so broad as high, iust vnder the Arch. The Pilaster shall be the seuenth part of the widenesse, and the Columnes twice as thicke as the Pilasters: the height with the Capitall shall be eyght parts. The Capitall, Frese, Achitraue and Cornice, shall bee made as is sayd before: also, the Fastigium, Frontispicium or the Gevell shall also bee shewed in Dorica order. The halfe Circle of the Arch, shall bee deuided in eleuen parts, for the stones of the Arch; but the closing-stone shall bee greater: the which stone the workeman may, at his will, hang somewhat out. The Facte which doeth vphold the Arch, shall bee halfe the thicknesse of the Columnes: from thence downewards, you shall deuide it into nine parts, whereof two parts shall bee for the nether part of the Columnes, the other seuen deuided into equall parts, shall be the stones which bind the Columnes, drawing crosse ouer them. And the rudelyer this worke is bossed out (yet artificially) it would, in that case, shew more workemanlike, especially the stones that bind the Columnes and also the Pennants.



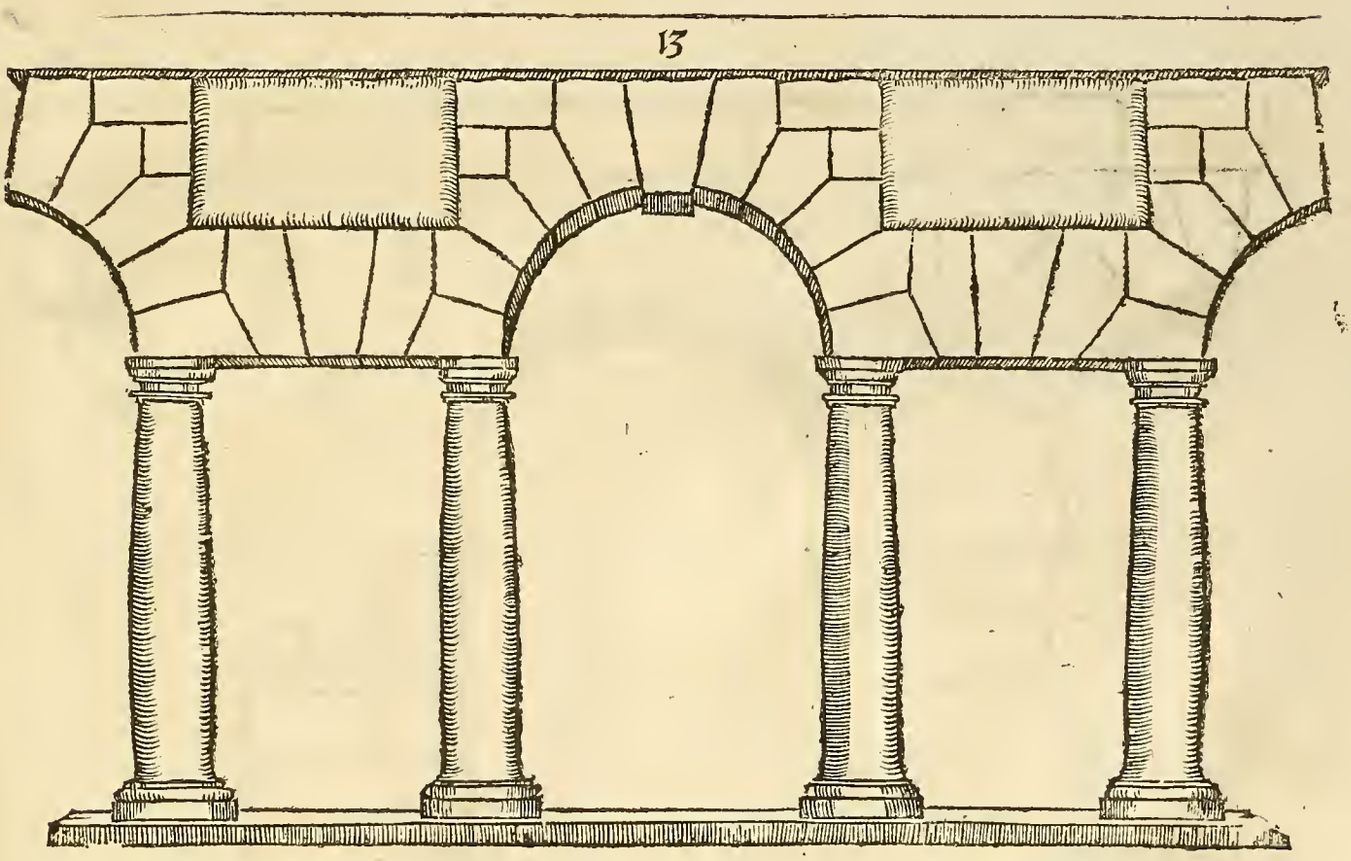
IT is not sufficient that the worke should be strong, but it must also be made artificially, to please mens sight. Wherefore this building of stone is not onely very strong, but also ingenious and pleasing: with which inuention, the workman may serue his turne in many things. The proportion shall be, that the openneſſe in the breadth, shall be once, and halfe as much as in height: the halfe Circle is deuided into 9. parts and an halfe; because the middlemost stone is one fourth part broader then the rest. The height of the closing stone, is halfe the openneſſe of the light. The flat Facie vpholding the Arch, is the sixt part of the light: from the Facie downewards are 7. parts made: the Facie aboue the Pennants, shalbe as broad as the closing stone vnder it is, which may be made hanging out vnderneath the eyght part of his breadth. Touching the binding of the other stones with the Pennants, you sée it playnely in the Figure.



FOr that pleaſure is ſometimes turned into beautifying, and ſometimes to ornaments ſurpaſſing neceſſitie, to ſhew Art, according to the wealth of the builder: This inuention is made for pleaſure, ſtrength and beautie: for pleaſure, in regard of the openneſſe thereof: ſtrength, for that betwixt both, there is good ſtore of wall, well bound together: and for beautie, becauſe it is rich of ornaments; with which inuention a workeman may helpe himſelfe much, in diuers things, as I haue ſayd. The proportion thereof ſhall bee, that the cloſed or maſſie worke ſhall bee as broad as the opening: which opening ſhalbe of twice ſo much height. The Pilaſters ſhall be the eyght part of the widenneſſe, and the Columnes the fourth part. The inter-Columnes, that is, the widenes betwéene the two Columnes, ſhall be the thickenneſſe of one Columne. The height of the Columnes, with Baſes and Capitals, ſhall be of eyght parts. In the Architraue, Freſe, Cornice, Baſe and Capitall, the rule aforeſayd ſhalbe obſerued. The Pennants and other bindings are ſeene in the Figure: and although the Columnes ſurpaſſe the rule two parts; yet, becauſe they ſtand néere together, and are made faſt in the worke, more for beautie then ſtrength, it may paſſe well inough, by the authoritie of ancient workemen.

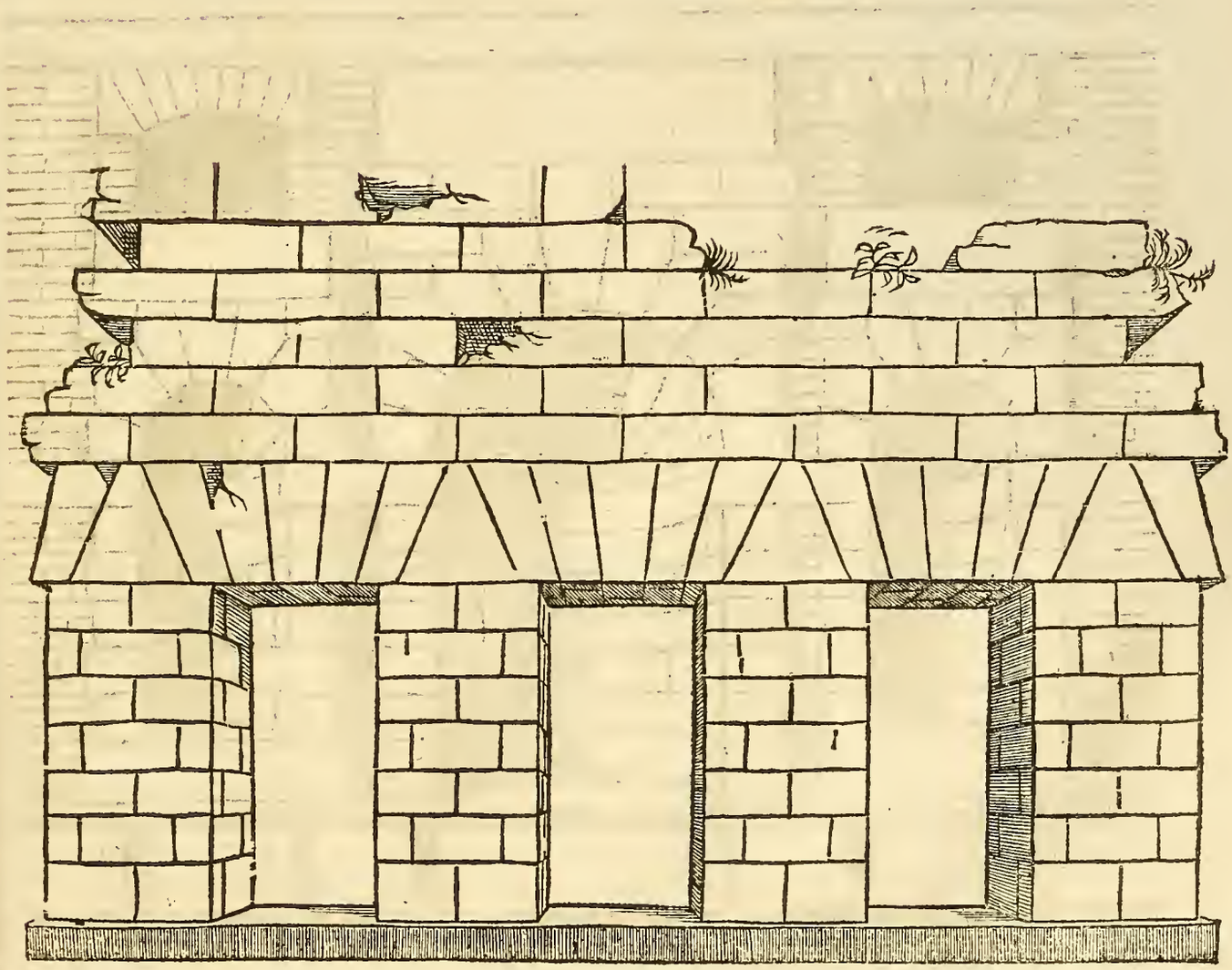


It is an excellent thing in a workeman to be full of inuention, in regard of the diuersitie of accidents which belong vnto building: for sometimes a man shall find Core of Columnes, but so low or short, that they serue not for that purpose, for which men would vse them vnto, vnlesse the workeman deuise some meanes to helpe them. Therefore, if the Columne be not so high as it will reach to the Facie, that lyeth like ÿ rose of this Gallery, then with these maner of Pennants a man may rayse it higher, if on both sides it hath good strong shoulders: touching the wayght aboue, it will be very chargeable, therefore to make it without binding of iron barres, it would not be sure: but it is lesse to be feared, if the Gallery were not so broad, but that it might be couered with Cones that were all of one piece, or else to make strong beames therein. The proportion hereof shall be, that the widenesse of the Arches shalbe ths thicknesse of 4. Columnes, and the height twise as much. The least space betwéne the Columnes, shall be of the thicknesse of 3. Columnes, and the height, of the thicknesse of 6. Columnes, and each widenesse shall be once agayne as high as broad. The Columnes, if they be ouer-burdened with wayght, should be of the measure before set downe; the rest are clearely to be séene in the Figure: but touching Bases and Capitals, I haue sayd sufficient at the first, in the treaty of the first Columne.

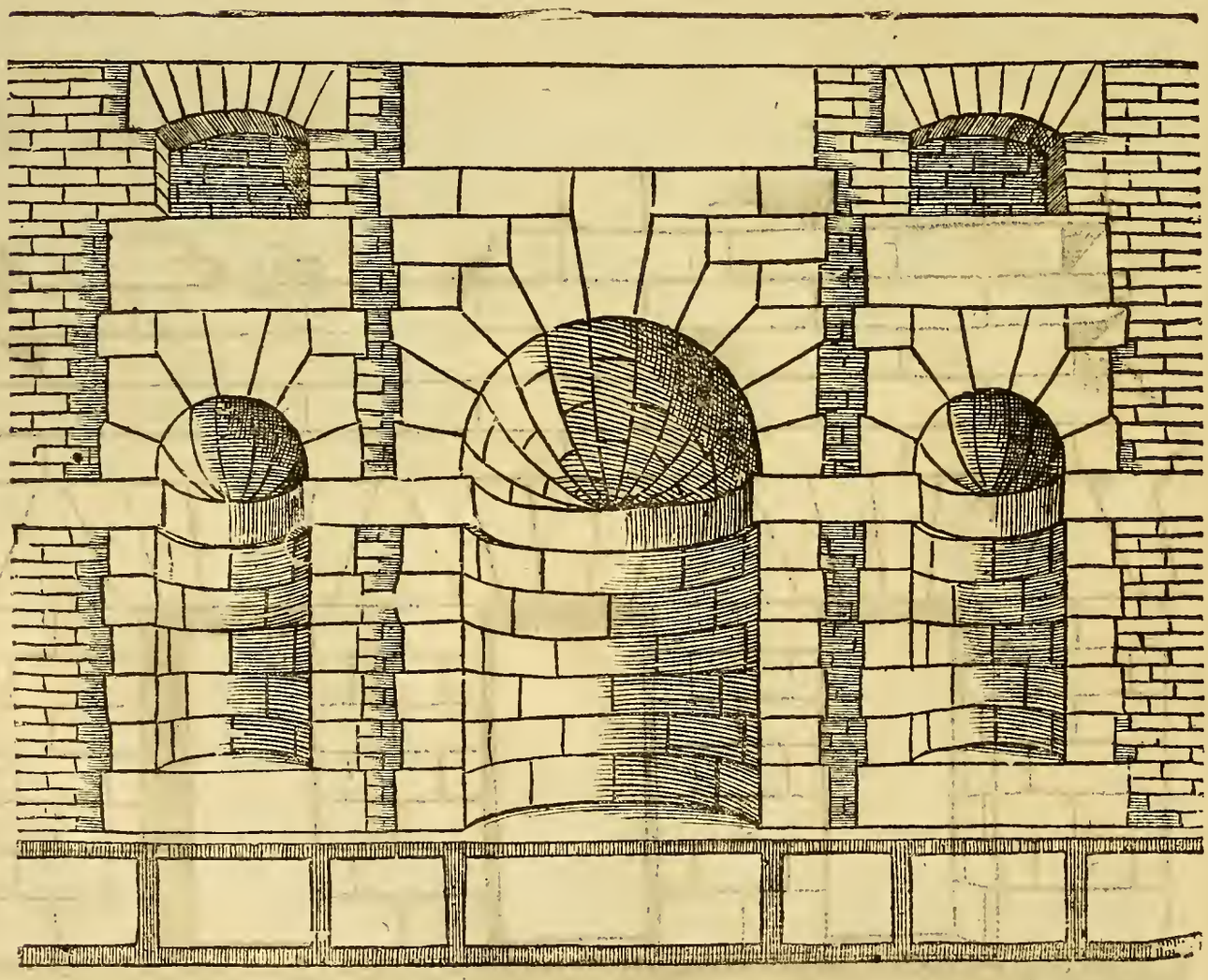


As this Arch is very ſtrong, conſidering the concordance of the binding, ſo alſo it is ingenious and pleaſing to view. Which invention ſhall not onely ſerue for Galleries of ſuch worke, but for Bridges over Riuers; Conduits to carry water from one Hill vp to another, and ſo to a Conduit. The proportion is, that the widneſſe from one Pilaſter to another, and alſo the height, ſhall be to the Facie that beareth the Arch. The Facie ſhall be the ſeuenth part of that widneſſe or height: from the Facie downe wards is deuided into fiue parts: the halfe Circle into nine parts and a quarter; for the cloſing ſtone is the fourth part more then the other: the reſt may be found with the Compaſſe.

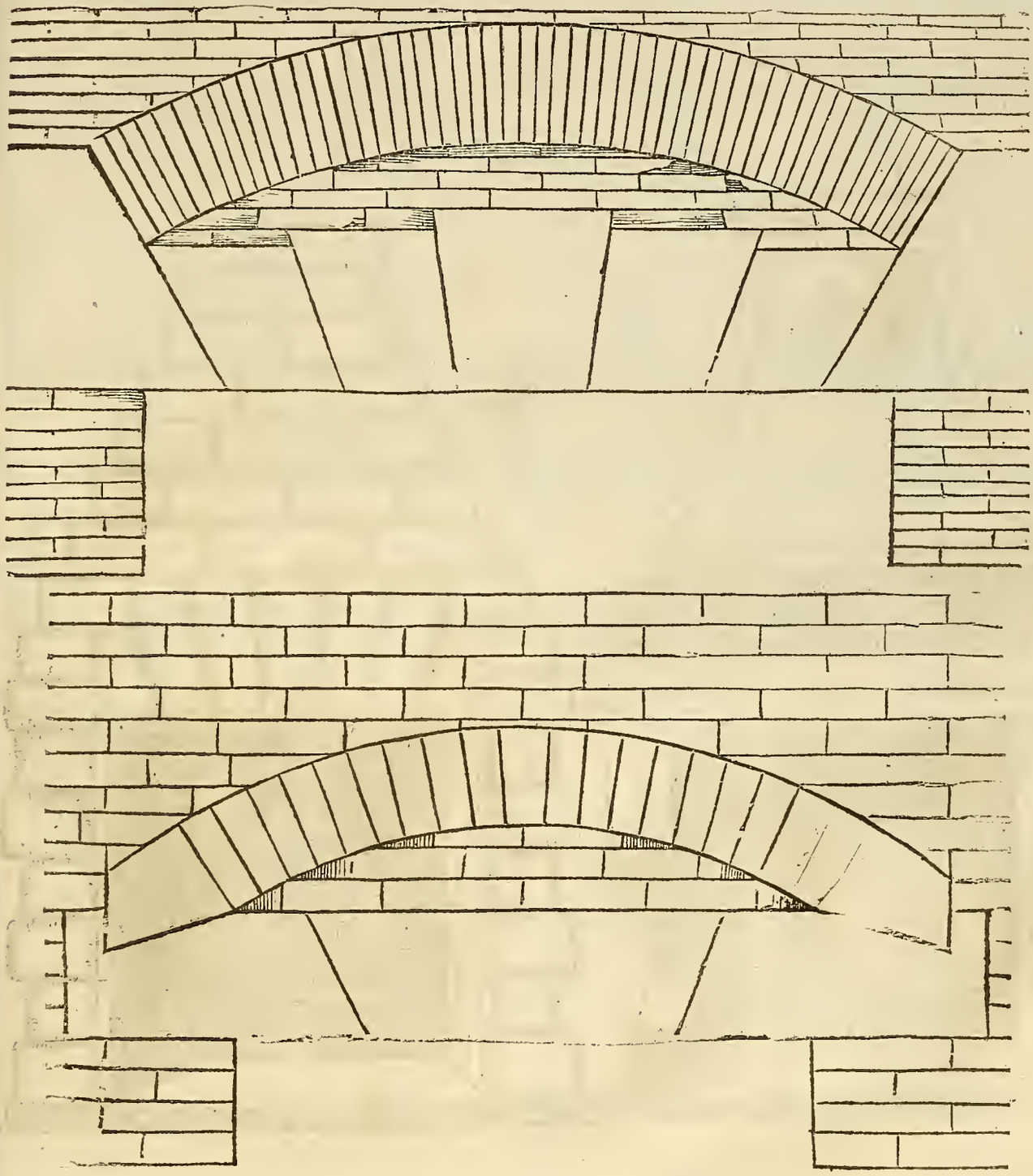
IT may sometimes fall out, that a workeman should need many holes in great walles, for the building of his House, whereunto this worke belongeth, to carry the waygbt for strengthening thereof: and were there not so much need of light, some of them might be filled up with Bricke. The proportion shall bee this; that the space of the lights and the massie wall, shall be both of like breadth, and twice so high as broad, although all such things are to bee increased and diminished at the workemans pleasure. The like worke is yet to be seene in Rome, being not very old made, but such as are in these dayes made, and stronger. The example whereof is at S. Cosmas and Damianus.



It is ſaid, that ſight preſerues memory, whereby oftentimes that is made, which workemen would not haue made, if it had not beene made before in ſome other place, and ſo, at ſome times, you ſhall ſee in a Court or elſewhere a ſide of a Wall, that ſhall haue neyther Door nor Windowes in it, and yet it is well ſet out in this rude maner and boyſh kind of worke: by which inuention, a workeman may helpe himſelfe: In which places a workeman may ſet Images, or other reliques of Antiquitie. Touching the meaſures and proportion thereof, I will not ſet it downe, for I leaue it to the workeman for to heighten or make broad, as occaſion ſeruety.

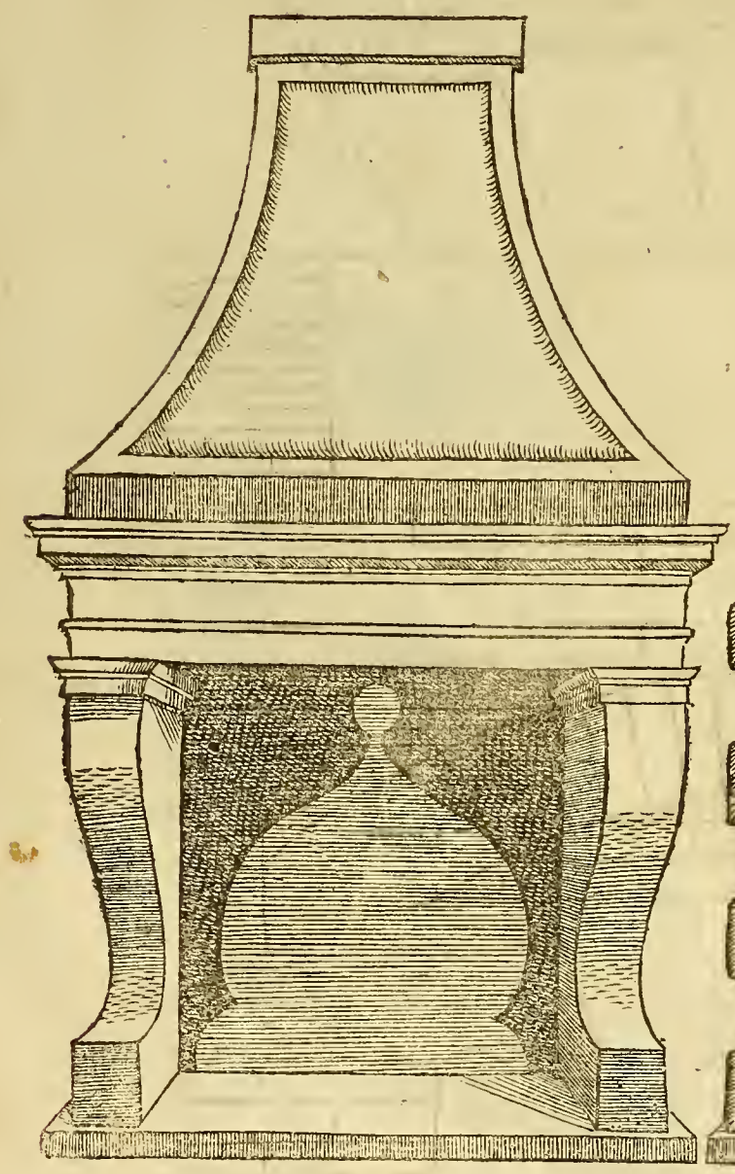


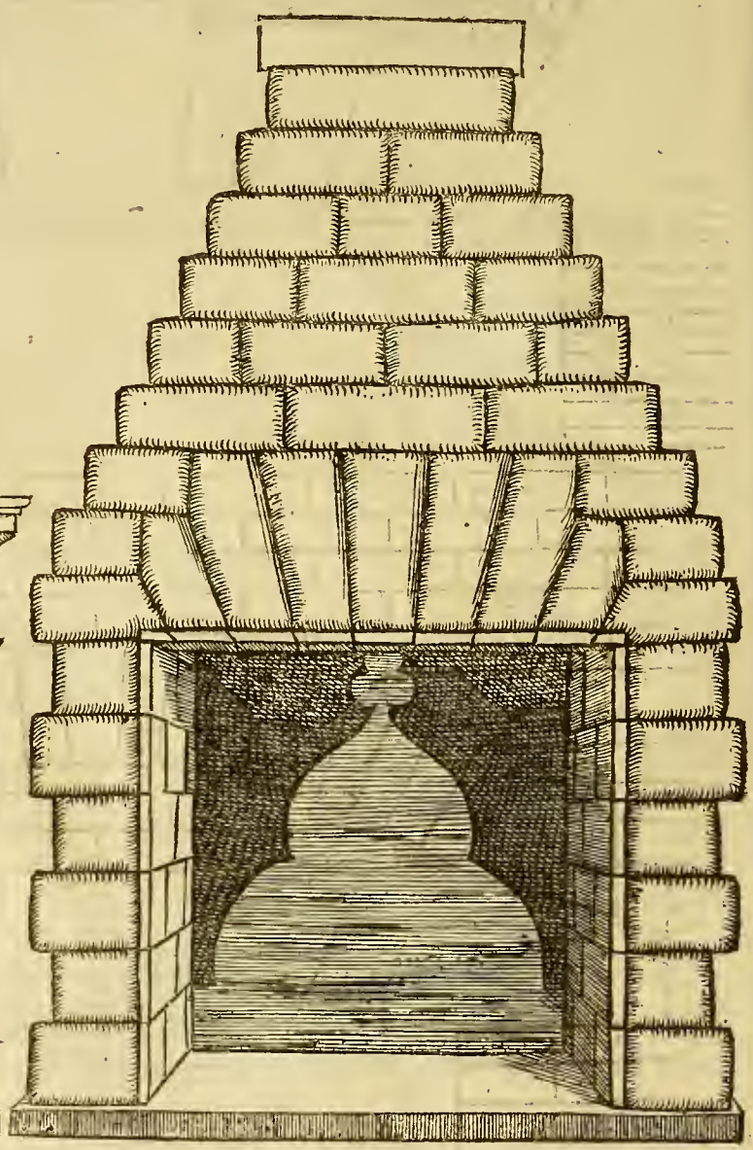
For that the most part of the Supercilies or Architraues, as we call them, that are set ouer Gates or other things, by reason of the widenes (if ye stones be not of a good bignesse) may yeld to the waight, whereby in time, they breake and decay, as you may see in many places: Therefore you shall, although it bee in great distance (so that the shoulders on the sides be strong) make such worke of peces, as hereunder are in diuers wayes set downe: which, without doubt, will be very strong: and the heauier the waight is aboue, the longer it will last.



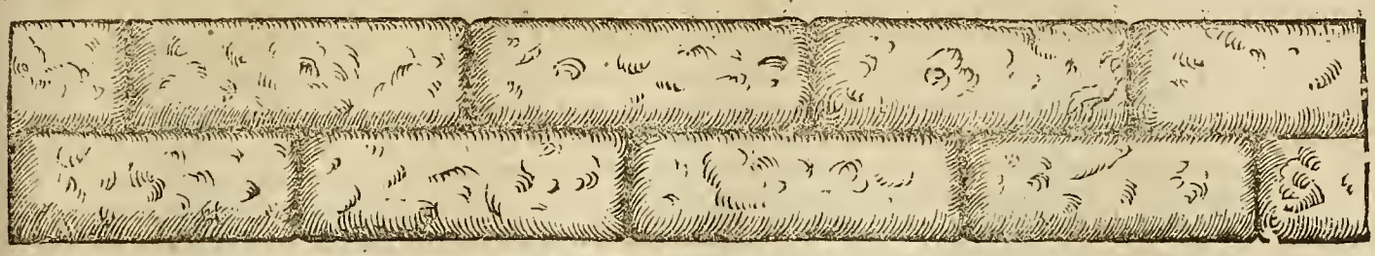
Of the Thuſcana

ALthough that in Vitruuius writings there is no mention made in what maner men in ancient times made places in Palaces and common houſes to make fire in, yet men find in olde buildings ſome ſhew of Chimneyes, to gine a way to voyd ſmoke, neyther can I find by any workeman the truth of any ſuch matters: neuertheleſſe, for that men many yeres ſince haue vſed, not onely to make fires in Halles and Chambers, for their eaſe, but are alſo wont to make diuers ornaments in, and ouer ſuch places; and for that I intend in this Booke to ſpeake of all the Ornaments that a workeman may haue cauſe to vſe in building, therefore I will ſhew ſome formes of Chimneyes or fire places, after the Thuſcan maner, as ſhalbe needfull in ſuch buildings: the one delicately made without the wall, the other ruſticall worke, made within the wall.



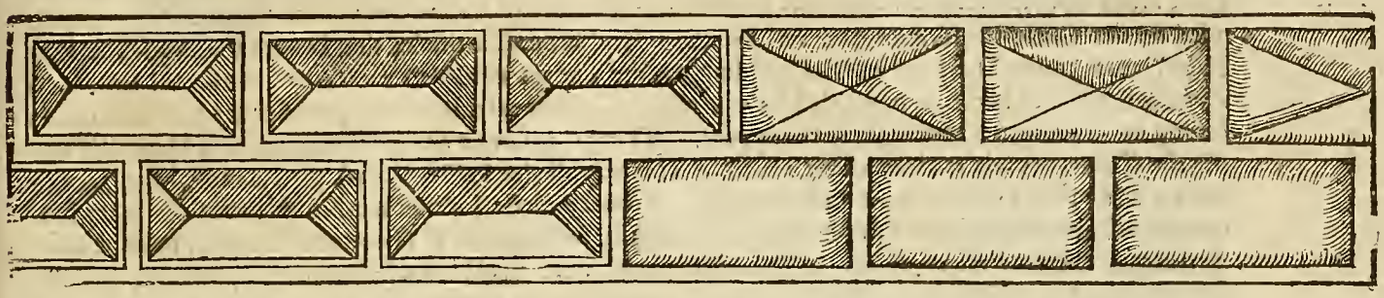


The first rusticall workes were made in this manner, that is, peces of stone roughly hewen out; but the ioyning together were proportionably made.

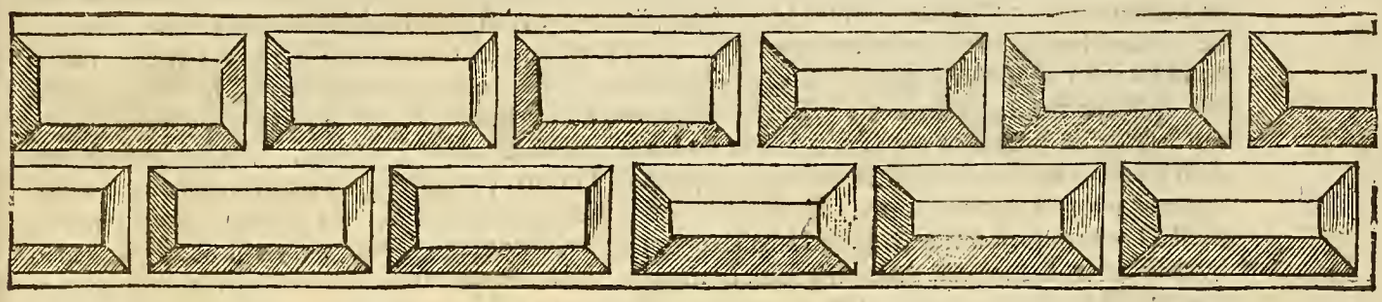


After, they deuided the stones in more proportion and shew, with flat lists, and for more beautie, and for ornaments sake made these crosses in them.

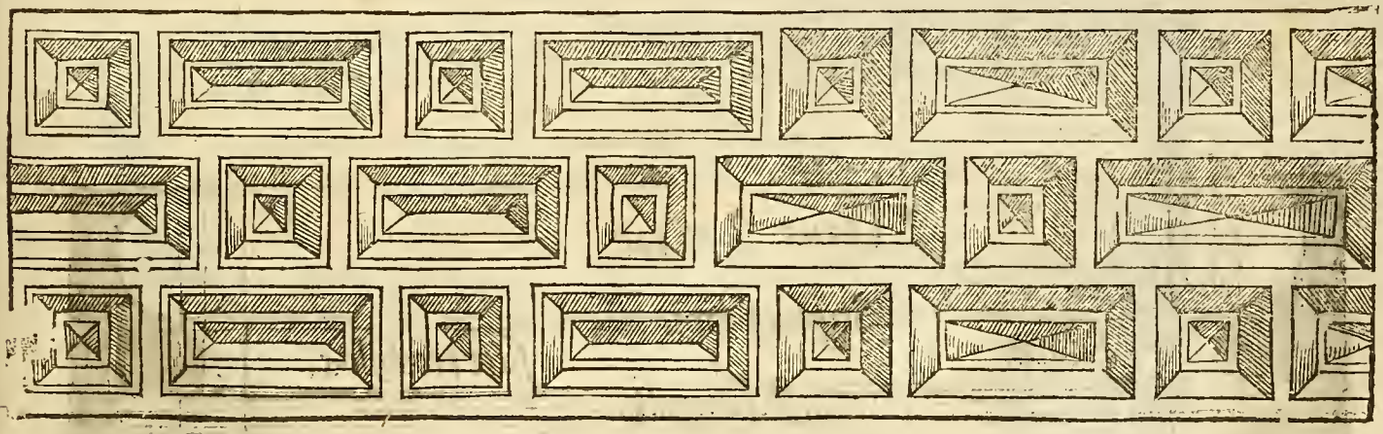
Other workemen brought in wrought Diamonds, and made them decently in this manner.



And in processe of time, things altered: workemen, for flat Diamonds, set flat tables, and rayled them somewhat higher, as in this Figure is to be sene.



Some other workemen vsed more differences and semelyer worke, neuertheleſſe, all such workes haue their originall from rusticall worke, which is yet commonly called, Works with popats of Diamonds.

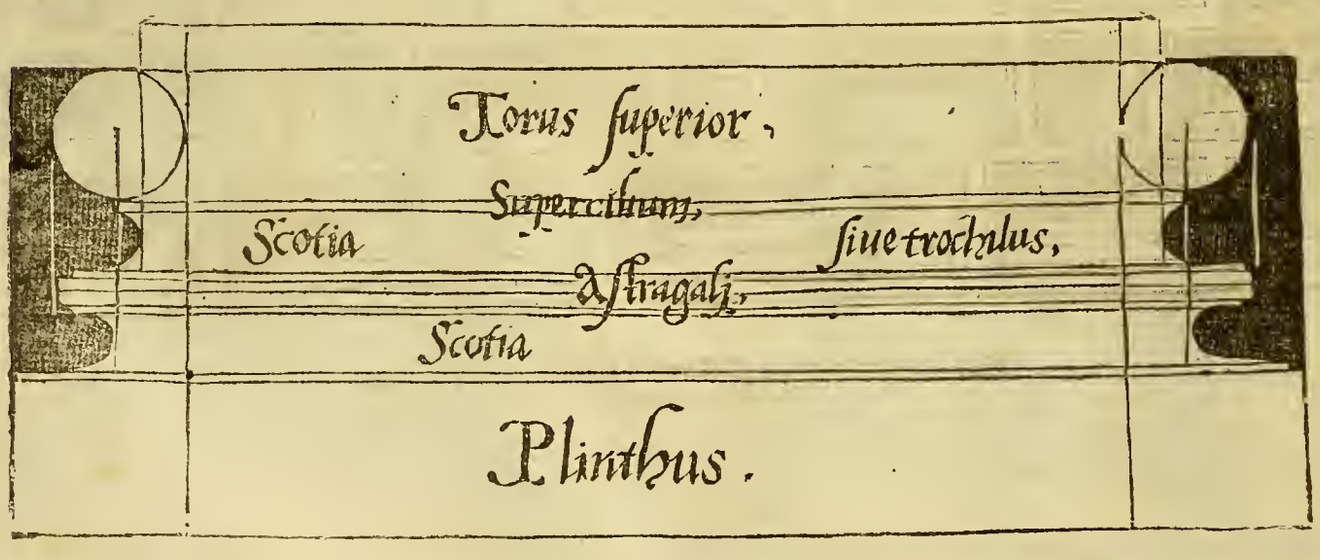


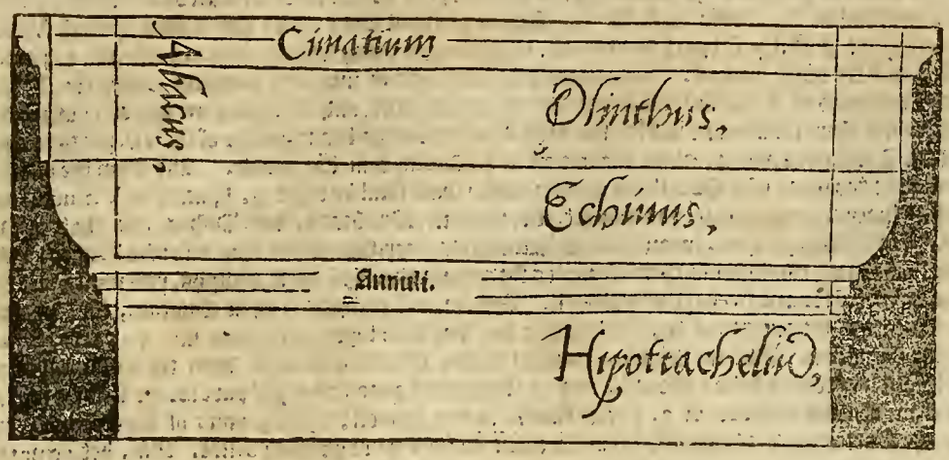
Here endeth the maner of Thuscan worke, and now followeth the order of Dorica.

The maner of Dorica, and the Ornaments thereof.

The sixt Chapter.

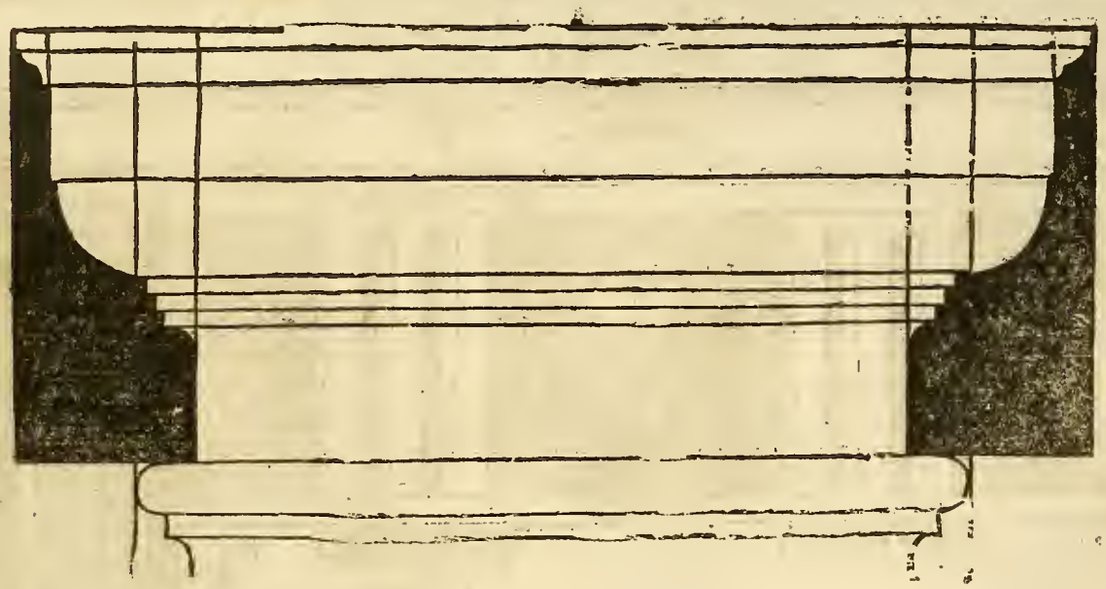
THe Ancients (as we haue heard) considering the state of their gods, ordained Dorica worke, and dedicated the same to *Iupiter*, *Mars*, and *Hercules*: but we build Temples, and dedicate them to *Christ*, *Paul*, *Gregory*, and such holy personages, that were not onely professed Souldiers, but also valiantly and boldly lost their liues, and shed their bloud for the faith of CHRIST. All such belong to Dorica, and not to their gods onely, but to men of armes, and strong personages, being of qualitie more or lesse: for whom, if a workeman make or build houses or palaces, they must be Dorica: and the nobler the man is for whom such worke is done, the stronger and statelyer they ought to be; and the more effeminate that they are, the more slenderer and pleasanter the building shall be, as I will shew when time seruetb. But now we will come to the maner of the worke. *Vitruuius* speaketh of this Dorica worke, in his fourth Booke and third Chapter: but touching Bases of Columnes, hee speaketh thereof in his third Booke; although some are of opinion, that he speaketh & meaneth of the Bases of Corinthia, for that they haue bene much vsed on the Corinthia Columnes, and Ionica. And some also thinke, that Dorica Columnes had no Bases, hauing respect to many ancient buildings; as the Theater of *Marcellus*, one of the fayrest workes in *Italy*, being the middle downewards Dorica: which Columnes had no Bases, the body of the Columnes resting vpon a step, without any other support. There is at *Carcer Tulliano* the signes of a Doricall Temple, the Columnes whereof are without Bases. You may also see in *Verona* an Arch tryumphant, of Dorica worke, where the Columnes are without Bases. Neuertheleſſe, for that workemen haue in former times made the Corinthia Bases in another maner, as I will shew hereafter: Therefore I affirme, that the Bases Atticurga, which *Vitruuius*, in his third Booke, so nameth, are the Dorica Bases: and this wee see, *Bramant* hath obserued in his Buildings which he made in *Rome*: which *Bramant*, being the light and Inuentor of good and true Architecture, which from Antiquitie to his time (being vnder Pope *Iulius* the second) had beene hidden, we ought to beleeue. Then this Base of Dorica shall be the height of halfe the thicknesse of a Columne: the Plinthus the third part of his height: of the rest there shalbe foure parts made; one shall be for the Thorus aboue: the other three shall be set in 3. euen parts: the one for the Thorus aboue, the second for the Trochile or Scotia: but the same being deuided in seuen parts, one part shall be the vppermost list, and another the vndermost. The Proiecture or bearing out of the Base, shall be of halfe the height, and so shall the Plinthus of each Facie hold a thicknesse and a halfe of the Columne. And if the Base standeth below our sight, the corner vnder the vppermost Thorus, (being of it selfe darkened) ought to bee somewhat lower then the other. But if the Base standeth aboue our sight, the corner aboue the nethermost Thorus (also of it selfe darkened) shall be greater then the other. Thereto also the Scotia, darkened by the Thorus, in such case shalbe made more then the measure appoynted. And in such cases the workeman must be iudicious and wary, as *Vitruuius* would haue him to bee learned in the Mathematicall science, that doth study his Booke.



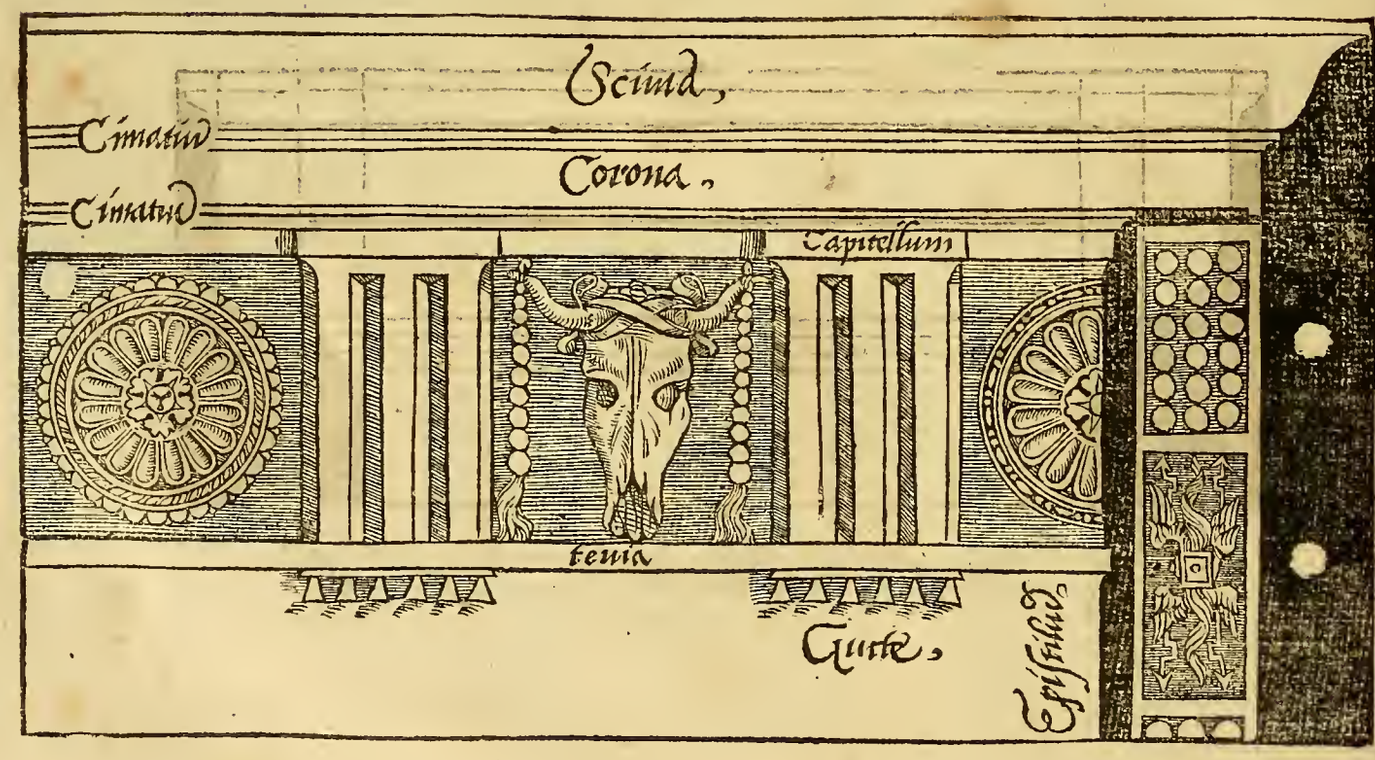


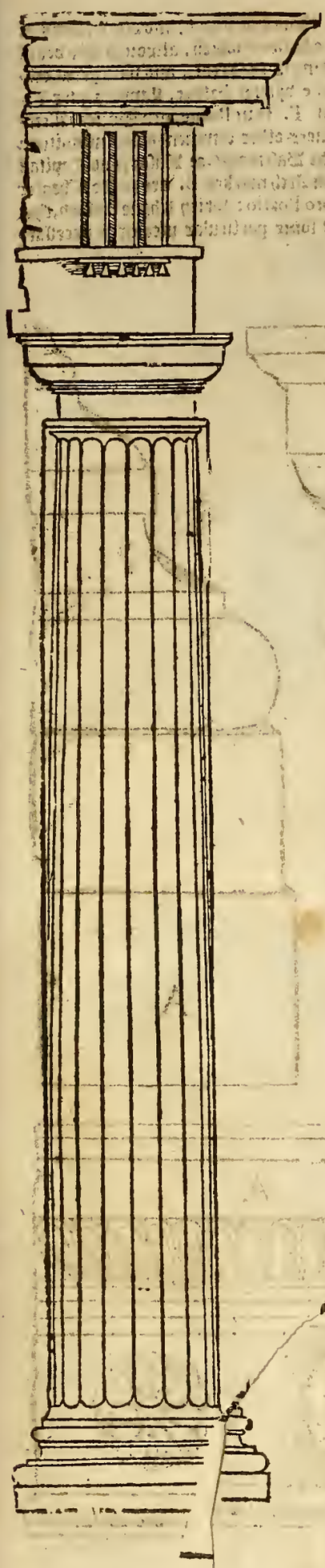
AND for that Vitruuius hath deuided this order of Dorica by models, making the Columne of two models in thicknesse, and the height with Capitals and Bases of 14. Models; so then, the height of the Base is a Modell: the bodie of the Columne is 12. models: and the Capitall one modell, which is 14. models in all: The height of the Capitall shall be deuided in 3. parts, whereof one shall be for the Plinthus, or Abacus, wherein also the Cimatie is to be vnderstood: the second, the Echino with the Annulo: the third, the Hypotrachilo or Frése, which Hypotrachilo shall bee in thicknesse the sixt part lesse then the Columne below. The breadth of the Capitall in the vppermost part shall be in each Facie 2. Models and a sixt part: and this is according to Vitruuius writing. Although I am of opinion, that this place is falsifyed touching the Proiecture, which, in effect, is very lame, in respect of that we see in Antiquities; therefore, after this Capitall, I will make another after my fantasie, with the particular measures thereof, better described, for that Vitruuius doeth it too briefly.

The Capitall being deuided into 3. parts, as I sayd before, I say also, that the Plinthus or Abacus should also be deuided in 3. parts, one part for the Cimatie with her Rule, List, or Fillet: but the same thicknesse deuided in 3. shall bee the List, and the other two the Cimatie. The Echinus shall also be deuided in 3. parts, and 2. third parts being for the Echinus, and the rest for the Annulo, which shall also be deuided in 3. parts, giuing each of them one. The Frése shall bee as the others. The Proiecture of each part shalbe like the height: and so doing, it shall bee made by more certaine rules, better, and more easily for them.



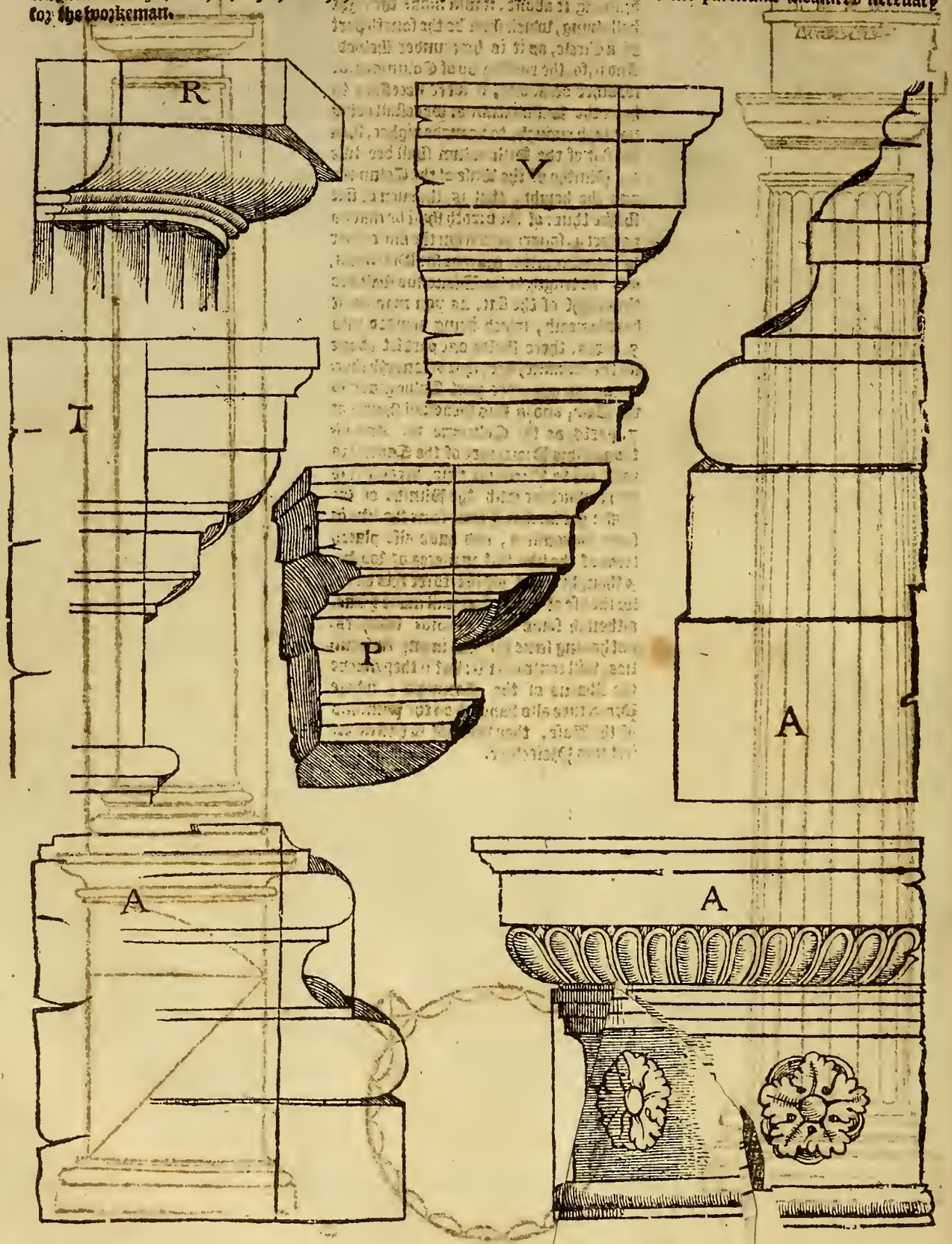
Vpon the Capitall you place the Epistilia or Architraue, the height whereof shall be one Modell, and deuided in 7. parts, one shall be the Tenia or List: the Guttes or small Lists vnder the Tenia (which Vitruuius nameth Sub tenia) are in all, the sixt part of a modell: which height being deuided into 4. parts, the 3. parts shall bee the Guttes, and the other the List. The Guttes shall bee sixe in number, hanging vnder the Trigliphes. The height of the Trigliphes or Triglisse shall be one Modell and an halfe, and the breadth one Modell: which breadth deuided in 12. on eyther side there shall be one left for the halfe Channels or hollowings, and of the 10. parts resting, 6. shall bee for the flat of the Trigliphes, and 4. for the Channels or hollowings in the middle. And from the one Trigliph to the other, there shall be the space of a Modell and a halfe: which space shall be right 4. square (by Vitruuius named, Pethopha.) In which spaces, as you please, you may set, cut, or graue, Oxe heads, with Dishes; and that, not without secret signification. For in ancient time, when the vnbeleeuing folke sacrificed Oxen, they also vsed Dishes, & Platters thereunto, placing such things round about their Temples for ornaments. Vpō the Trigliphs, you must place their Capitals: the height whereof shall be one sixt part of a Modell. Aboue the Trigliphs or their Capitals, the Corona must bee placed with 2. Cimaties, the one aboue, the other below: and they both together deuided into 5. parts, 3. for the Corona, and two for the Cimaties. But the height of them all, shalbe of halfe a Modell: vpon the Corona, you must place the Scima: the height whereof is halfe a Modell, and to it you must adde one eyght part for the List thereof aboue. The Proiecture of the Corona shall bee of 3. parts: two be in one Modell: in the ground of the Corona, right aboue the Trigliphes, the Guttes were orderly set, as you sée them in the Figure hanging beside. Also, betwéene the Trigliphes are cut Fulmines, that is, winged lightning: or you may leaue the spaces bare. The Proiecture or bearing out of the Scima must be like the height thereof: euen so, each part of the bearing out of the Corona shall haue their Proiecture like their height. But the more Proiecture the Corona hath, if the stone may beare it, the more stately it sheweth. This, we sée, that the ancient Romanes did obserue, as shall be shewed when time seruetb, both in Figure and measure.

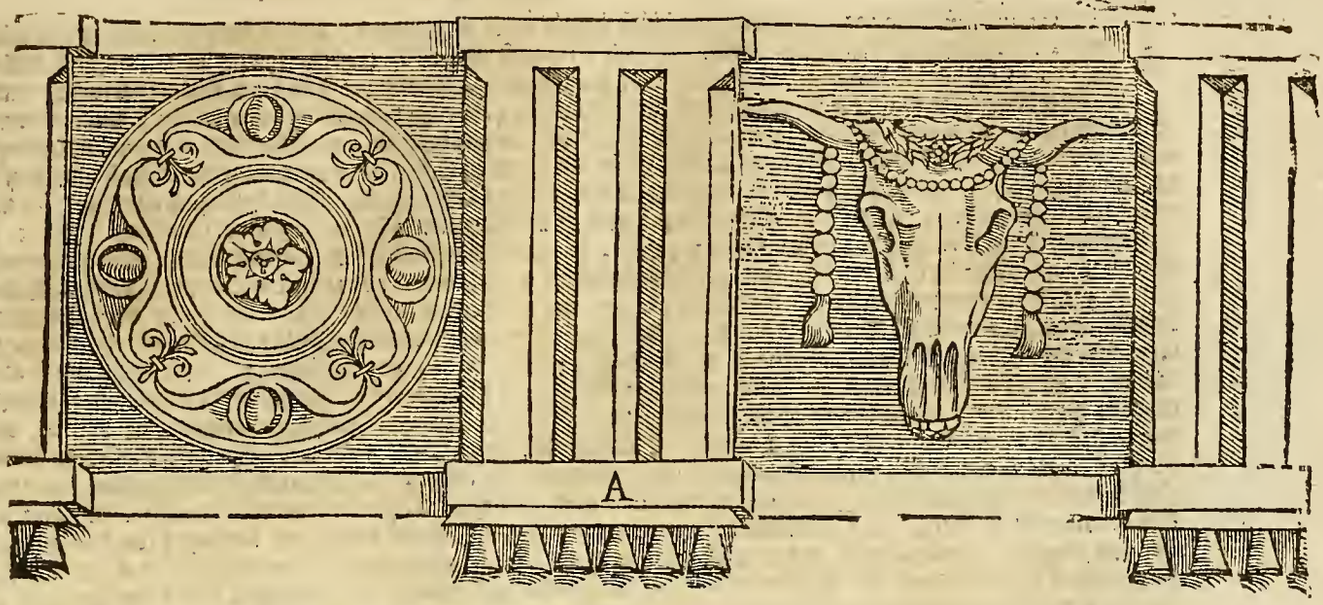


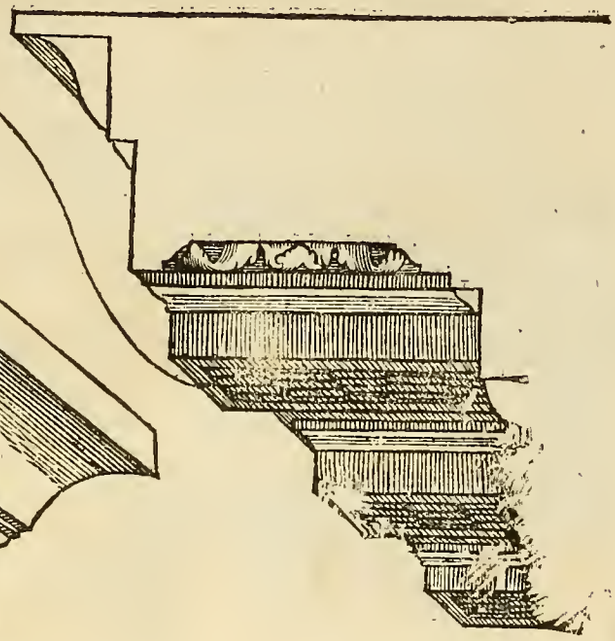


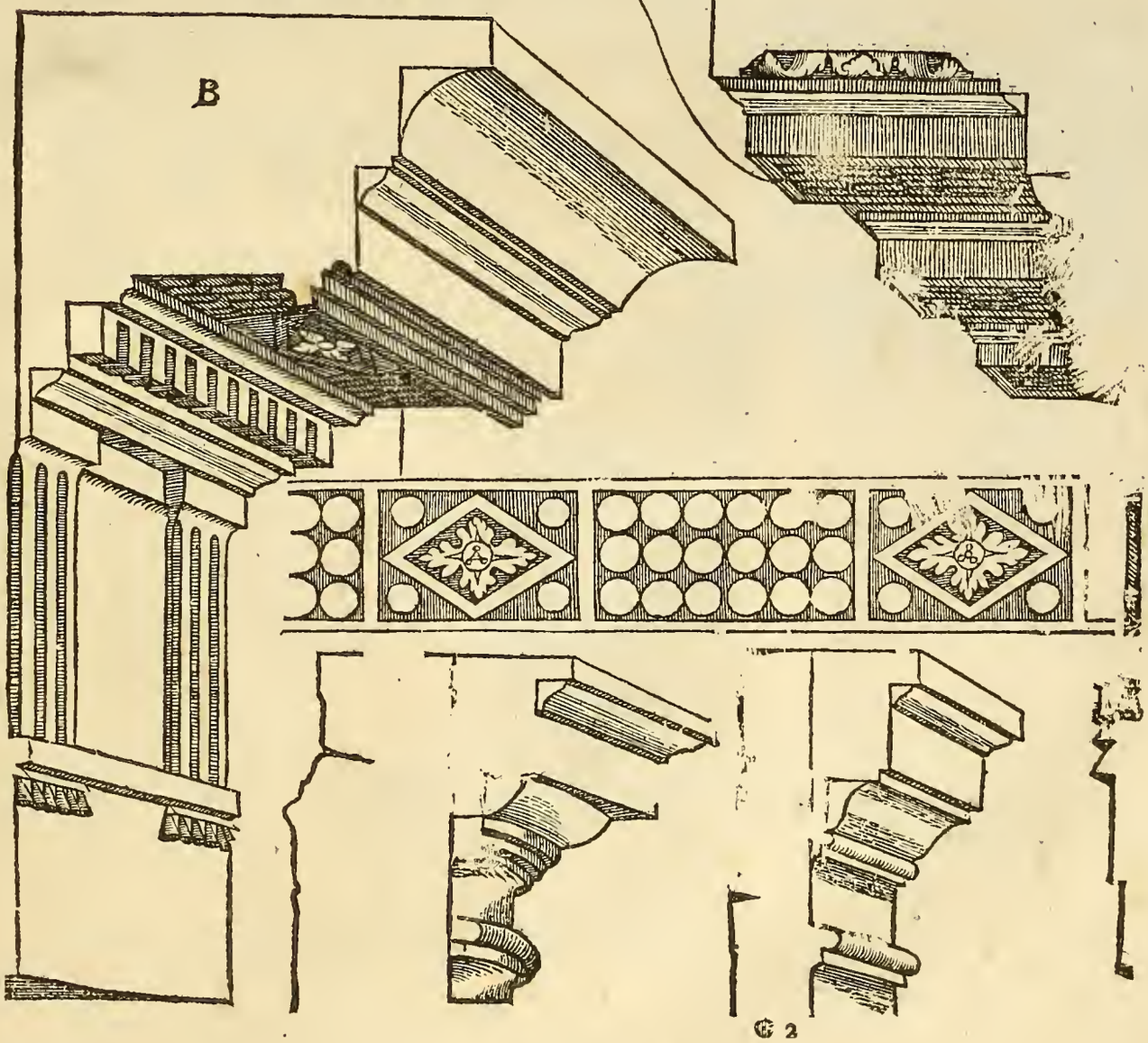
IF you will stricke or channell the Columnes, you must make 20. in number, in maner hollowed, and from the one side to the other: in the spaces of the strikes there must a straight line bee drawne, which shall bee the side of one 4. square: which 4. square being made, placing the one foote of the Compas in the Center, and with the other touching both the one and the other end of the line, drawing it about, it will make the right hollowing, which shall be the fourth part of a Circle, as it is hereunder shewed. And if, for the raysing vp of Columnes, or for other occasions, it were necessary to haue the Stilobatum or Pedestall being not high enough, to be made higher, then the flat of the Stilobatum shall bee like the Plintho of the Base of the Columne: and the height, that is, the euen or flat shalbe thus: of the bredth shall be made a perfect 4. square; and from the one corner to the other, a line drawne for Diagonus, and the length of the Diagonus shall bee the height of the flat, as you may see it here beneath, which being deuided into 5. parts, there shalbe one part set aboue for the Cimatie, with that belongeth thereunto, and one other part shalbe giuen to the Base; and so this Pedestall shalbe of 7. parts, as the Columne is. And although this Proiecture of the Capital is contrary to Vitruuius rule, because it is Perpendicular with the Plintho of the Base: yet for that I haue seene the like in some Antiquities, and haue also placed some of the like sort in pieces of worke, I thought it not amisse to set this here, for the vse of those, that will make ẏ like, although some of Vitruuius schollers, not hauing seene the like in any Antiquities, will contradict it: but if they marke the Abacus of the Corinthia, whose Proiecture also hangeth on the Plinthus of the Base, they will not so hastily reiect this Proiecture.

For that I find great difference betwéene the wrytings of Vitruvius, and the things of Rome, and other places of Italy; therefore I haue héere set downe some, which are yet extant in worke to beseene: which, although they bee of small forme, without numbers or measures, yet they are proportioned according to the great, and with great diligence reduced into small forme. The Capitall R. was found without Rome vpon a Bridge, standing ouer Tiber. That Capitall V. is in Verona, in an Arch trymphant. That Capitall T. is in Rome, in a Dorical Temple, called Al carcer Tulliano. That Capitall P. was found in Pesaro, with diuers other commendable Antiquities: the bearing out whereof, although it be great, yet it shewth well to the eye. The Basements, or Basis, and Capitall A. are at Rome in Al foro Boario. The Cornice, Capitall, and Impostes of an Arch marked B. are in the Theater of Marcellus. The Cornice, Frése, and Architraue, are also in Rome, in Al foro Boario: which I haue shewed, that workemen may chuse that, which liketh them best. Hereafter I will set downe some particular measures necessary for the workeman.

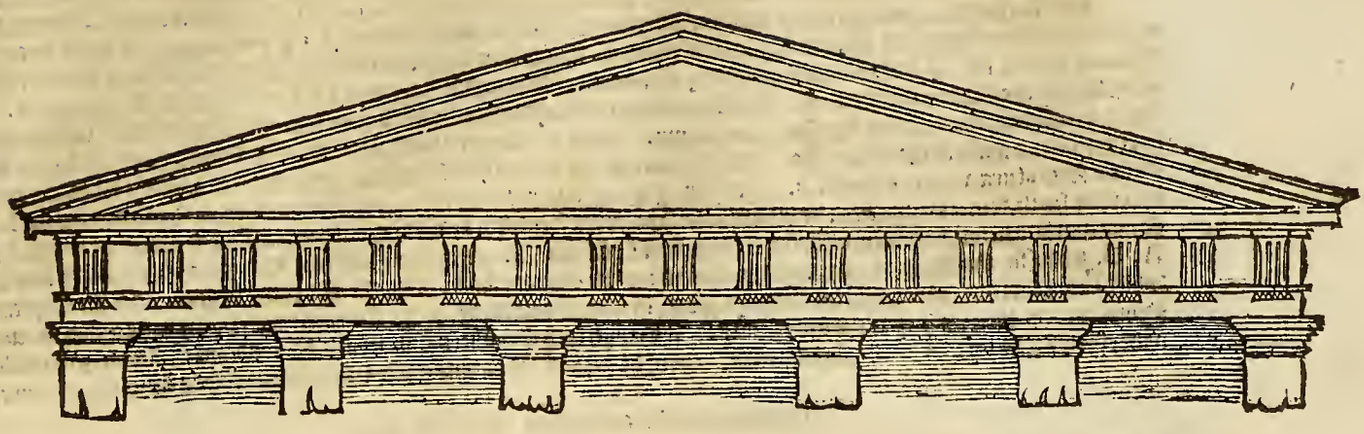


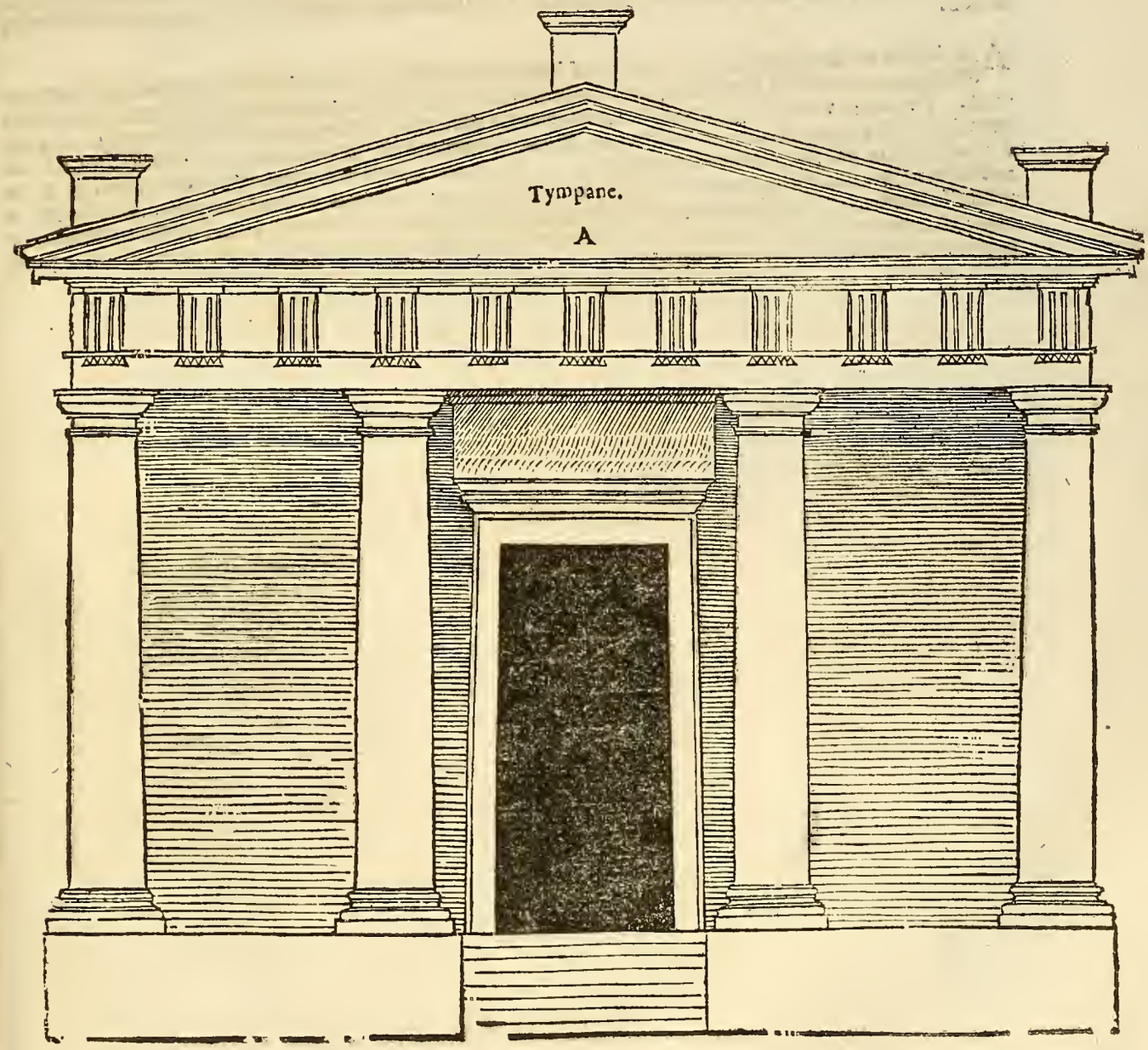

A




B

The parts of the Trigliphes and Methophes being in this order vnprepared, and yet very necessary, I will take paynes to declare so well as I can. First, although Vitruuius affirmeth, that the Models of the worke Peraftilos, viz. of fyre Columnes, may be distributed and deuided into 35. parts: yet I find not, that the parts may stand so, for this cause, that giuing the middlemost inter-Columne 4. Methophes, and the other spaces 3. the sayd number will not make the whole: but, as I conceaue, if you set 42. as you may sée and reckon in this Figure following, as also in the worke Thetrastilos, that is, of 4. Columnes: the Worke saith, that the Forefront of the whole worke should be deuided into 23. parts, which, I assure you, cannot stand so, if you will giue the middle space 4. Methophes, and the other two eche of them 3. But, by my aduice, there should be 27. as you may sée in the Figure following. Then, if the principall of the Temples be deuided into 27. parts, the Columnes shall bee 2. Models thicke, the middlemost inter-Columnes shall be of 8. Models, that is, the thicknesse of 4. Columnes, and the inter-Columnes besides, shalbe each of 5. Models and an halfe, that is, two and a quarter, and a quarter and halfe: and so shall the 27. bee distributed. And aboue each Columne his Trigliph being set, & the Trigliphes deuided with Methophes, according to the rule afore-sayd: then the middlemost space shall haue 4. Methophes, and those on the sides shall haue 3. The height of the Columne, Capitall and Architraue, &c. shall be also made according to the rule: but the height of the Fastigium or Geuell shall bee the ninth part of the length of the Cimatie, that is aboue the Corona, setting the measures vnder the A. vpwards to the vndermost Cimatie of the Corona B. The Acroteria or Pedestall marked A. vpon the Fastigium shalbe halfe the height of the Fastigium or Gueell, that is, of the euen or flat, which Vitruuius calleth Timpanum, and they shall be as broad as the Columne is aboue, and the middlemost must be an 8. part higher then the other. And for that this Doore or Gate is of Dorica, and is hard to be vnderstood, therefore I will shew in the best sort I can, both in writing and Figure. Vitruuius saith, that from the Pauement to the Lacunary, that is, from the ground of the Gallery, to the roofe of the same vnder A. must be deuided into three parts and an halfe, and two parts shall be for the height of the lights: so sayth my Author, in my opinion. But for that a man cannot so well in a small Figure explaine the particular measures, I will make it more greater and perfecter in the next leafe.




Tympane.
A

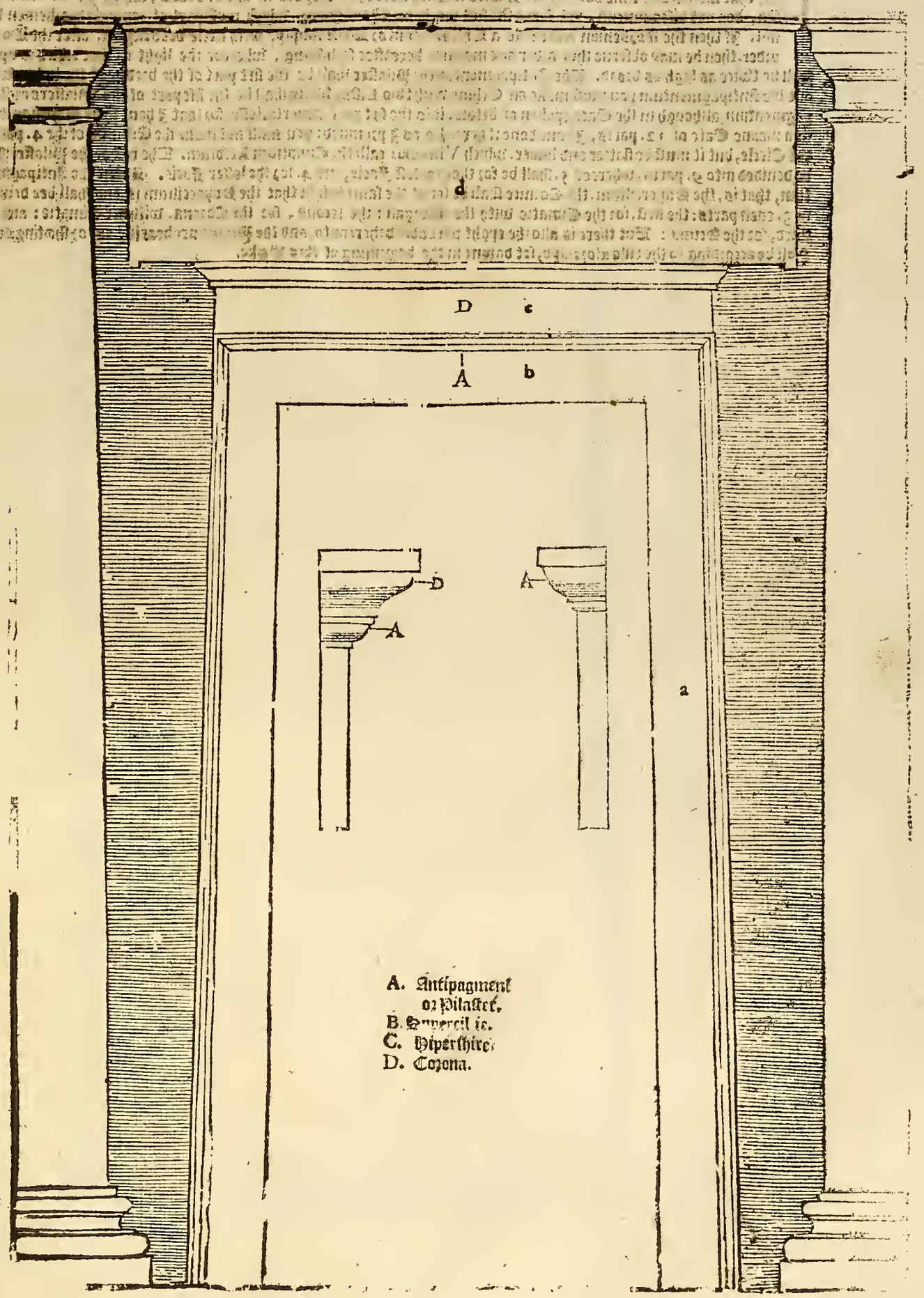
Of the Dorica

HAuing made (as is before sayd) three parts and an halfe from below vpwards, 2. parts shall bee for the height of the light, which height being deuided in 12. one part shall be the breadth of the Antipagmentum or Pilaster, and the light shall be 5. parts and an halfe broad: but if the light vnder be of 16. foot, the Pilaster shalbe lessened a 3. part in the vppermost part: and the same Pilaster shall also be made thinner a 14. part aboue. That Supercilie or Architraus shall be of the same height, in the which the Cimatium Lesbium with the Astragall is to bee made: which Cimatis shall be the 16. part of the Supercilie, I meane the Astralogus Lesbium, as it is shewed in the Figure A. It seemeth, that the Author meaneth onely the Cimatie aboue the Supercilium: but as it is seene in some Antiquities, therefore it is so made, in regard of the Antipagmentum. Vpon the Supercilium, in stead of a Frese, you shall set the Hyperthyrium as high; in the which, the text sayth, men cut the Cimatium Doricum, and that Astragalum Lesbium in the Scima Sculptura, which is confused. But here I let my selfe to vnderstand, that the meaning of the Author is broken, where he sayth, Sima Sculptura: he would haue sayd, Sine Sculptura, that is, without cutting or graueing; and that is, Cimatium Doricum, together, with the Astragalum Lesbium: the proportion whereof standeth in the Figure marked A. D. Now, for that the text saith, that the Cimatie of the Corona shalbe of like height of the vppermost of the Capitals, which being so, then the Corona will be very great: to which (according to the Authors meaning) I haue giuen as much Proiecture as the height of the Supercilie is. Although such Crownes will neuer be handsome or seemely in worke, neuertheleſſe, to intreat of the Ornaments, I thought good to set downe my opinion herein, and to shew it in Figure.

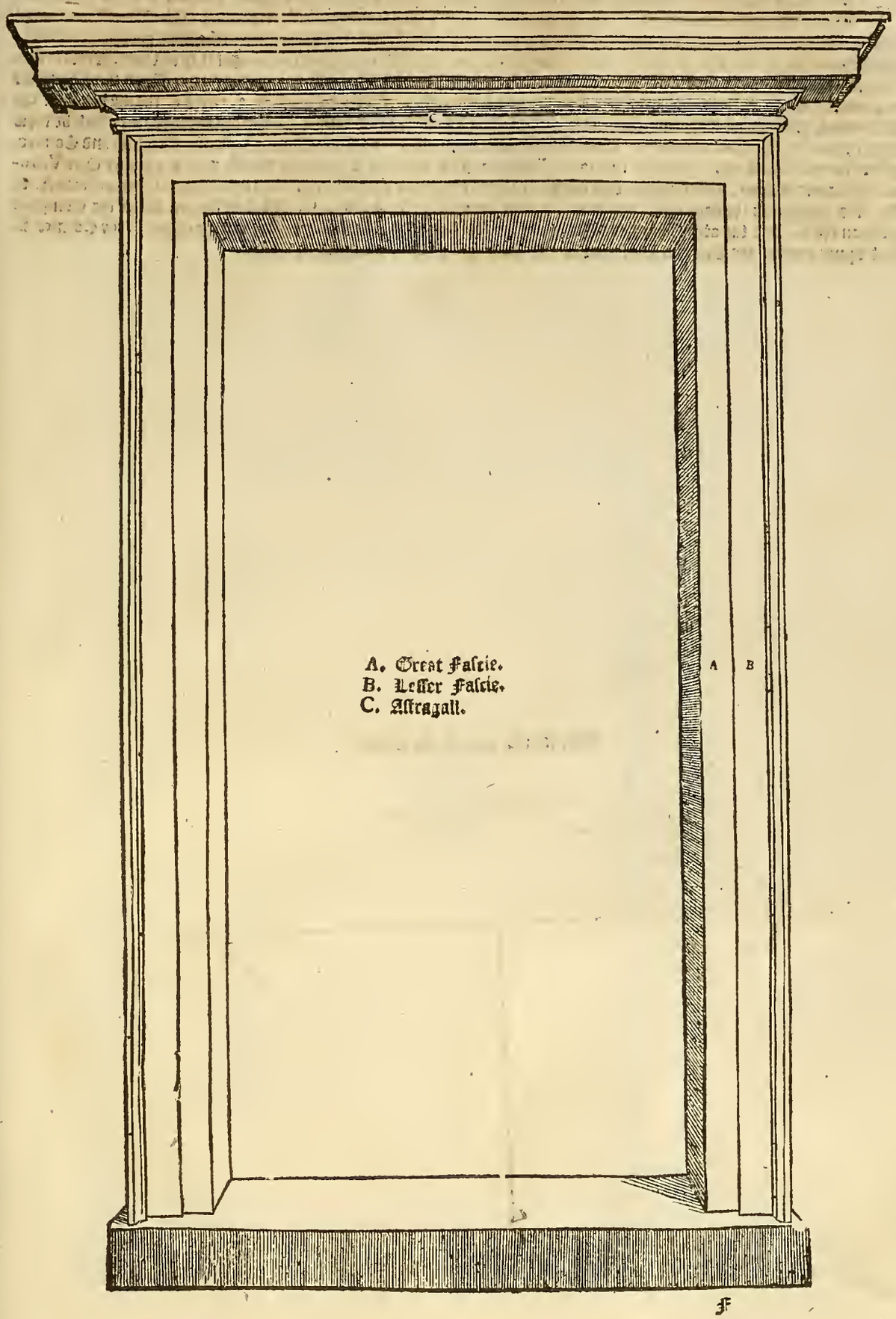
Corrections of the aforesayd text, by S. Serlie.

I Haue perused Vitruuius writing nearer, and with more deliberation, where hee speaketh of the Cimatie Dorica, and the Astragalo Lesbium, in the Sima Sculptura: and I find, that Sima Sculptura is meant of flat cutting, rising very little: now, for that I haue found many such like in Antiquities, viz. where the Astragals, Leaues, and Egges, &c. haue but small or little Proiecture or rysing vp, therefore I set this for instruction of Translators, to be corrected touching Dores.

AND for that our Author hath set this correction of the Cimatie and Astragall here, wherein, in my opinion, there consisteth no great matter, I thinke it not amisse to helpe him a little in this matter touching doores, wherein consisteth much. For where Vitruuius saith, that you must deuide the part from the Pauement to the Lacunary in 3. parts and an halfe, it must be vnderstood, aboue towards the Timpanum marked B. and then the doore would bee well, and the Corona would be like the Plinthus of the Capitall. Now, for that the text is so different in other places, as in the middle of the Models, whereof Cæsarianus sayth, that he hath found 3. or 4. sorts; so it is to bee feared, that this also is not well vnderstood. Thus much I haue (with your licence) thought good to set downe here, that the building should not be left vnperfect, as our Athor doeth. For although he sets downe the Figures of more dores, yet hee sheweth not how they shall stand in the Building aforesayd.

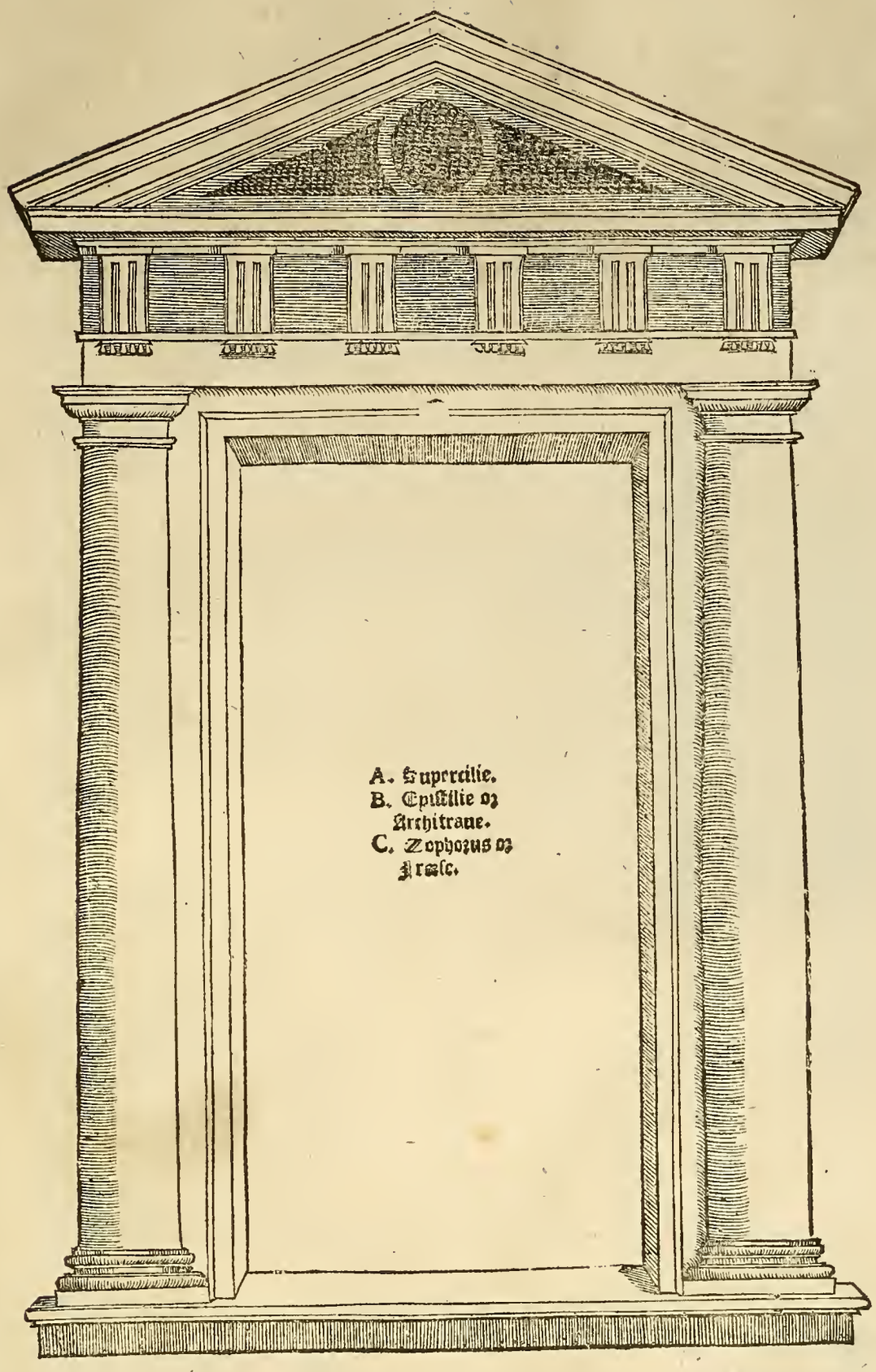

d
D
c
A
b
D
A
A
a
A. Antipagment or Pilaster.
B. Supercil ie.
C. Hyperthire.
D. Corona.

For that men in our time doe not vse Dores lessened aboue, as they did in ancient time; which I, for some reason, doe not discommend, yet some skilfull workeman haue many, which most part of common workemen like not. If then the workeman will make a Thiromatum or Dore simply, with little beautifying, after the Dorica order, then he may obserue this order and measure hereafter following, whereof the light or that which is open, shall be twice as high as broad. The Antipagmentum or Pilaster shall be the first part of the bredth of the light: without the Antipagmentum you must make an Echine with two Lists, which shall be the sixt part of the Pilasters or Antipagmentum, although in the Gate, spoken of before, it is the first part: neuertheleſſe, for that I haue seene in Antiquities, in a meane Gate of 12. parts, I haue done it here also, as I promised: you must not make the Echinus of the 4. part of the Circle, but it must be flatter and lower, which Vitruuius calleth, Cimatium Lesbium. The rest of the Pilaster shall be deuided into 9. parts, whereof 5. shall be for the greatest Facie, and 4. for the lesser Facie. Aboue the Antipagmentum, that is, the Supercilium, the Cornice shall be set of the same height that the Supercilium is, and shall bee deuided in 3. euen parts: the first, for the Cimatie with the Astragall: the second, for the Corona, with her Cimatie: and the third, for the Scima: But there is also the eyght part added thereunto, and the Projecture bearing out or shoting ouer, shall be according to the rule aforesayd, set downe in the beginning of this Booke.

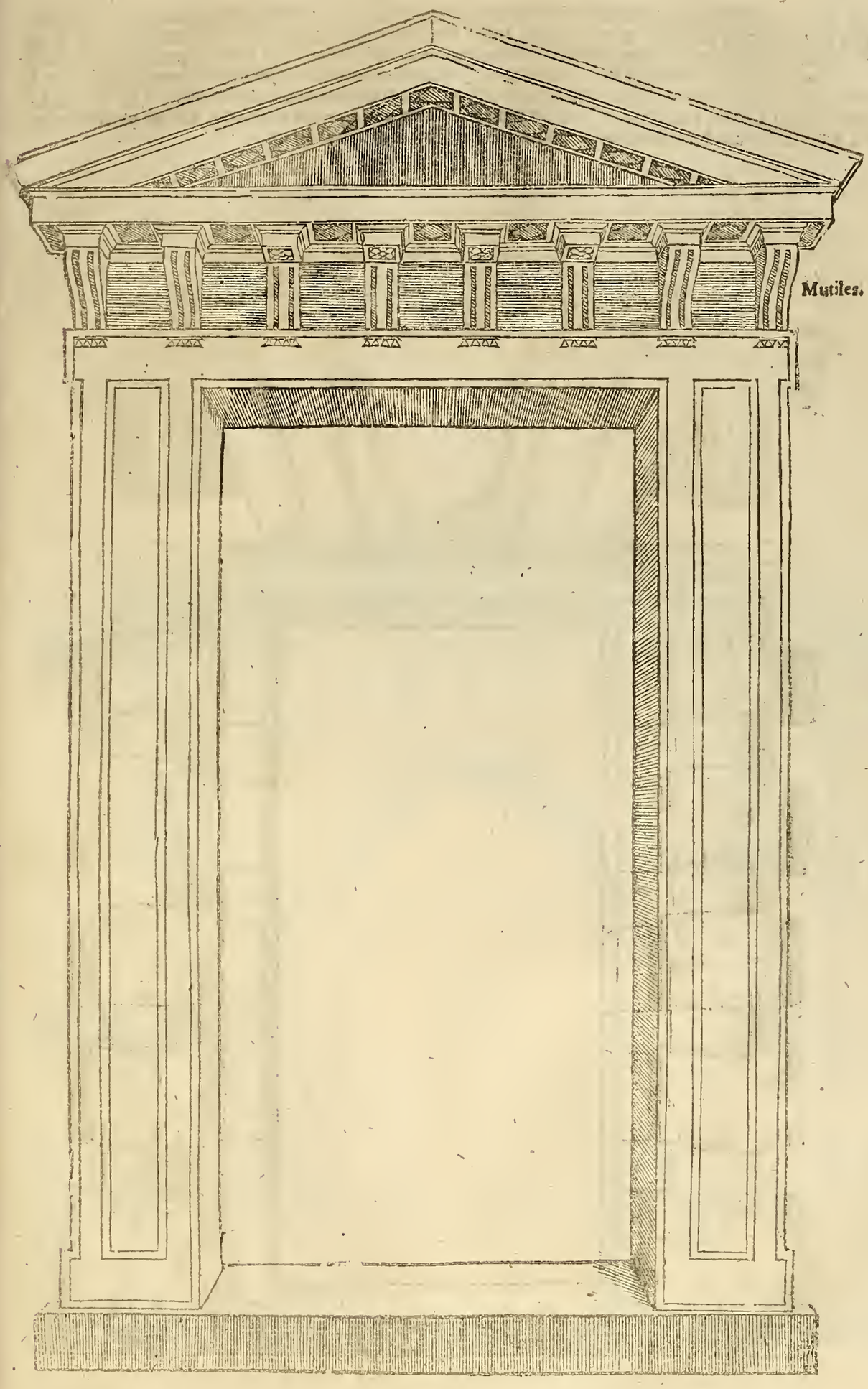

A. Great Fascie.
B. Lesser Fascie.
C. Astragall.
A
B
C

ALthough that in the Order of Dorica Vitruuius maketh mention of one Dore or Gate onely, and darkly inough (in my opinion) as I shewed before, I thinke it requisite, that men shall not onely vse one sort of Dores or Gates, but also of diuers sorts and fashions, to beautifie a piece of worke, and to please diuers minds: Therefore, when a man will make a handsome Gate, he may follow this Figure: that is, to set the breadth of the Dore twice in the height: and the Pilaster must bee made of an eyght part of the light, and the Columnes of the third part of the breadth; which shalbe set 9. times in the height: and although it be more then the measure set down, yet it is not false, because some part is made vp in the wall: also some Antiquities vse it, which in such cases are not ouercurious. Vpon the Columnes you must set the Architraue as high as the Pilasters or Supercilie. The Frese shalbe 3. parts of the thicknesse of the Columnes, vpon euery Columne there shalbe Trigliphes set, and from the one Trigliph to the other, there shall be three Trigliphes and fiue spaces deuided. The other particular members, as Base, Capitall, Frese, Trigliph and Cornice, follow the rule aforesayd. Now, for that some Fastigies, Frontispicies, Couerings and Gencls, are higher then Vitruuius sets them downe, their common rule shalbe, that you deuide the Cornice from one corner to the other, as from A. to B. in 2. parts, and the halfe shall hang downewards, straygh by the Lead to C. and then the one fot of the Compasse set vpon the C. and the other fot of the Compasse on the corner A. drawing it about to the corner of the Cornice B. that vpper part of the Circular line, shall be the due height of the Fastigium or Geuell.

The fourth part of the Circle.

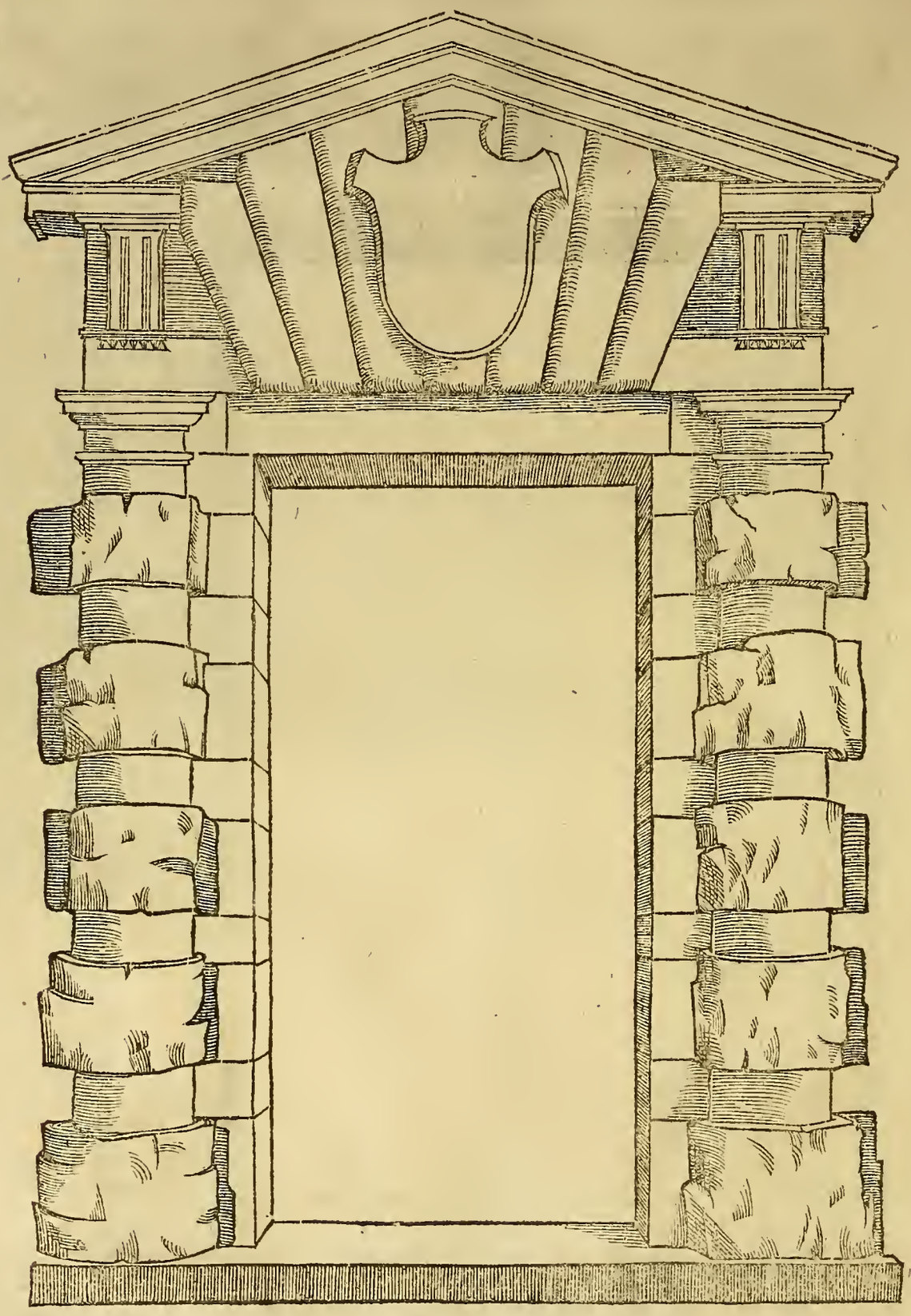

A. Supercilie.
B. Epistilie or
Architrave.
C. Zophorus or
Frese.

ALteration oftentimes is better and more estéemed, then perfect simple forme in her owne nature: therefore it is the more pleasing, when a piece of worke is made of diuers members and parts, although of like nature, as you may perceyue in the Figure following, wherein there are Trigliphs and Mutiles, all in one order: which, in effect, I neuer saw in any Antiquities or writings. But Balthazar of Sienne, one that read and sought out all Antiquities, may, peraduenture, haue séene some, or at least himselfe was the Inuentor thereof, placing Trigliphes aboue the Doore, where they beare least stresse, and the Mutiles aboue the firme part of the Pilasters, which beare all the waight of the Fastigium, and in my conceyt, sémely, and was much commended by Clement the seuenth, who, assuredly, was a man excellently séene in all Artes. This part shall haue the light double proportioned; but the Pilaster shall be the 7. part of the height, and the Supercilies the halfe thereof. The breath of the Trigliphes and Mutiles, is the halfe of the Supercilies, and the height a double breath, making 2. Mutiles ouer one Pilaster, and 4. Trigliphs ouer the Doore: the spaces shall be all 4. square. Aboue the Mutiles and Trigliphes, you must set the Capitall or Abacus: the height or thicknesse whereof, shalbe a 4. part lesse then the breath of the Trigliph, and the Cimatie the 3. part of the Abacus: The height of the Corona with her Cimatie, shalbe as broad as the Trigliph is, and the Scima also as much the bearing of the Corona before, shall bee as much as the space from one Abacus to another, that in the ground there may be perfect foure squares: But the Proiecture or ouer-bearing both on the right hand and on the left, shalbe halfe to great as before. The Proiecture of the Scima and the Cimatie, shall be each according to their height. That Fastigium in the highest part, shall be a fift part of the widenesse, from the one corner of the Scima in the right line, to the other.

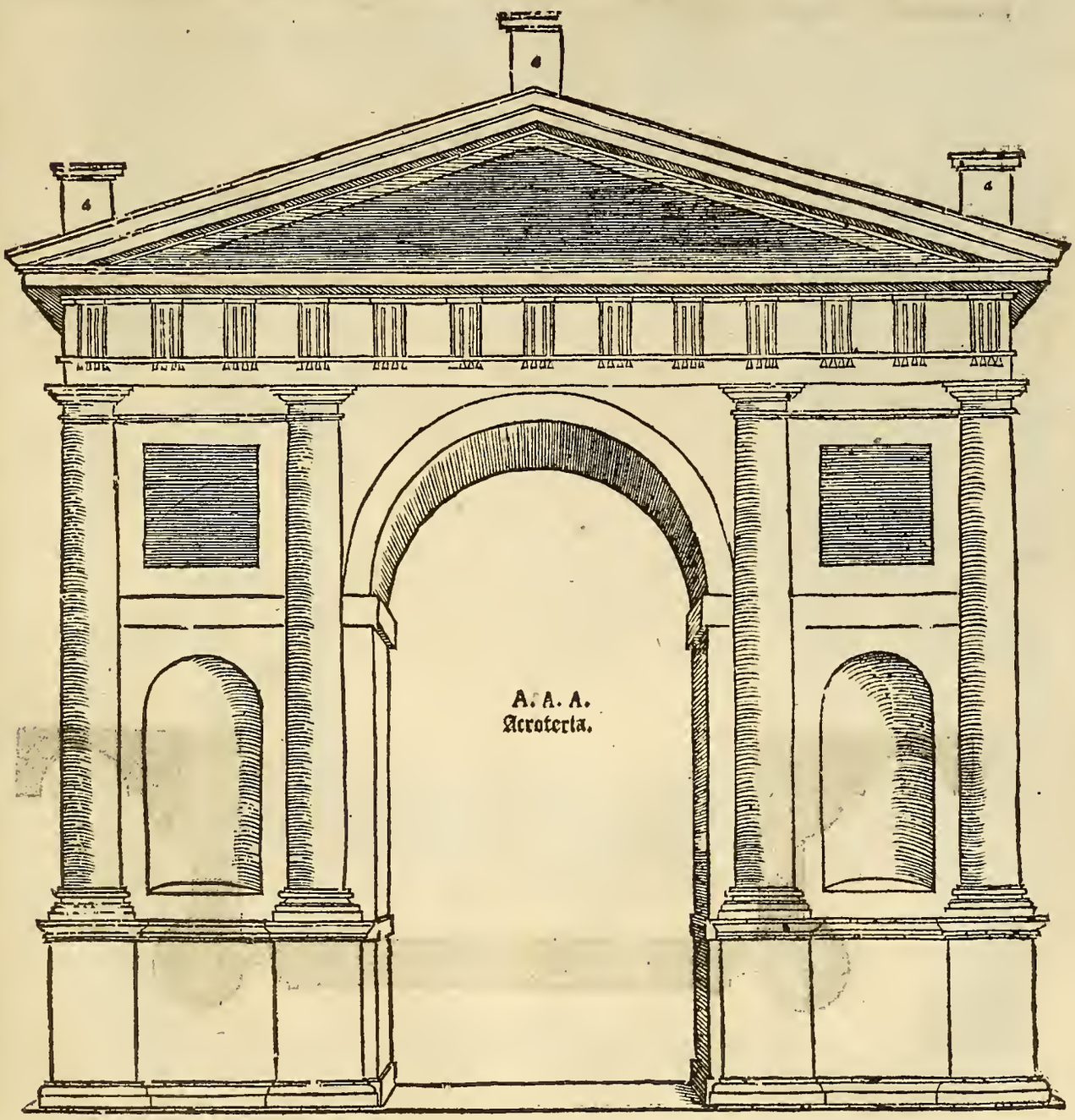

Mutiles.

Of the Dorica

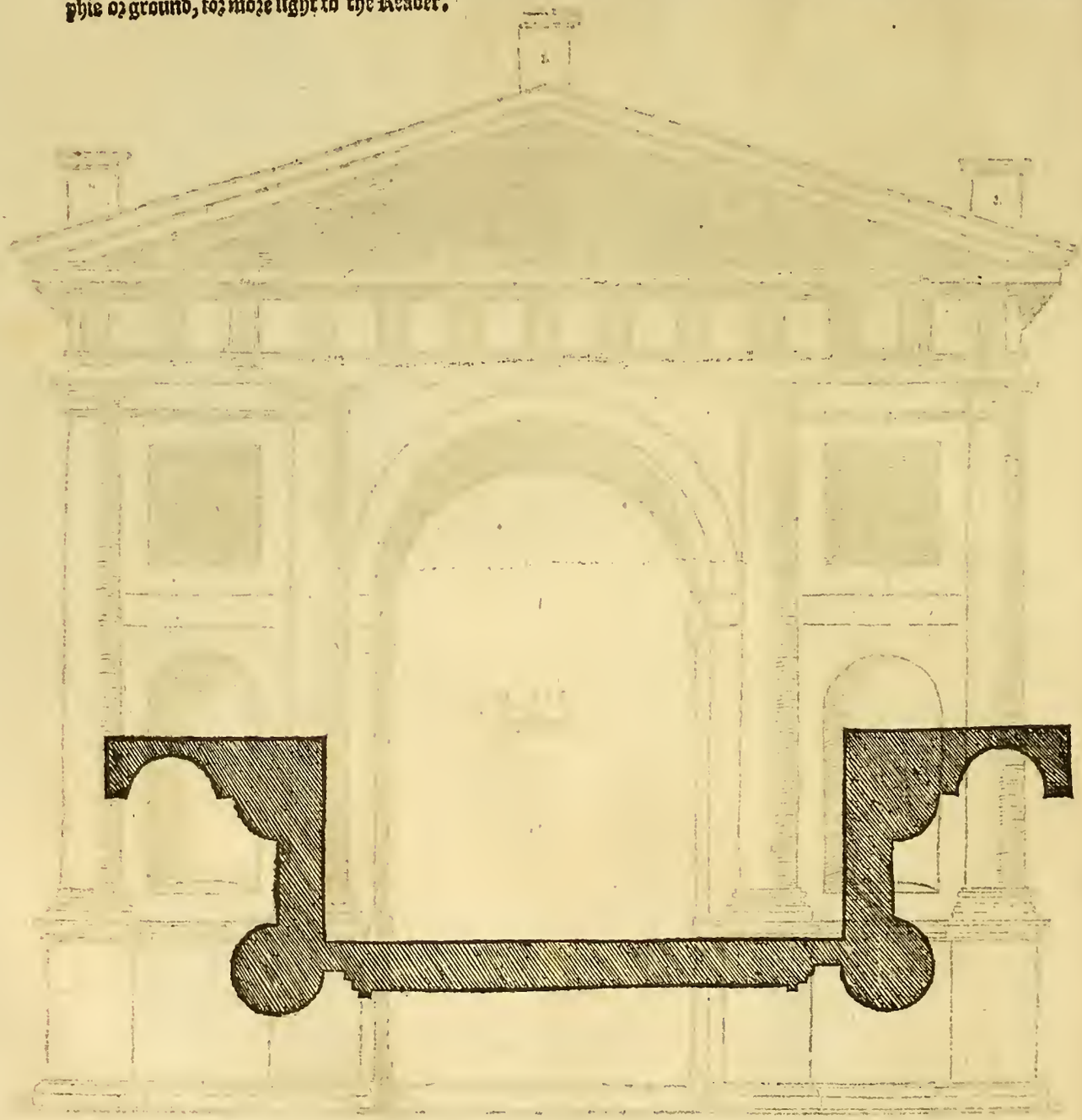
Although a man may make diuers kinds of Gates in Dorica worke, yet for that at this day men couet after nouelties, especially, when they are made by rule and reason, although the Columne, Freese and other members are mixed with rusticall Building, yet hérein you may see forme and fashion: and whereas I haue sayd, that a man should vse rustical and boyish works in Forts and Fortresses; now this may serue for a change, but not without, for receiuing of shot in them, &c. The light thereof is also double in height: the Columnes two times so broad as the Pilasters, being 14. Models high, with Capitals, Trigliphes, Fastigium, &c. Let the Reader doe his pleasure further herein, for me thinkes there consisteth little herein, and there is inough sayd as before.

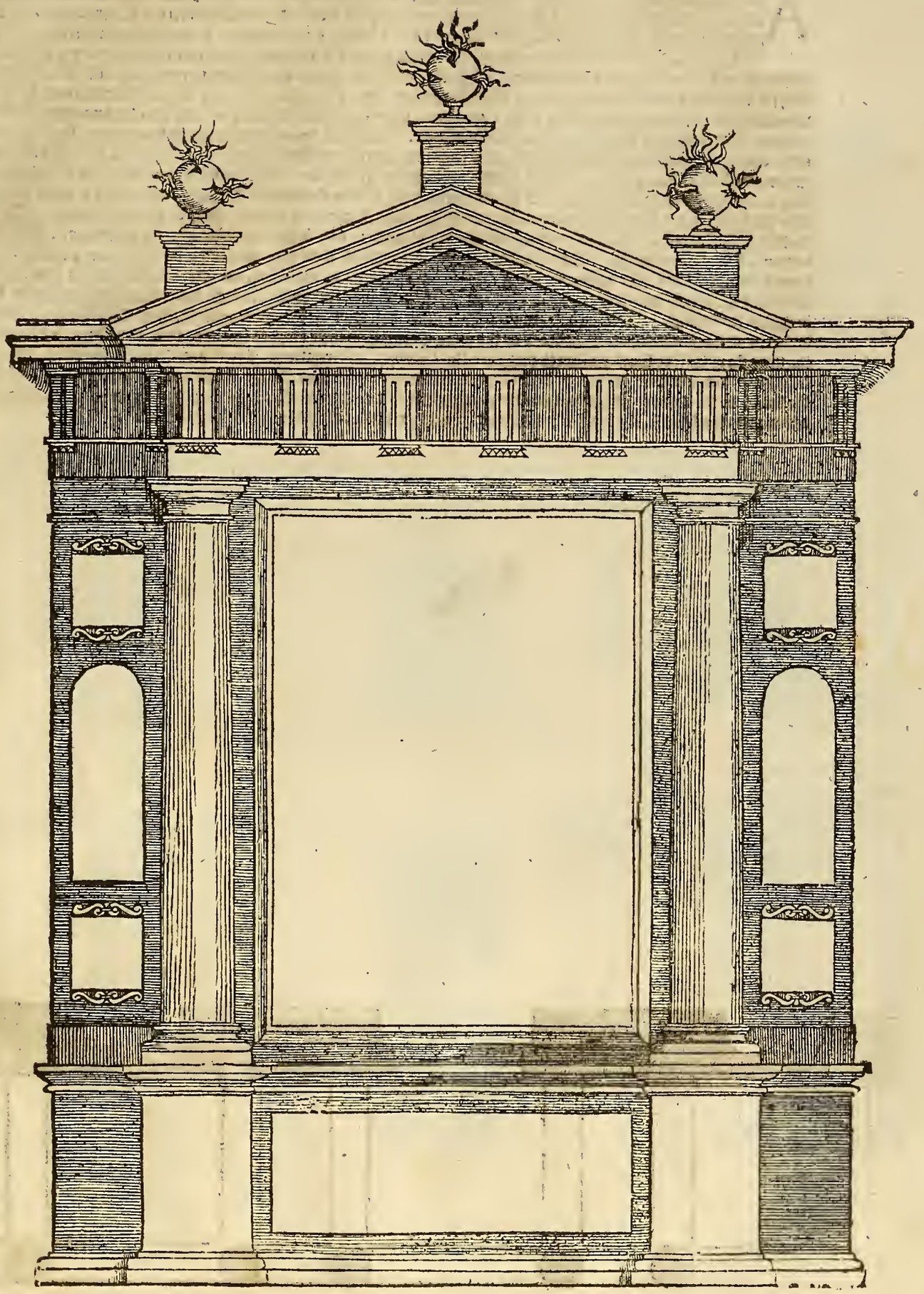


MY meaning was, in the beginning of this Booke, to speake onely of the ornaments of the five Orders of Buildings, as of Columnes, Pedestals, Epistiliums, Zophorus, Cornices, Gates, Windowes, Niches, & such like things. But, after that I determined to augment and enrich this Volumne, in shewing diuers Facies or forepartes of Edificies, Temples, Palaces and Houses, &c. And for that, when as the Columne standeth vpon the ground, they are commendable; yet oftentimes it falleth out, that men haue not their Columnes thicke inough, nor long inough, as they desire, so that it is necessary to place Pedestals vnder them: therefore I haue made this order following, the proportion whereof shall be as followeth: that the widenesse shall be double in the height: the Pilaster with the Arch, shalbe a 12. part of the widenesse: the Columne as thicke againe: the inter-Columne halfe the widenesse of the light or Dore: the widenesse of the Niches, 2. Columnes thicke, and 4. in height: the Pedestals, 4. Columnes thicke in height: his breadth, and the rest, as is before sayd. The Columne, with the Base and Capitall, shalbe 9. parts high: the Epistilium is halfe a Columne thicke: the Trigliph of the same breadth, and twice so high with the Capitall. The Trigliphes placed as you see them, the Corona and the rest of the members shalbe made as is before shewne. The height of these Greeis somewhat exceed Vitruuius writings: but I haue seen such an other, somewhat higher, in Antiquities, being made of the first part of the Corona in length. The Acroteria shalbe of height and breadth like the Columne aboue, without Cornice: and the middlemost a first part higher, as also the Columne a 9. part, being made fast in the wall.

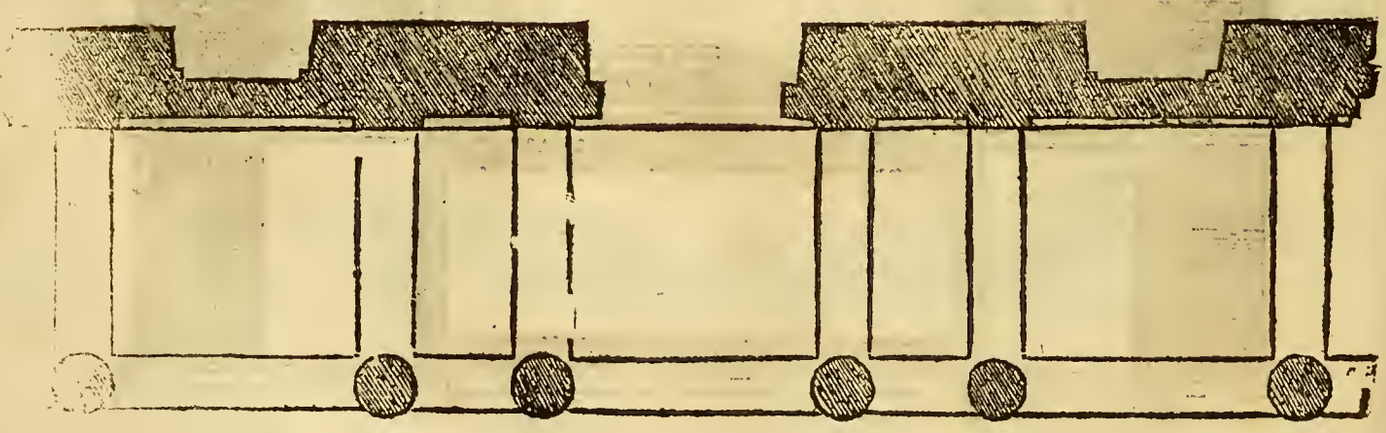


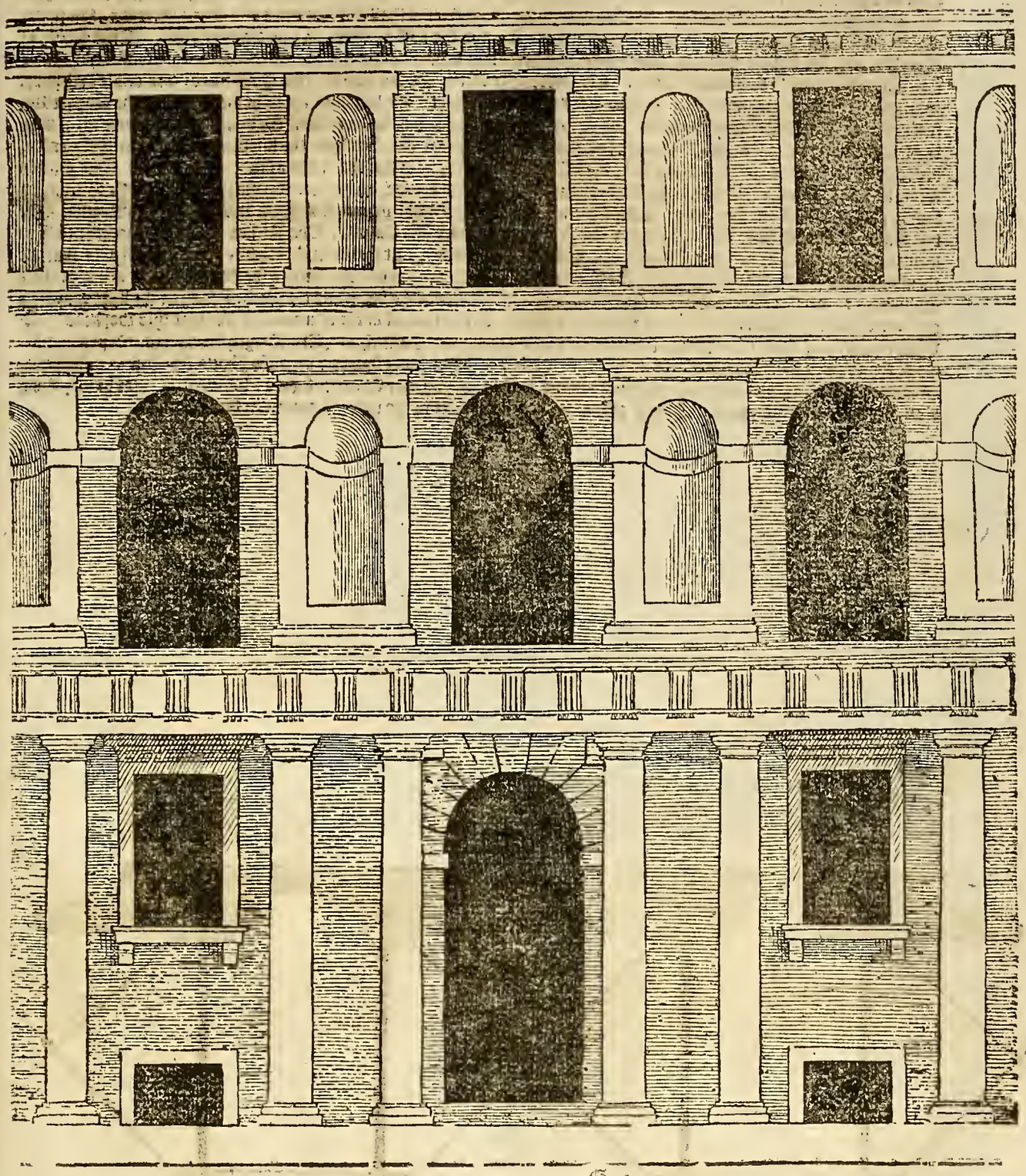
This Figure following, may be vsed by the learned workeman for diuers things, and may bee altered according to the accidents that shall happen: it will also serue for a Painter to beautify an Altar withall, as men at this day doe in Italy: it may also serue for an Arch tryumphant, if you take away the Basement in the middle. Likewise, you may beautifie a Gate withal, leauing out the wings on the sides: sometimes, for setting forth a Window, a Niche, a Tabernacle, or such like things: which proportion shall be made thus, The openneſſe or widenesse shall bee deuided in 5. parts, and one of them shall be the thickenesse of the Columnes: the Facies or List round about shall bee halfe a Columne thicke. The height of the light shall be the thicknesse of 7. Columnes, and the Base and Capitall together, of the thickenesse of a Columne, and in all, shall be eyght parts high. That Podestall shalbe 3. Columnes thicke in height, the breadth or forepart like the Plinthus vnder the Columne. The inter-Columnes on the sides shall be one Columne thicke, and in the Corners shall stand the fourth part of a Columne: the wings on the sides, wherein the Niches are, shall be of the thicknesse of a Columne and a halfe, but the Niches a Columne broad, and 3. in height. The Architraue shall haue the halfe thicknesse, and the Trigliph also as broad, but the height without the Capitall shall bee a 4. square, and two 3. parts; whereby, placing the Trigliphes on the right side, and on the left, right aboue the Columnes, and betwéene both 3. Trigliphes, and 5. Methophes more: the deuisions shall rightly come to be 4. square in the spaces. The Corona and the Frontispicie, and all the other parts, as well below as aboue, shall be made as is taught in the beginning. And for that the Trigliphes on the sides differ from Vitruuius doctrine; yet, notwithstanding, I haue seene them in Antiquities stand vpon the corners, the workemen may, at their good pleasures, make them in worke, or beare them out, as occasion shall serue. Further, I had no meaning to set any grounds or platformes in this fourth Booke, for that it is intended to be intreated of elsewhere; yet such forefronts as are hard to be vnderstood, I wil set the Ichnographie or ground, for more light to the Reader.



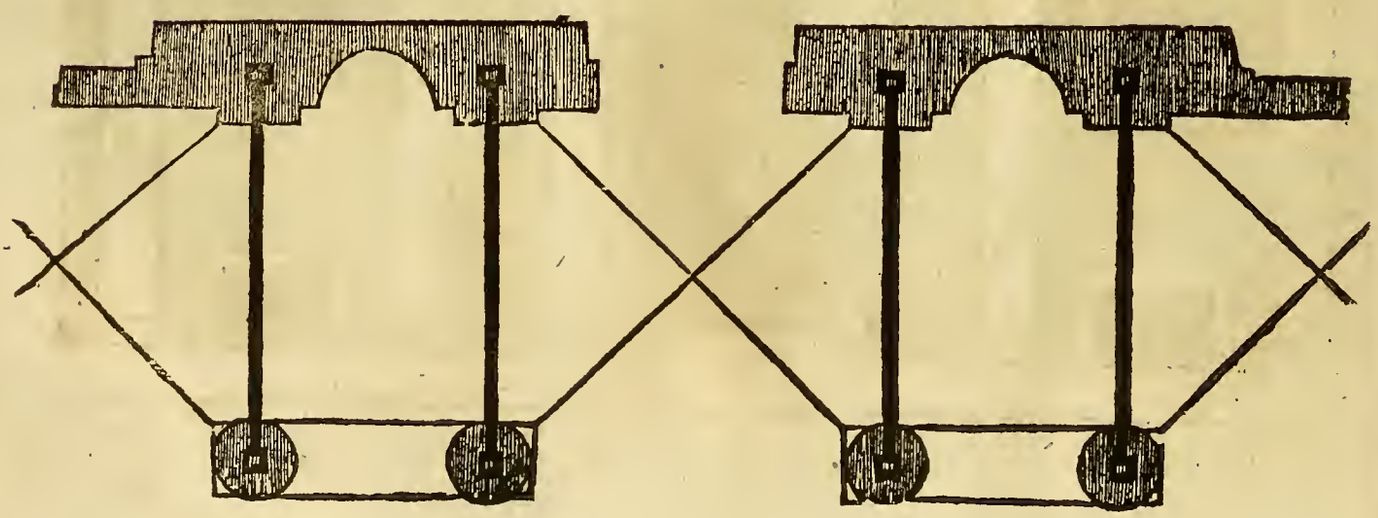


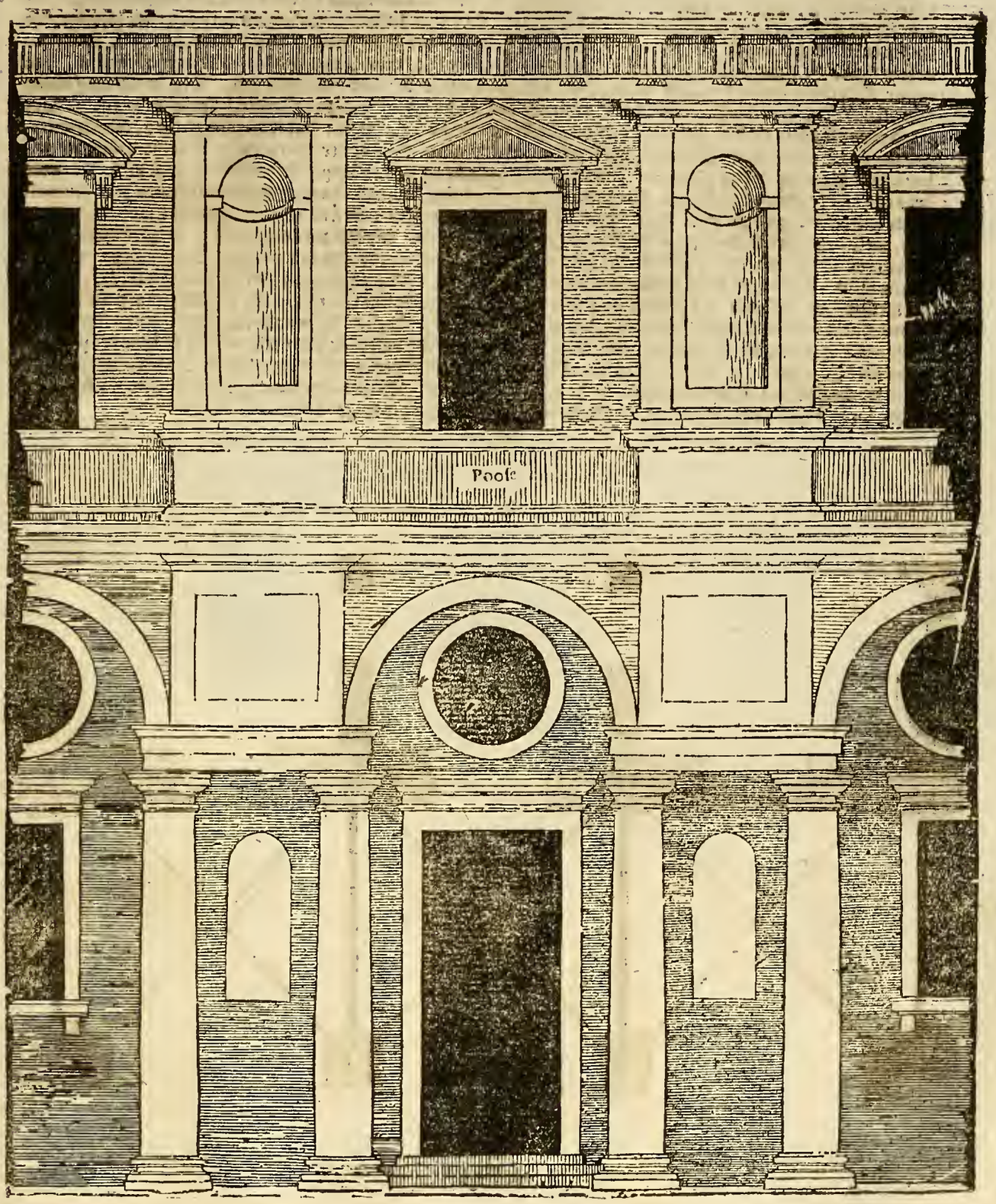
Although in Antiquities, as farre as is found, when Vorkemen had placed the Epistilia vpon the round Columne, they set nothing else but the Fastigium vpon that, vsing the same order in Churches and Temples, and not in any other buildings: Nevertheless, I will not omit to set downe some maner of Houses without Arches: for if you will make Arches with their foursquare Pillars and round Columnes before them for beautifying of the worke, seeking to make much light in your Callerie, the Pillars with the Arches will hinder a great deale of light: Then if you will set the Arches onely vpon the round Columnes, that were altogether false, for that the foure corners of the Arch would surpasse the roundnesse or body of the Columnes: therefore I intend, to make some Houses and other Buildings without Arches, both of this order, and also of the other. This shall therefore be made in this maner, that the greatest inter-Columne shall be the thicknesse of foure Columnes, and the smallest of one and an halfe. The height of the Columnes shall be of nine parts, with Bases and Capitals: the Architraue, Freese, and Cornice, &c. shall bee made according to the former rule: the widenesse of the windowes are of two Columnes thicknes: the height a foursquare and two third parts: and their Pilasters one sixt part of the light, having the Cornice above, like the Capitall. The dore shall be of the breedth of three Columnes, and seuen in height: and so shall the lights of the windowes, and of the doores, bee all one height. The Trigliphes and Methophes shall bee deuided, as you may perceiue. The second story shall bee lesse or shorter by a fourth part, according as Vitruuius giueth counsell: so also, shall the Architraue, Freese, and Cornice bee a fourth part lessened: the windowes thereof, with the Pilasters, should bee as broad as the lowest. The ornaments in the Niches shall stand in Perpendicular, with the Columnes: and the hollowings of the Niches, shall be as broad as the inter-Columnes: their heights shalbe of two foursquares and an halfe: the third story shall be shorter a fourth part then the second: The Architraue, Freese and Cornice accordingly: but being together deuided in three parts, one shalbe for the Architraue, the second, for the Freese and Mutiles or Mogdilions, and the third, for the Cornice: You shall find the particular measures hereof after the Composita: the windowes shall also be as broad as the lowest, but the Niches shall be a fourth part lesse: the rest you shall liqhtly find.



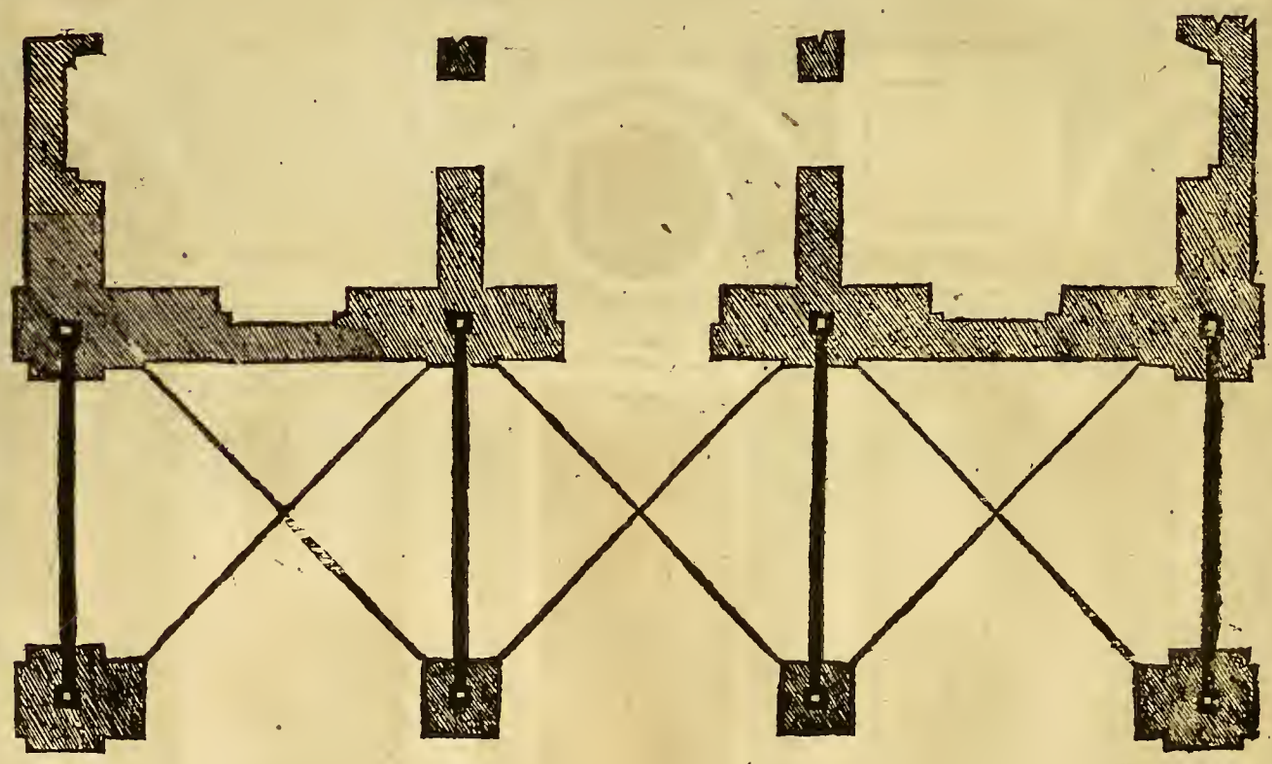


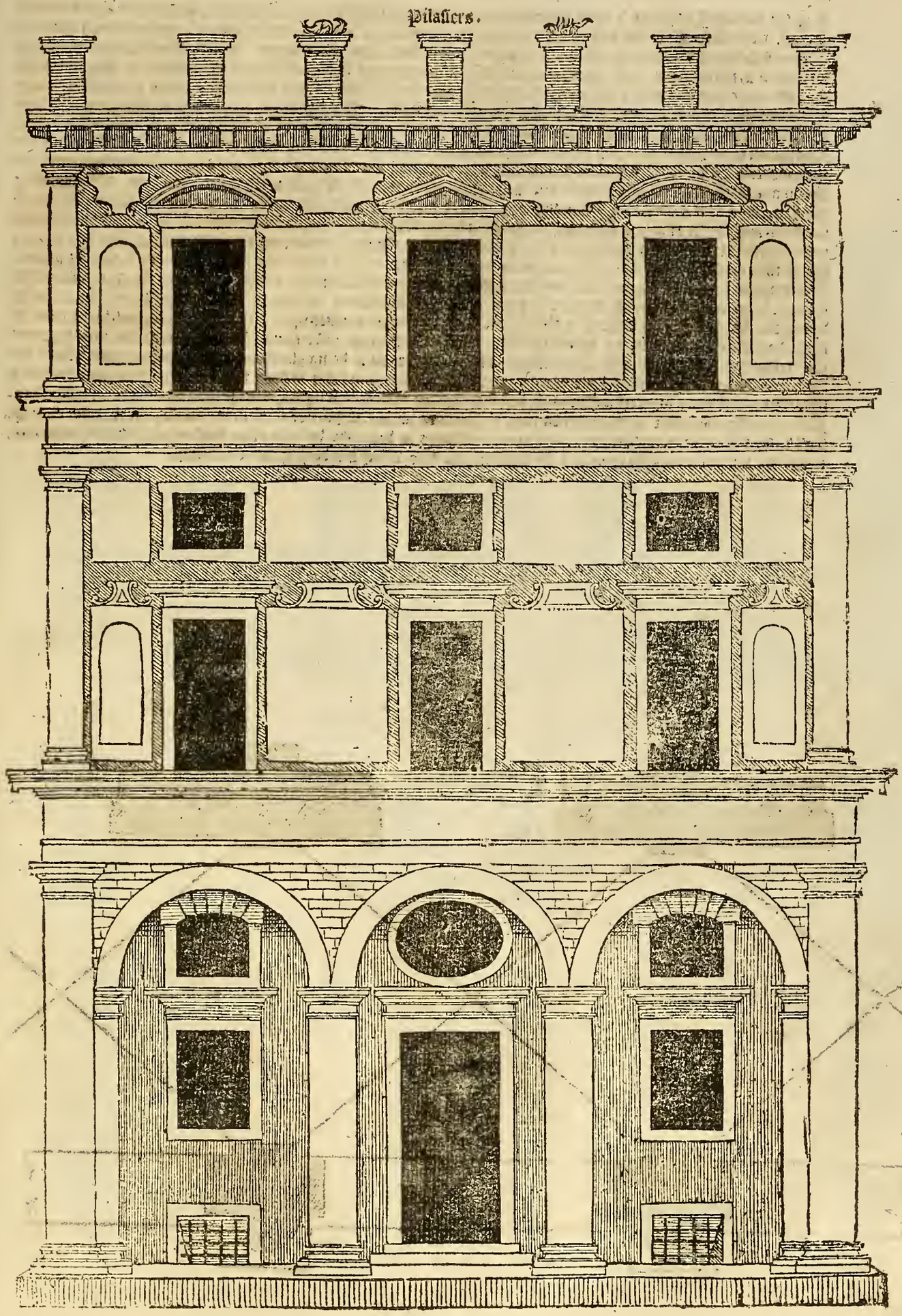
ALthough in the Thuscan Order, in the Facie 13. I haue shewed the like inuention, this, notwithstanding, differeth: for that this Gallery would bee round roofed, and where the Arches are, the crossings would be made as you sée in the ground. And for that the Columnes cannot vphold the sides, alwayes giuing out, therefore aboue the Columnes, you shall lay or fasten Iron bindings, in the sides, as you sée it in the platforme, but they will last longer, if they be made of brasse. The proportion of this Facie shall be made thus: The greatest Intercolumnes shall be 4. Columnes thicke, and the least two. The height of the Columnes, with Bases and Capitals, shall hold 7. times their thickenesse. The Epistilium shall bee three foure parts of a Columne thicke: aboue the which, there shall be a halfe Circle made, the breadth thereof shalbe halfe a Columnes thicknesse: vpon the Arch you shall set the Cornice of the height of the Epistilium. Betwéene both the Arches there shall be the maner of a window made, the widenesse whereof shall be like the Intercolumnes vnder it: and the List or edge, as broad as the Arch. That Cauet or Trochile, and the Echine aboue the windowes, and part of the Cornices, shall, nevertheless, beare out somewhat aboue the windowes, for to beautifie the same. The widenesse of the Dores shall bee two Columnes, and one fourth part. The Pilaster or Antipagmentum, shall bee a first part of the light: the height of the light shall reach to the Supercilie, iust vnder the Capitall of the Columne: which forme of Capitals shall follow aboue the dores and windowes. The light of the windowes shall bee in breadth two Columnes in thicknesse: but these thicknesses aforesayd, in these cases, are to be vnderstood as the Columnes fall out. The length of the light shall be a foure square and a halfe: The Niches shall also be of the same height. The Rowe aboue, or the second Stage, as you will terme it, shall bee lesse or shorter a fourth part, deuided in this sort: The Podium or part breast high, of one Columne and a halfe in thicknesse. The rest shalbe deuided in five; one of them shall be Architraue, Frése and Cornice. The Niches with the Ornaments shall stand in Perpendicular aboue the windowes, betwéene the Arches, but shalbe in breadth fiue parts: two parts shall be the Columnes, the rest the Niches with the Pilasters. The Cornice aboue the Niches shall be the breadth of one of these Columnes: and the Bases, the halfe breadth thereof. The windowes betwéene the Niches, shall in the light contayne one fourth part lesse then the dore, and of double height: but of the rest of the Ornaments (for that this worke is somewhat mixed) you shall find further satisfaction in the Ionica and Corinthia. The Triglyphes in this composition, betwixt the one and the other, will not make their Methopes right foure square, because I haue set three Triglyphes aboue each window, and as many ouer euery of the Niches, as you may sée in the figure: wherein, if there be any thing wanting in the measure, or else what, I alwayes referre my selfe to the rule set downe in the beginning.



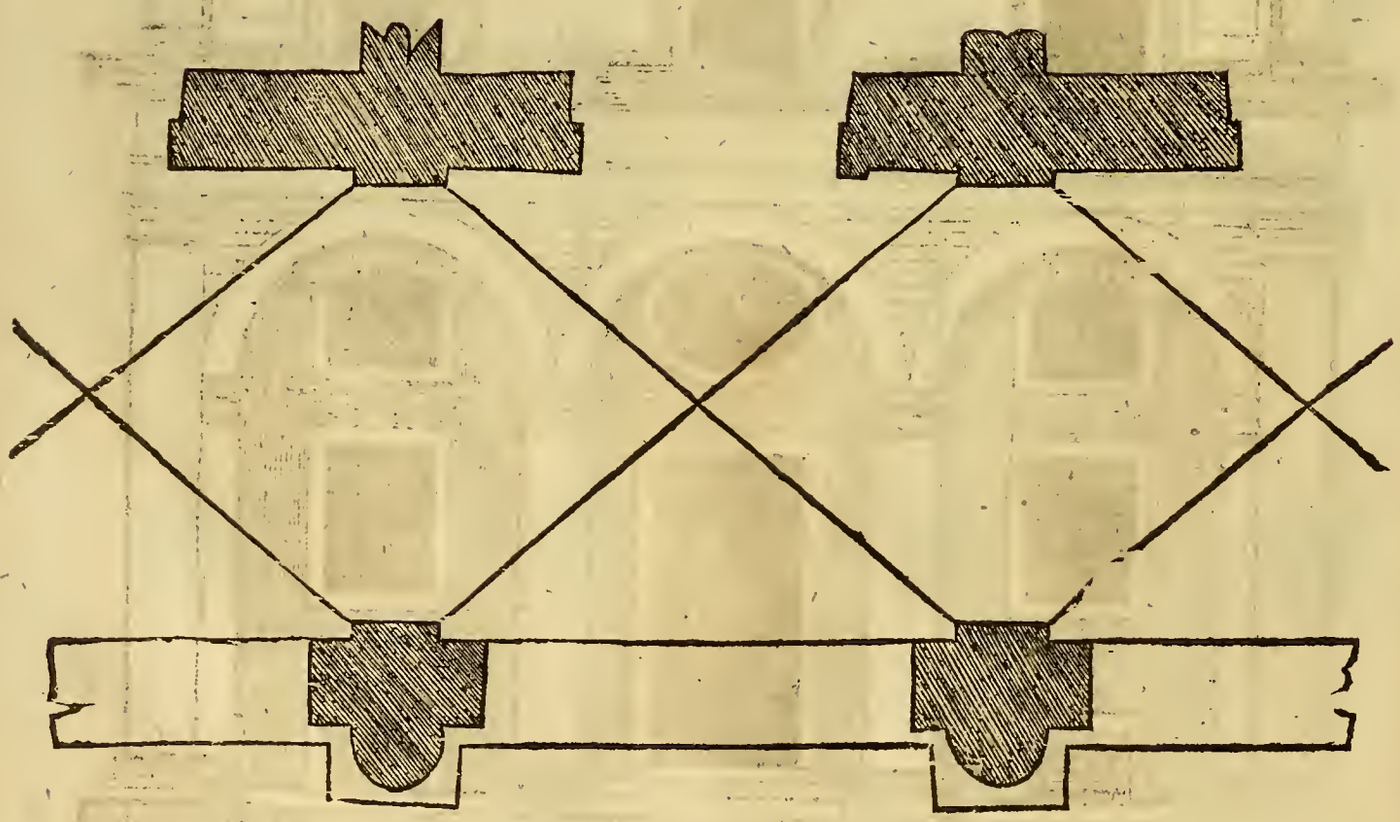

Poole

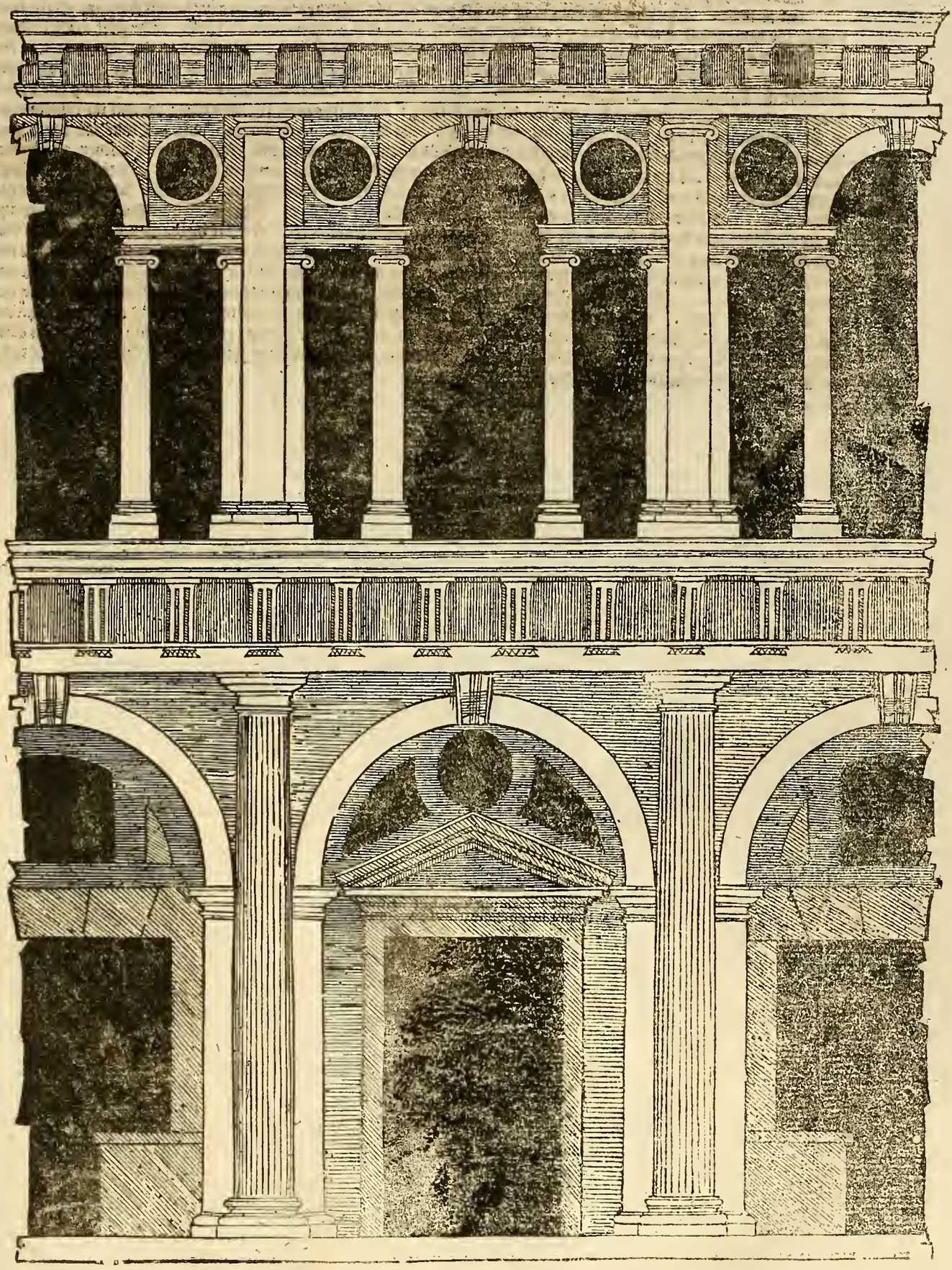
For that sometimes, some men will haue altogether Arches and Galleries, and for that it is confused worke, to place Arches vpon round Columnes, yet a man may make foure square Pillars vnder them with Bases and Capitals, like the other. And although this house is whole, which is but little for a man that hath a great liuing, yet you may set it forth in 5. Arches, also in 7. Arches. The Deuision whereof may be, that each Intercolumne may be of the thicknesse of foure Columnes. The height of the Columnes with Bases and Capitals of fire parts: and aboue them the Arches to be set of the breadth before, of halfe a Columne: the opennesse shall bee of double proportion. Aboue the Arches you must place the Architraue, Frése, and Cornice: the height of them all shalbe of 2. Columnes thicknesse: and being deuided in 3. parts and a halfe, one part shalbe the Architraue, halfe a part for the Frése, and one part for the Cornice: for the other part, you shall follow the rule aforesayd. The dore shalbe two Columnes outward: the Pilaster, the first part of the light: but the Cornices of the dore, and the windowes, shall haue the height of the Capitals. The windowes shalbe a Columne and a halfe bearing out: and their length or height, shall be taken in Diagonall maner. The corner Columnes shalbe as broad as the other: but they shalbe of 8. parts and a halfe high. The second story aboue this, shalbe a fourth part lesse: the corner Columnes, with Architraue, Frése and Cornice, lessened accordingly: The windowes aboue the Arches, with the Pilasters, shalbe as wide as those below: but the height of the 2. foure squares, and the Frése aboue them, shall bee as broad as the Supercilium: the Cornice also as much: The small windowes aboue them, are made for two purposes: The first, the Romes being high, as they shew outwardly, will make the chambers and other romes much lighter. Secondly, for necessity a man may make hanging chambers in them, and then those lights will serue to good purpose. The third story shalbe lesse then the second a fourth part: and the same being deuided in 5. parts, one part shalbe for the Architraue, Frése and Cornice: and that part deuided in 3. one part shalbe for the Architraue and Frése, and the third for the Cornice: and in the Frése, the Mutiles and Modillions shalbe deuided, as you see them. The lights of the windowes shalbe as the others, but they shall bee a twelfth part higher, because they are further from the sight: the Pilasters, Frése and Cornice, shalbe like the other. The Frontispice and Arches shall be made, as I haue sayd, in the dores and gates of the Order of the Dorica: for beautifying, or to place another row of Arches in it, you may set Acroteries or Pilasters vpon them, which will passe well in the making of their fire places, or chimneyes for auoyding of smoke. The spaces betweene the windowes, that remayne white, are left to bee paynted, as the workeman will, or at the pleasure of the owner of the house. But for more security of this building, it shalbe necessary to place these Iron bands in it, or at least, ouer the Gallery, as is taught before.



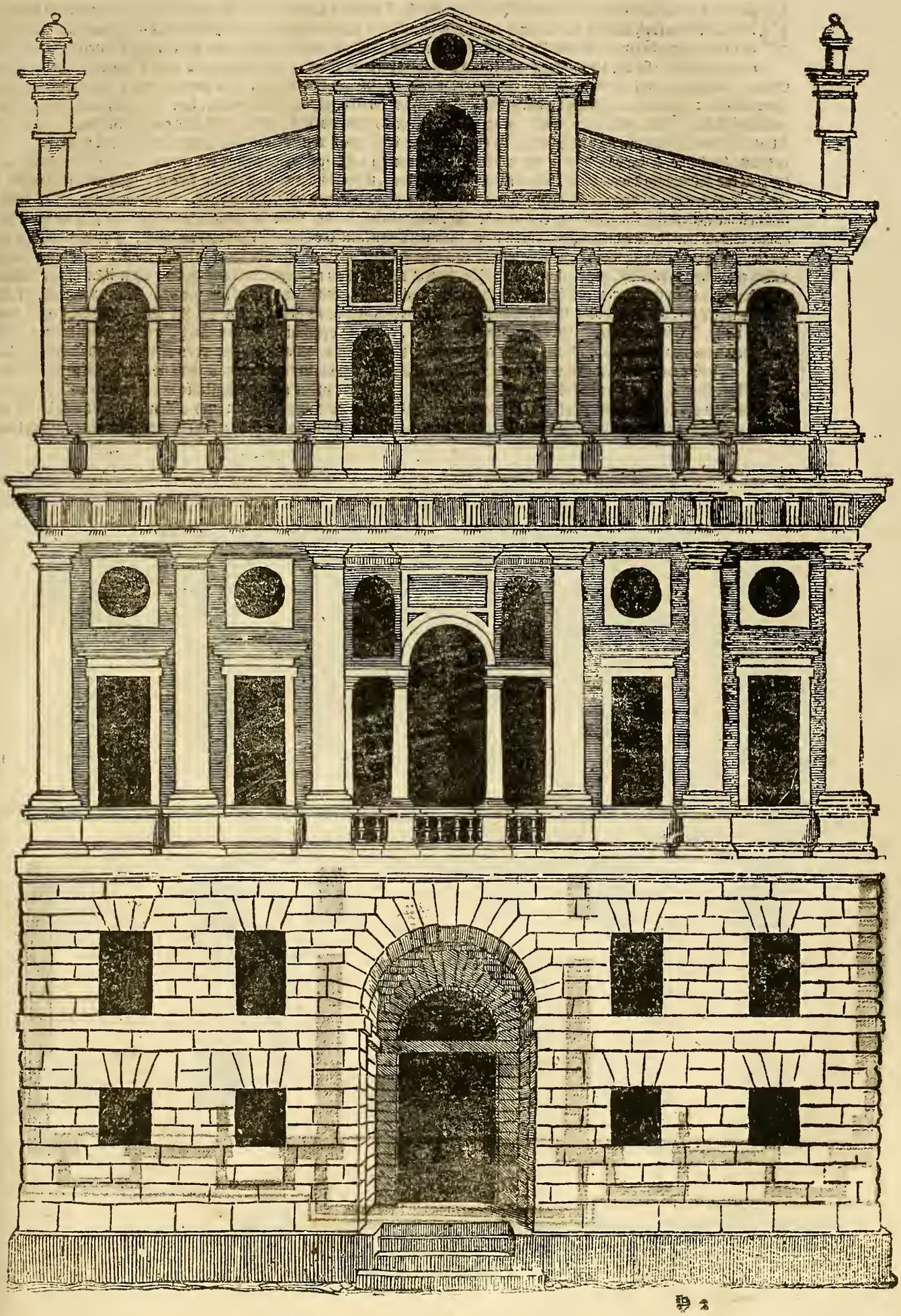

Pilaſters.

IN the famous Towne of Venice, because houses stand neere together, they are forced to make their lights as they may, so that their Building differeth much from that Building of Italy: notwithstanding, the workeman may giue them light inough, obseruing Antiquities, which shall be thus made and deuided: You shall deuide the widenesse of an Arch in 2. parts and an halfe: whereof one shall be for the breadth of the whole Pillar: the thickenesse whereof shalbe the halfe, the round Columnes also as much: the height of the Arch shalbe of one 4. square, and two 3. parts: you may also make them of two 4. squares, heightning the rest accordingly. The Impost or Capitall vnder the Arch, shall haue the halfe thickenesse of the Columne, according to that which is shewed before, of the Theater of Marcellus. The Doore shall be of three Columnes thicke in widenesse, the height of a foure square and two 3. parts: the Pilaster or Antipagmentum shalbe of the 8. part of the light: the Corona shalbe like the Capitall: but the Scima being set vpon it, you shall make the Fastigium as is before sayd, and aboue it giue more or lesse light, as the house requireth. If the building stand in a field or an open place, you make shops, which shall well fall out with the building: aboue the Columnes, the Epistilium must be set of halfe a Columne thickenesse: the breadth of the Triglyphes also as much: the height shall be made more or lesse, at the workemans will, that the spaces may be 4. square; whereupon you must set the Cornice of a 6. part higher then the Epistilium: the particular parts and measures, you shall make according to the rule before set downe. The story aboue shall be a 4. part lesse, making a Plinthus vnder the Columne, of such a height, as the Proiecture of the Cornice beareth: the rest must be deuided in 5. parts, one part shall be the Architraue, Frese, and Cornice, (which, as before is taught) shall also bee deuided in three parts. The Columnes which vphold the Architraue, shall bee nine parts high, the lesser Columnes which vphold the Arch, are thinner then the rest a third part: the spaces in the middle, vnder the Arches shall bee twice so wide as the sides: so then, the Cornices being placed vpon the Columnes which beare the Arch, and the halfe Circle made vp to the Architraue, also, the eyes or holes besides the Arch, then it will bee exceeding light: and where there wanteth a Chamber, you may shut the middlemost lights, and the sides shall serue for windowes. Neuertheleſſe, this order being obserued both without and within, it will not stand much amisse; for the place shut vp, shall be for a Fire place or Chimney, which ought alwayes to bee made betweene two windowes, like to a mans face, where the windowes are the eyes, and the Chimney the nose, which alwayes drawes the smoke.

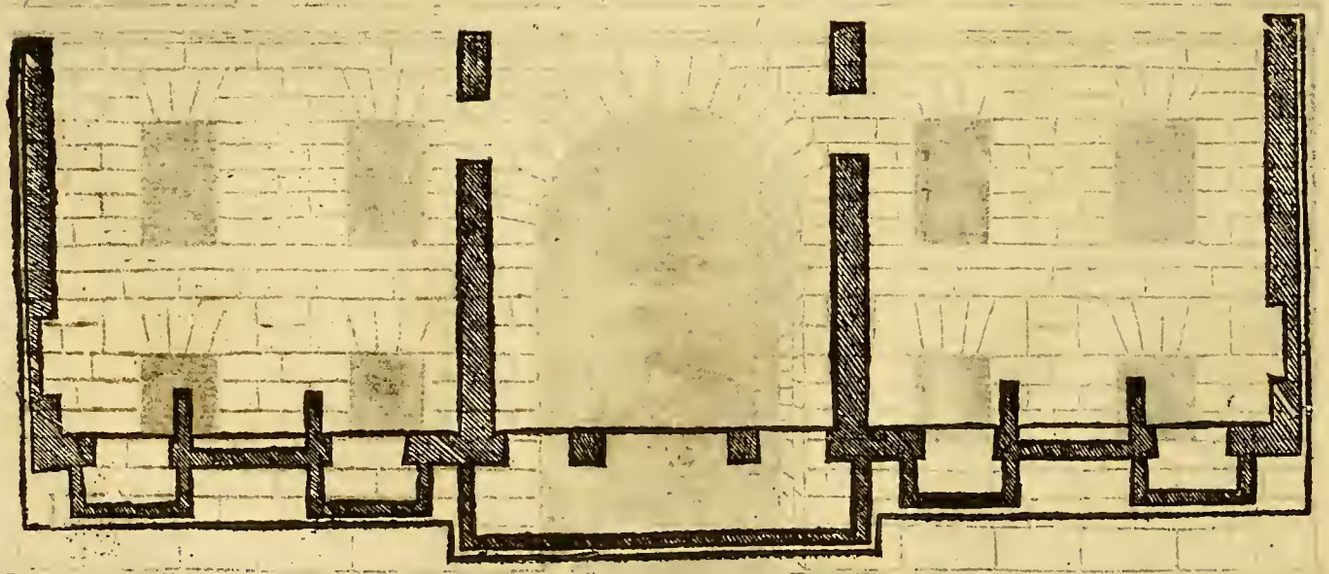


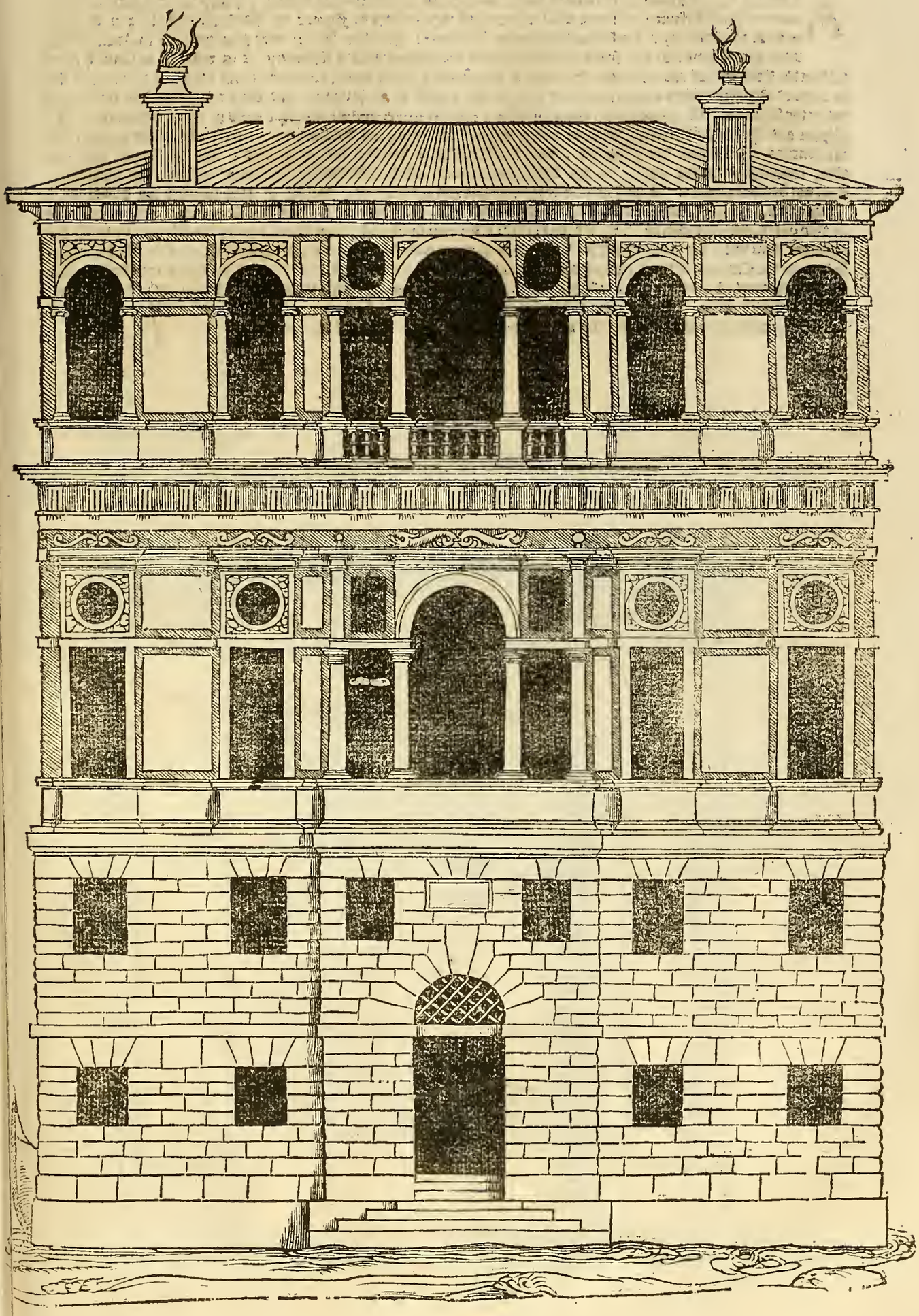


TO deuide this present Facie, sayth the Author (for otherwise he maketh no preface) you shall deuide the breadth in 14. parts, and one of these parts shall be for a Columne: the middlemost inter-Columne shall be of 6. parts, and the other each of 3. parts: the windowes shall be of a Columne and an halfe: the height of them, two 4. squares and an halfe. The Pilasters shall be of the sixt part of this light: the windowes in the first story are of the same breadth: the nethermost, shall be a perfect 4. square, and the other of a 4. square and an halfe. The port or Gate shalbe 5. Columnes wide, that the Columnes may haue a fast foundation: the height of this Gate is a 4. square, and of two 3. parts: the Arch-stones, and the rest, you shall see sufficiently in the Figure: from below vnder the Arch, vntill you be aboue the Facie, shall be 2. Columnes thicke. And although that all other stories or buildings, being one story aboue another, would alwayes bee shortened a fourth part: yet in this case, (by my aduice) for that the compartition of the Columnes, being aboue this rusticke worke, and that the rough worke should not take too much place when it is of sufficient strength, it is requisite that it should bee of the same height. Aboue the first order, as you shall make a Podium of a Columne & an halfe high, whereon you must set the Columnes in order (as it is taught) the height without the Podium shall be deuided in 5. parts, whereof 4. shall bee for the Columnes, the other for their ornaments, whereof the Trigliphes shalbe deuided, as you sée, obseruing the rule aforsayd. The middlemost shalbe dealt thus, that the small Columnes shall be the halfe of the greater, and the middlemost inter-Columne shalbe as broad againe as those that stand on the sides, which shall be like eyes of the windowes. Aboue the windowes, to make more light, you shall make the eyes, and aboue the smallest spaces in the middle, you shal make that you sée here in the Figure, for to accompany the same eyes. And although there rest particular parts, you shall alwayes seeke them forward, where you shall be assured to find them. The third order or story, and that which belongeth thereunto, shall also be made lesse a 4. part; but the windowes as broad as the lowest, as also their heights, and all other things, you may easily find with the Compasse. The raysing vp in the middle without the Frontispicium, shall bee halfe the third order in height: for the rest, a workeman may adde and diminish at his pleasure.

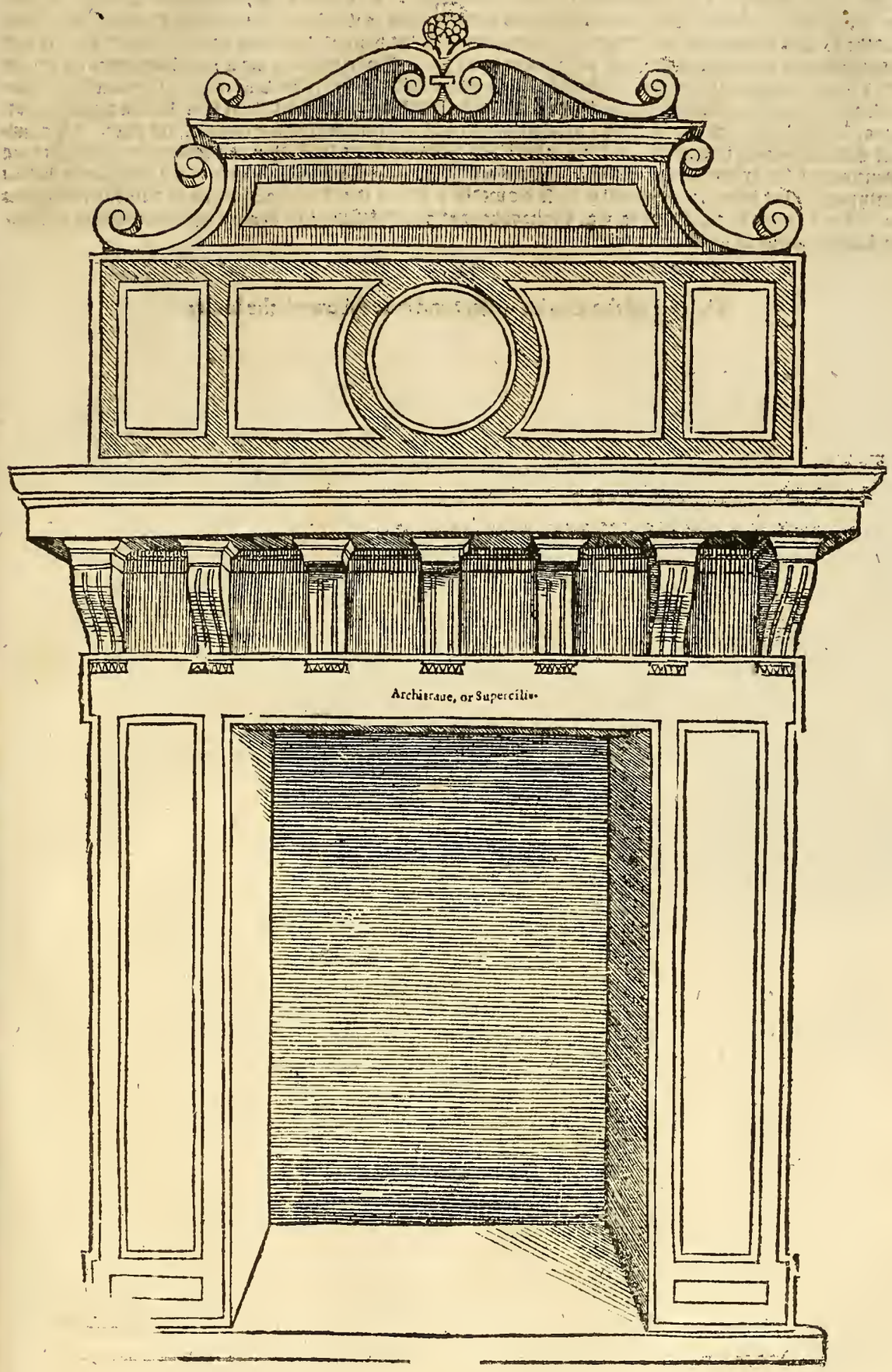


BEfore, I haue shewed in two figures, how to make the Facies or forefronts of Houses after the Venetians maner: but for that in such works men would willingly haue some places bearing out, which are, for the most part, made ouer the water, for fresh aye of the water, whereon the most part of buildings haue their fayrest forefronts or Facies; as also, to see the tryumphes oftentimes made there in Boates and Ships: to which purpose, the sayd bearings or iuttyings out serue well, and yet neuertheleſſe, are vnsemely things, and haue no other supporters but the Podiliions: Now, such things as haue not their foundation strongly layd and made, hurt the walles of the house or building, whereof ancient workemen were very carefull, and made no such bearing out, but onely Cornices: therefore I say, if a man will make any such things in any building with good aduice, it is necessary that the first wall should bee so thicke, that it may stand so farre out as the flat of the bearing out requireth, as may bee perceyued in the round: and for that the middlemost wall standeth out more then the sides, if you will not make it so thicke, then you may make a strong Arch within, to vphold the middlemost, although it be hollow and of small weyght. This bearing out, is to bee vnderstood aboue the Facies of the rustical worke: which being made, then the compartement of the Facies shall bee aboue this, so that the middlemost part shall be of three portions, and the sides of three and an halfe, I meane within the walles, as the ground sheweth. The height of this second order or story, shall be like the vndermost, according to the rules aforesayd: and first, you shall make the Podium of an indifferent height, to leane vpon: then that which resteth shall be deuided in fiue parts, one of those shall bee the Epistilium, with the rest of his parts. The widenesse of the middlemost part, must be thus: the openesse with the Arch must be as great againe as the sides, and the height doubled; so the Architraues being set vpon the Columnes, for the vpholding of the Arch, all the Windowes shall bee vpon a rome: likewise also, for more commoditie of light and ornament, the eyes of the Windowes shall bee made. These ornaments, together with many other things, if a man, in regard of cost, will not make them of Marble, or of other stones, they may be set forth with painting. The third order or story shall also bee a fourth part lesse then the second: and so euery other part thereof accordingly, following the rule aforesayd: and although the Ionica be set before the Dorica, which ancient workmen sometime haue done, you shall find the proportion thereof hereafter in his place.



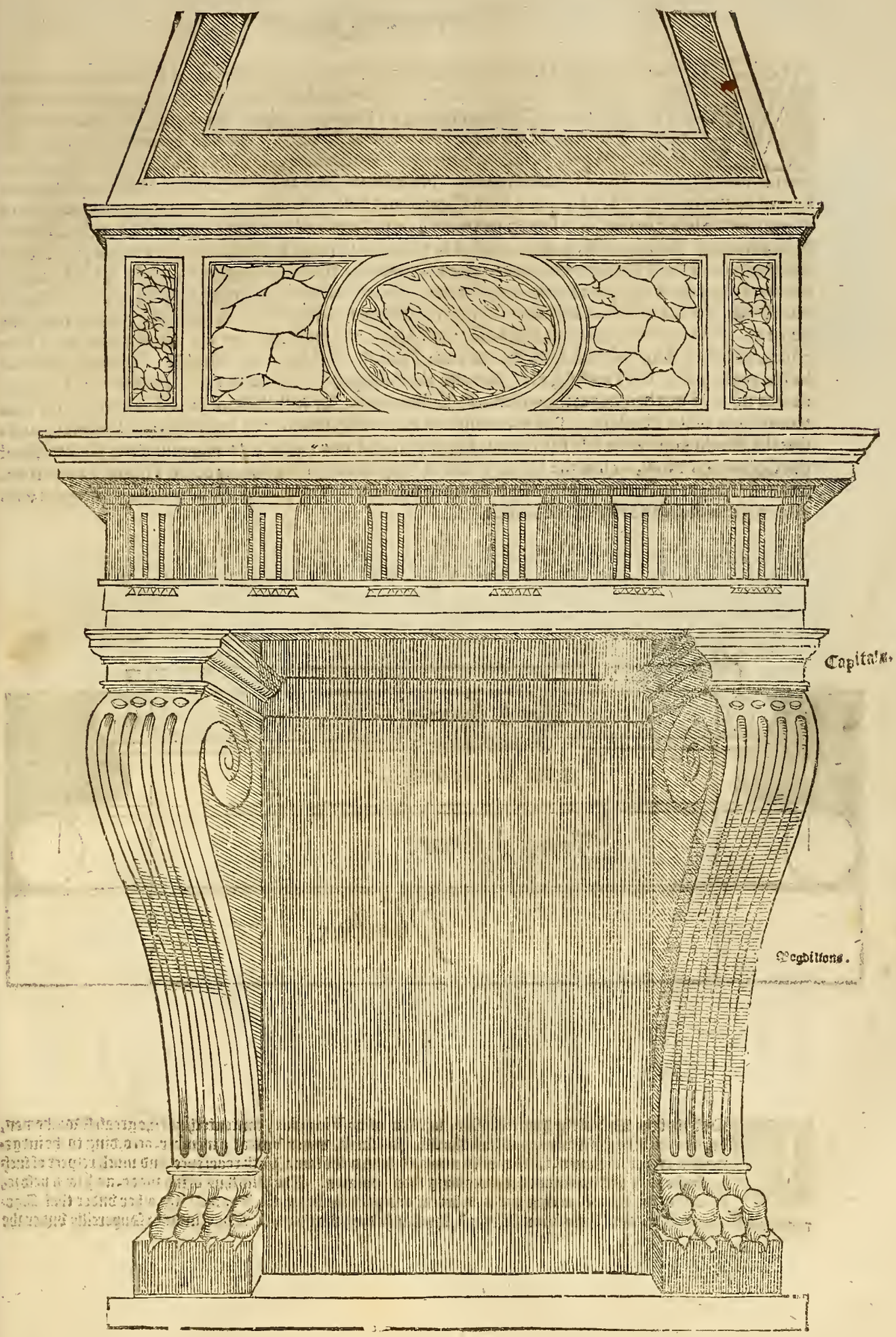


ALthough the workeman hath seene so many inuentions in this Dorica worke, yet they will not further him for ornaments of Chimneyes: but I will set two sorts thereof here in Figure, one indifferent whole, & in the thicknesse of the wall, for a small round Chamber or House: the other, for a greater place without the wall, drawne with Modillions: for if a small Chamber should be cumbred with a Chimney, it is requisite to make it wholy within the thicknesse of the wall, and the height of the opening being made, according to the situation of the place, shall be deuided into foure parts and an halfe, and shall be the bredth of the Pilaster, but the Architraue shall containe the halfe: the Tenia or List, going round about, shall bee a seuenth part, and all his other Lists of the same bredth: the Trigliphes and Modillions, shall be halfe the bredth of the Architraue, but their height you shall take in this manner, that the Putiles stand aboue the Pilasters, and the Trigliphes deuided betweene both, the Methopes may haue their foureſquare of the bredth of the Architraue, but yet the Methopes or spaces betwirt the Modillions, shall not bee foureſquare. The Capitals of the Putiles and Trigliphes, shall bee so high as halfe the bredth of the Trigliphes. The Corona, with the Scimatie and Scima, shall bee as high as the Architraue; and being deuided in two parts, one part shall be for the Corona; of the other you must make three parts, one for the Cimatie with the List, the other shall be for the Scima with his List. The bearing out of the Corona shall be so great or little, that the spaces betweene the Capitals of the Trigliphes in the ground of the Corona, may be foureſquare, for that, if men will sit round about it, they may haue their place of sight. The Proiecture of the Scima with the Cimatie, shalbe made like that height which standeth aboue, at the discretion of the workeman. But if the Chimney be very small for a little roome or Chamber, then a man shall make the Pilaster of the seuenth part of the height of the opening.


Architraue, or Supercilio.

This other Chimney without the wall, shall be made thus, when the height and widenesse of the place, according to the situation, is appoynted, the same height, from the ground vp to the Architraue, shall be deuided in 4. parts, one part for the Architraue, Frese, & Cornice, their parts being made according to the rule aforesayd: and whereas they shew greater, that is, because men see them vnderneath, the breadth of the Modiglions shall be the 7. part of their height: the Capitals the halfe of that breadth, and shalbe deuided as it is said of the Dorical Capitals: some lessen the breadths of these Modiglions vnderneath the fourth part, that the foote of them may giue out a fourth part, so that the Plinthus vnder the foote, is as broad as the vppermost part. But if you will make such Modiglions all of one breadth, I would commend it in a great worke, for that the vndermost drawing to the wall, & going from our sight, lessen themselues: for that the part which receaueth the smoke, is Piramides-wise, which will not stand well in a great height. You may set it vpon the first Cornice higher or lower, as you will, or according to the situation of the place. This building of Chimneyes may be made in great forme: but if you will make them small, then you shall deuide the height from the Pauement to the Architraue in 5. parts, whereof one shall be for the Cornice: the breadth of the Modiglions shall be the ninth part of that height, the Capitall of halfe the breadth: and thus it will bee more seemely in an indifferent meane forme. This I speake by experience, for that I haue obserued this greatest measure in small formes in making of Chimneyes, but they proue too great.

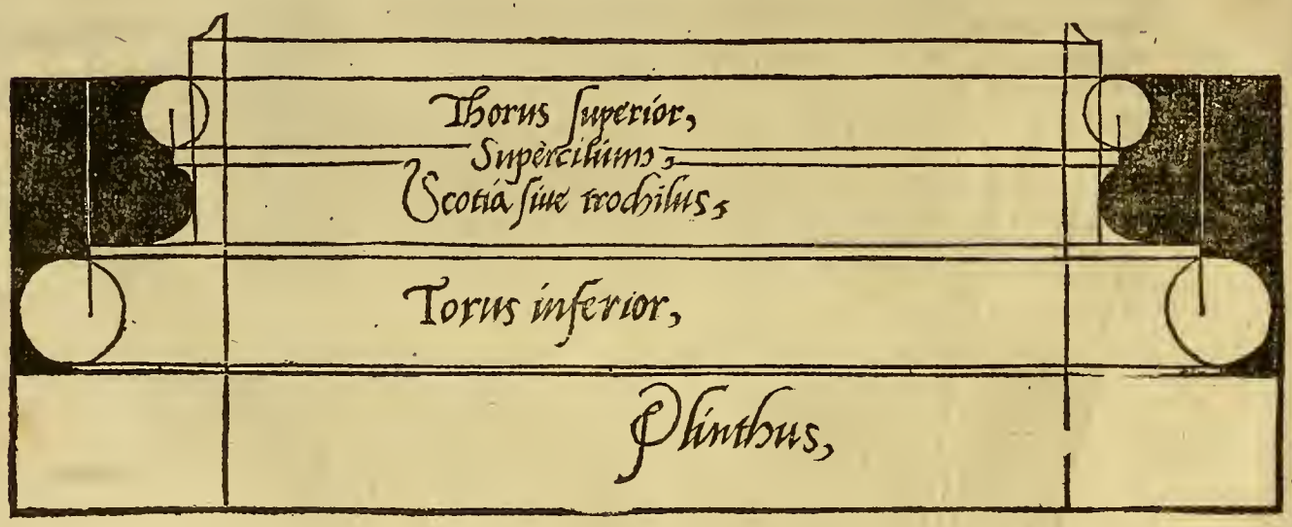
The end of the Dorica order: and here followeth the Ionica.


Capitals.
Pedestals.

Of the order of Ionica, and the Ornaments thereof.

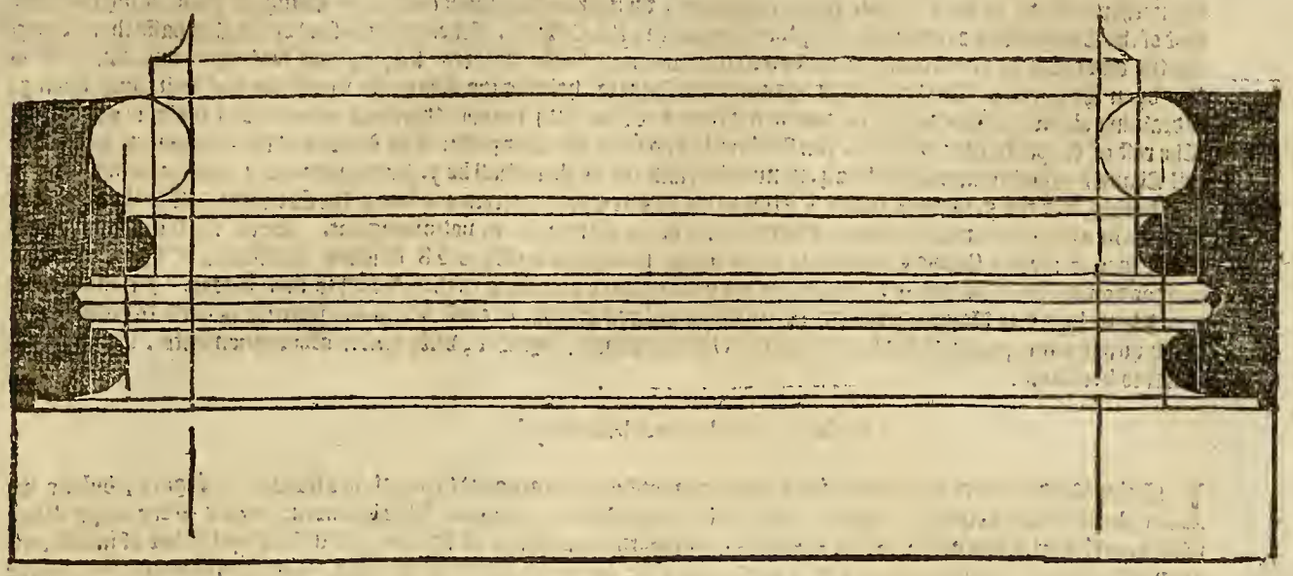
The seuenth Chapter.

Vitruuius speaketh of Ionica, in his fourth Booke and 1. Chapter: and as I also said, the ancient Pagans tooke this kind of worke from women, and ascribed it to *Diana*, *Apollo*, & *Bacchus*, &c. But we that are Christians, hauing a Temple to make of this worke, we will dedicate it to such Saints as are of nature, eyther weake or strong: so likewise, common workes are fit for peaceable people, men, neyther great workemen, nor all too simple in workemanship: and such workemen are fittest for such worke. Now let vs come to the measures: the Ionica Columne, by a common rule, must be of 8. parts, with Capitall and Base: although that *Vitruuius* sayth, it must be of 8. parts and an halfe; so may men sometimes make it of 9. parts and more, as some indifferent workemen haue affirmed. But this, I say, shall be made of 8. parts, which must hold his thicknesse below, and so shall their Bases be of halfe the same thickenes, which *Vitruuius* setteth downe diligently, in the 3. Booke, and in the third Chapter of the same Booke, in this maner, that the Base aforesayd, must be of halfe the Columnes thickenesse, but the Plinthus must be of the third part thereof: which Plinthus taken of, you shal make seuen parts of the rest; whereof three shall be for the Thorus, and foure shall bee for the two Scoties or Trochiles, with their Astragals and Lists, so that each Trochile must haue his Astragall. The Astragall shall be the eyght part of the Trochile, the Lists halfe the Astragals. Although each Scotie with the Appendances are all of one height, yet the vndermost shalbe greater; for it shall shoot out vnderneath, to the outtermost part of the Plinthus. The Proiecture on eyther side, shall be one eyght part, and one fixt part: so that the Plinthus on eyther side shall be one fourth part, and one eyght part more then the thickenesse of the Columnes. Now, for that the Cincte or List is suppressed by the greatnes of the Thorus, I am perswaded that it ought to be made the halfe greater then the other. Obserue in all the members and parts with discretion, as should be vsed in the Dorica.

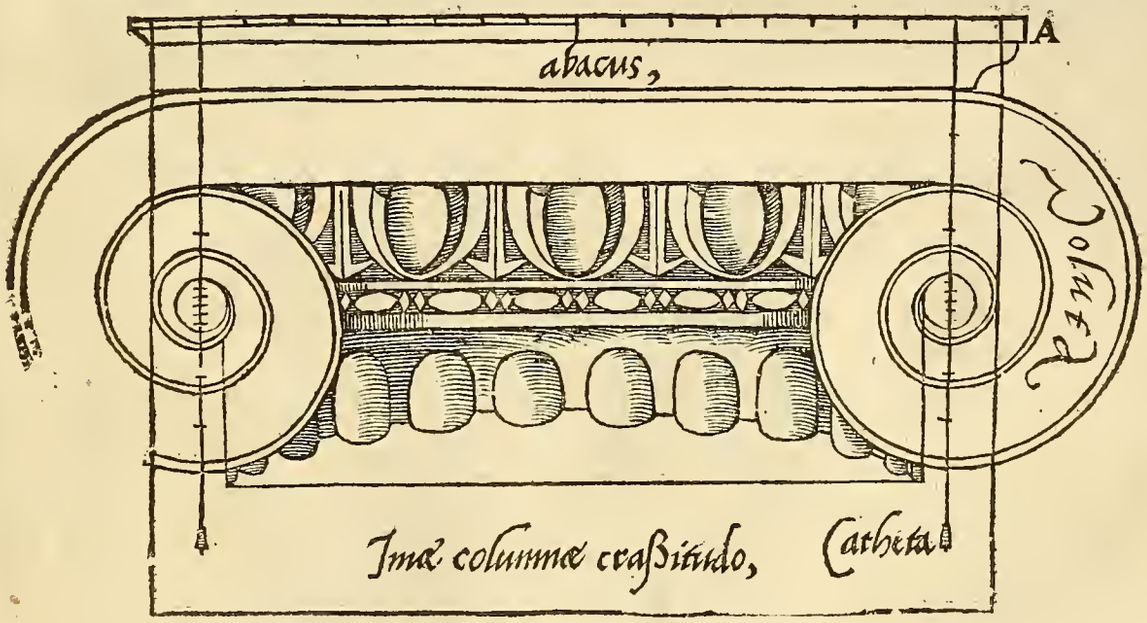


OR that the Base of the Ionica Pillar, written of by Vitruuius, contenteth not the greatest workemen, because the Thorus is very great, and the Astragall small, vnder so great a member, according to the iudgement of expert workmen, that haue oftentimes disputed the same, with reuerence, and much respect of such an Author; I will frame one here according to my opinion. The Plinthus being made, as I sayd before, the rest shalbe deuided in three parts, whereof one part shalbe for the Thorus: the other vnder that Thorus deuide in fire parts; one of them for an Astragall, the Cinthe the halfe thereof. The Cinthe or Supercilie vnder the

Thorus, must be as broad as the Astragall. The rest is for the Scotie or Trochile: the other three parts that rest, shall also be deuided into fire parts: one for the Astragall, one halfe for the Cinthe, and the vndermost also the like: the rest is for the Scotie comming at vnderneath, as is before alleaged.



THe Ionica Capitall shall bee made in this maner: the height shall be the third part of a Columne, and the former part of ẏ Abacus the bredth of a Columne in thicknes: to it also must be added the 18. part, which in the whole, shall be nineténe parts, but inwards a part and a halfe: at eyther end the line Catheta must be drawne, which shall containe 9. parts and an halfe, which is the halfe bredth of the Capitall: one part and a halfe shalbe for the Abacus, which Corners you must make like the right or left side, for both are ancient: the 8. parts that are hanging vnder the Abacus, shall be for the Volutes. And for that it would be troublesome in this small Figure, especially to set downe before your eyes the numbers, therfore in the Leafe following, I will shew it better in great, and therewithall the maner how to make the strickes in the Columnes, with the Figure of the side of the Volutes, and of the Capitals. But if the Columne be of 15. foote downwards, then it shall be lessened a fift part above, as it is written of the Thuscan order: but if it bee of 15. foote vpwards, then I referre you to Vitruuius, touching the same, in his third Booke and second Chapter.

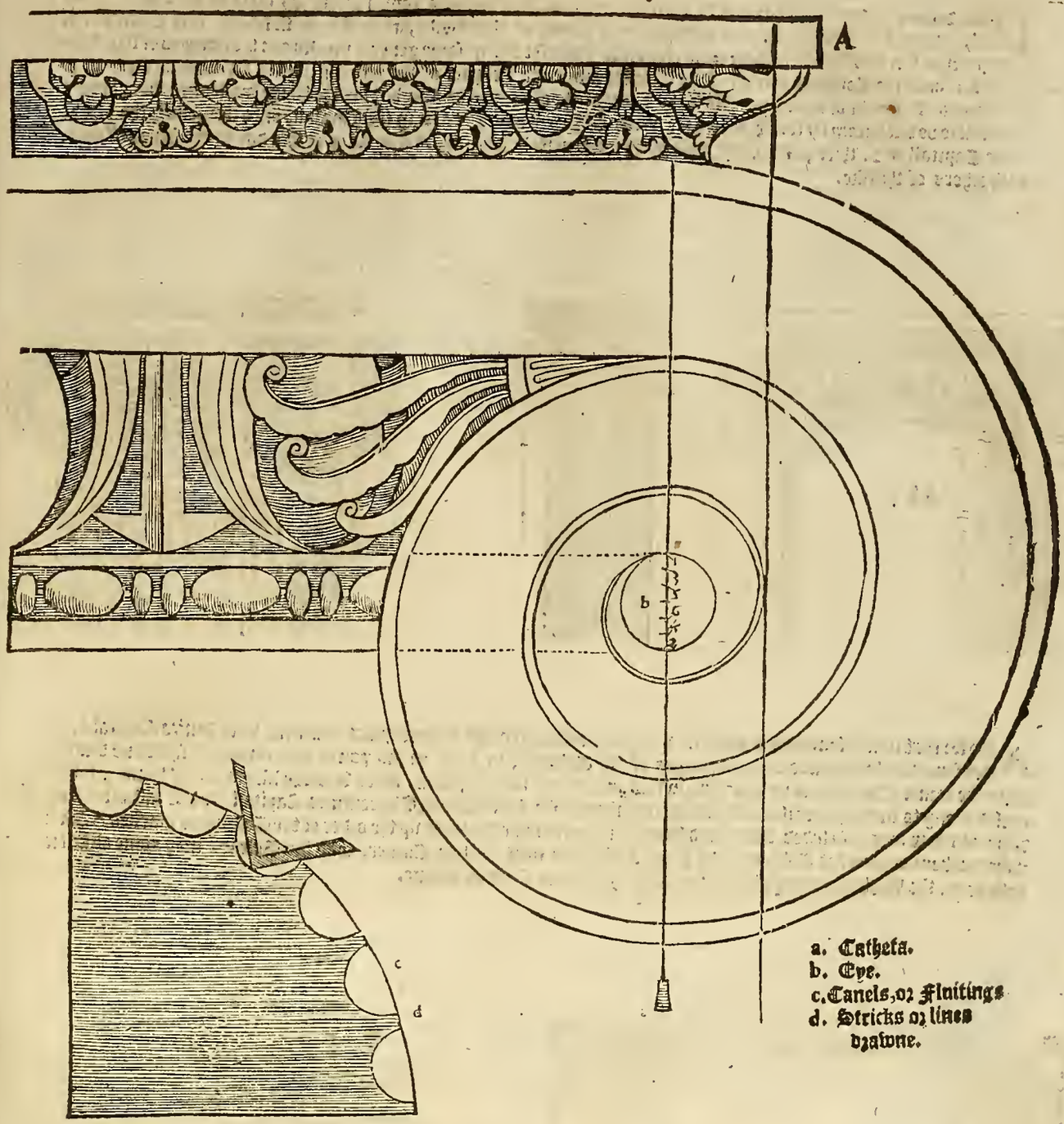


WHEN the Capitall of this Ionica is made, you must make the Volutes, which shall bee made by the line, called Catheta, which wee heere call, The right Lead: and when you leaue the Abacus vnderneath foure parts, then the first part shall be for the eye, and so there yet resteth three parts from the eye downewards; and so in all, they make eyght, as is before sayd: the eye shall be deuided in fire parts, and the numbers set therein, as it is here set downe; then place one foote of the Compas vpon the poynt 1. and the other foot vnder the Abacus, drawing netherward, vp to the Catheta, to the eyght part; then letting the same foote of the Compasse stand, bring the other foot of the Compasse to 2. and draw it vpwards againe to the Catheta. Then hold the foot of the Compasse there, bringing the other foote to 3. drawing it then downewards againe to the Catheta: keeping that foote there also, bring the other vpon the poynt 4. then drawing it againe to the Catheta, holding the Compasse there, the foot will come vpon 5. so drawing about, doe likewise to 6. and then it comes to shut with the eye; there you may make a roofe, if you please. The rest of the particular members you shall easily find with the Compasse. The strickes of the Columnes, which wee call Chanels or hollowings, shall be 24. in number, and one of them shall be 5. parts: whereof 4. shall be for the Guttes or Chanels, and the 5. for the Lift, by Vitruuius called Strix: and so from one side of the flat of the Lift to the other, you shall draw a straight line, the middle whereof shall be the Center of the hollowing out. But if the workeman please sometimes to make a thinne Columne to shew thicke, then there must bee 28. strickes: the Abacus of this Capitall is as broad on the sides, as before: which sides are proportioned according to that, which is sayd before. Friendly Reader, I haue layd this Volute, according to my simple vnderstanding, because Vitruuius writing is hard to vnderstand, and which is more, promised the same Figure in the last Booke, together, with diuers other ornaments, which Booke is not to bee found.

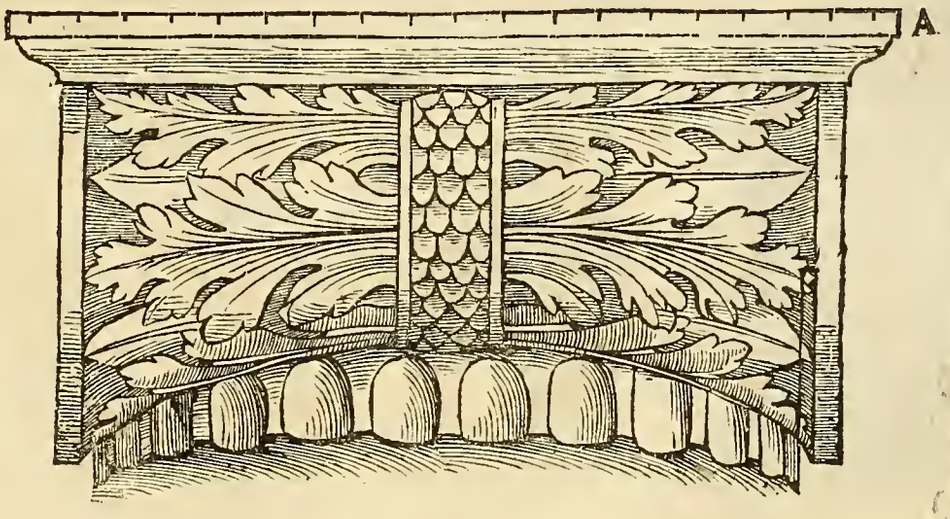
S. Serlii vpon the speach aforesayd.

LOuing Reader, there are many things which cannot fully, from poynt to poynt, bee shewed in Figure, vnlesse the workeman must helpe himselfe by practise, like as the Cincte or band of these Volutes: which (if the Capitall bee very great) will stand well: if the breadth contayneth the fourth part of the eye, and if the Capitall bee of indifferent greatnesse, then it must be made of a third part of the eye: but if the Capitall be small, then it must bee the halfe of the eye, alwayes at the workemans discretion: for I haue séene it so in Antiquities, although they differ. The thicknesse being marked aboue, vnder the Abacus, then you must place the Compasse a little below the figure 1. from aboue the Catheta downewards: then agayne, you must place the Compasse a little aboue the figure 2. drawing your line from beneath vpwards to the Catheta.

Now, whereas I haue sayd, that the last Booke promised by Vitruuius, is not found, by meanes whereof, diuers opinions are spred abroad touching the same, some affirming, that in Vitruuius time, there were many vnskilfull workemen (as there are now also) hauing better fortune, then good vnderstanding: (others) that presumption, sister to vnskilfulnesse, beareth such sway among common workemen, that vnderstand not themselues, it is thought, that Vitruuius refused, or at least, would not publish it, in regard of the vnthankfulnesse of such as neglect good learning. Some also affirme, that it was too hard a matter for him to place them in figures; which I can hardly indge to bee the mind of such an Author. But whereas some affirme, that this last Booke was so pleasing and acceptable, in regard of the figures there at large set out, and he being ouercarefull in looking vnto it, was robbed thereof, among other riches and treasures, by vnskilfull persons: this I beléue best, is as warre, which is enemy to all good Artes, which yet, at this day, is especially to be lamented, for that men by the figures, might haue made diuersities of worke in the right maner.

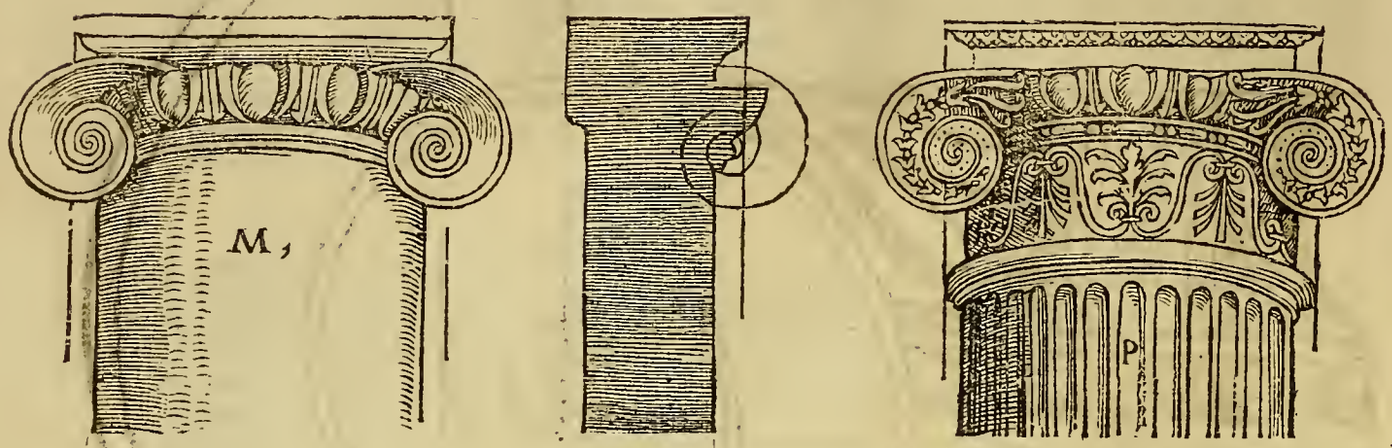


a. Catheta.
b. Eye.
c. Canels, or Flutings
d. Stricks or lines drawne.

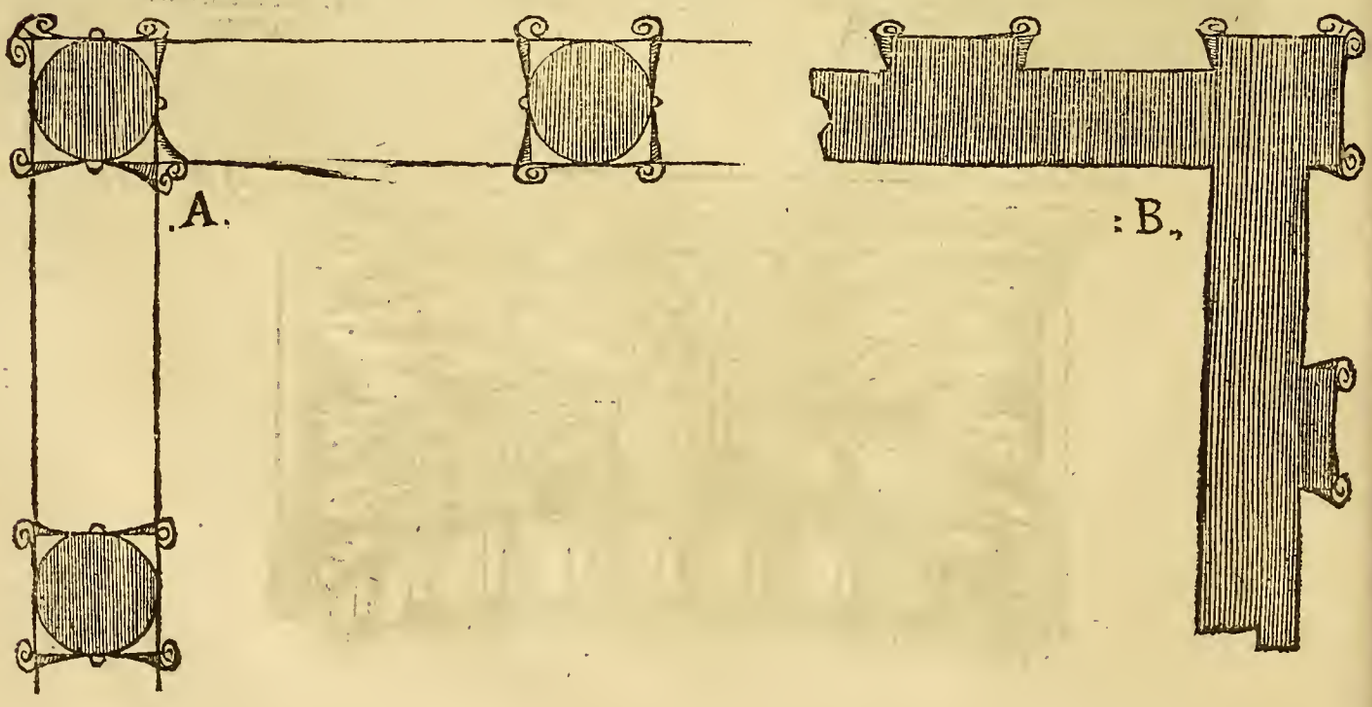


Of the Ionica.

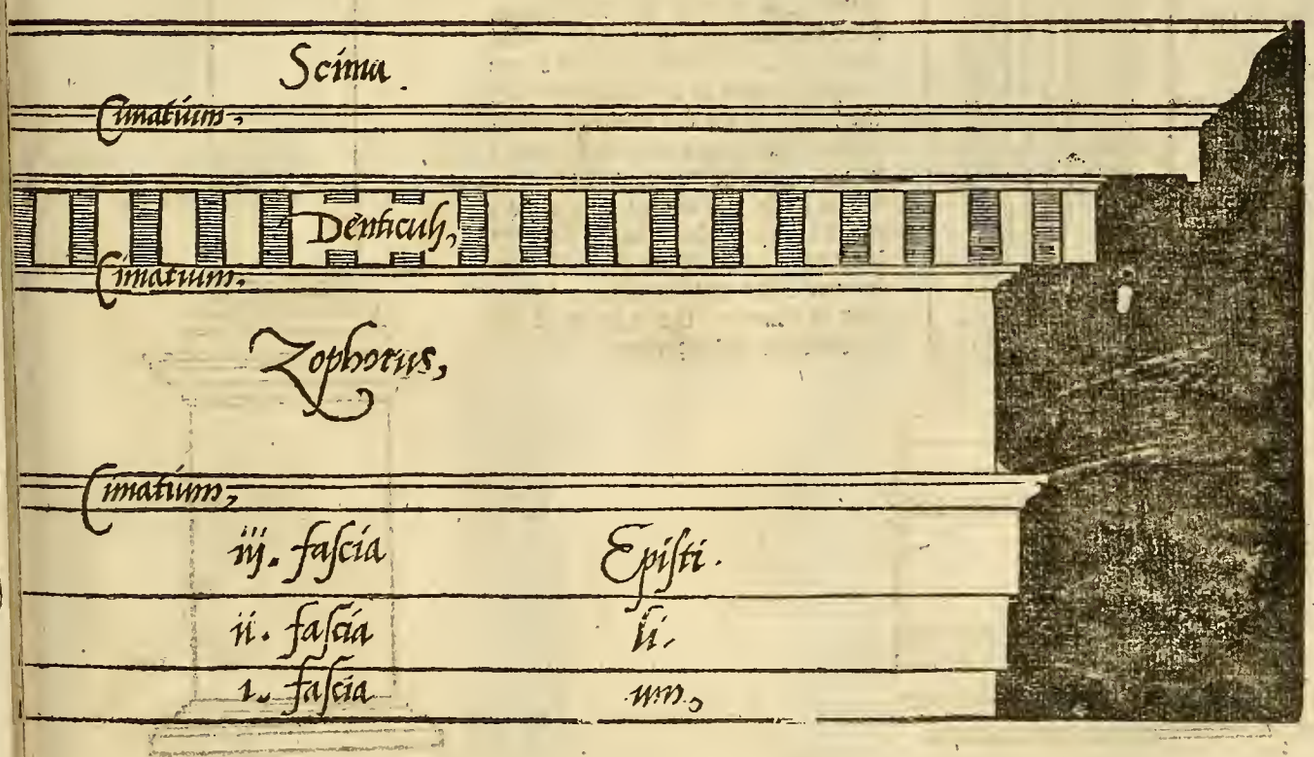
I Haue declared hereafter, according to Vitruuius writing, how to make Ionica worke, as farre as my learning shall serue. Now, I will shew how some Antiquities in Rome, of that worke, are made, yet standing. The Capitall M. standeth yet in the Theater of Marcellus, whereof I will set downe some general measures: the forehead of this Abacus is like vnto the Columne below. The Volutes gine out a sixt part of the Abacus, and so farre out as the halfe of the Abacus: the height of the Capitall is a third part of the Columne below; but for that some workemen thought that Capitall to be but barely set forth, they haue added the Frese which you see in the Capitall, vnto it, making the height of the Capitall of 2. third parts, of the Columnes thickenesse below, which Capital is at this day to bee seene in Rome, with others of the like.



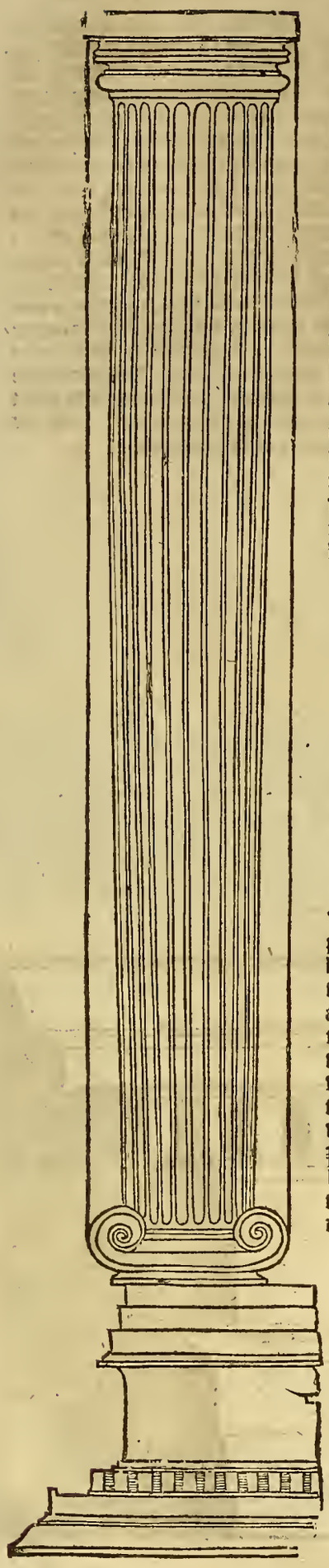
AND for that it may sometimes happen to the workeman, to make a foursquare shutting with Ionica Capitals, so that some workmen haue erred in placing of the Volutes; to helpe or ease you of that errour, it shalbe needfull to make the corner Capitals, as you see them in this ground: of such Capitals, there was the like found in Rome, which caused many to study, where it was made, in such maner, for it was called, The confused Capitall: but at last, after long disputation, it was concluded, that it had stood in an open corner, shutting vp the order of the Columnes marked A. But if the workeman haue flat Columnes to place against the wall, in this Corner, that the Volutes may come alike on both sides, the workeman may place them, as in the ground B. is set downe.



The Epistilium or Architraue is made thus: If the Columne be of 12. to 15. foote high, the Architraue shalbe the halfe of the Columne beneath: if it be of 15. to 20. foote high, then it shalbe deuided in 13. parts: one shalbe the height of the Architraue; and from 20. to 25. foote, the Columne shall be deuided in 12. parts and a halfe: one part shalbe giuen to the Architraue: If the Columne be of 25. to 30. foote high, then the Epistilium shall be the twelfth part of that height: If the Columne be higher, you must increase the Architraue more: for the further it goeth from a mans sight, so much more it loseth of the greatnesse. The Architraue being made of his due light, and deuided in 7. one shalbe the Cimatie: the Proiecture thereof, also as great. That which is ouer, is deuided in 12. three shalbe giuen to the first Facies, foure to the second, and fiue to the third. The thicknesse of the Architraue vnder, shalbe like the Columne aboue, in the thinnest part: but the thicknesse of the Architraue aboue, shalbe like the thicknesse of the Columne below. The Zophorus or Frése shall haue the measure according to the length of the worke: but if there be somewhat to cut or graue in it, then it must be made a fourth part higher then the Architraue: but if it be made playne, without cutting or grauing, then it must be a fourth part lesse. The Cimatie must be set vpon the Frése, which must be the seuenth part of the same Frése: and the proiecture also as much. Aboue the Cimatie must the Denticules be placed, in height, like the middlemost Facie: and the Proiecture like the height. The breadth of their téeth must be double in height. The intercutting or hollowing betwéene the téeth, shalbe a third part lesse. The Cimatie is the first part of the Dentile. The Corona, with the Cimatie thereof, is the greatnesse of the middlemost Facie. The Proiecture of the Corona, with the Denticules, is as much as the height of the Frése, with the Cimatie. The Scima is an eyght part higher then the Corona. The rule or list thereof shall be a first part, and the Proiecture like the height. Also our Author affirmeth, that all Ecphores or corners will stand well, when their Proiecture is like the height.



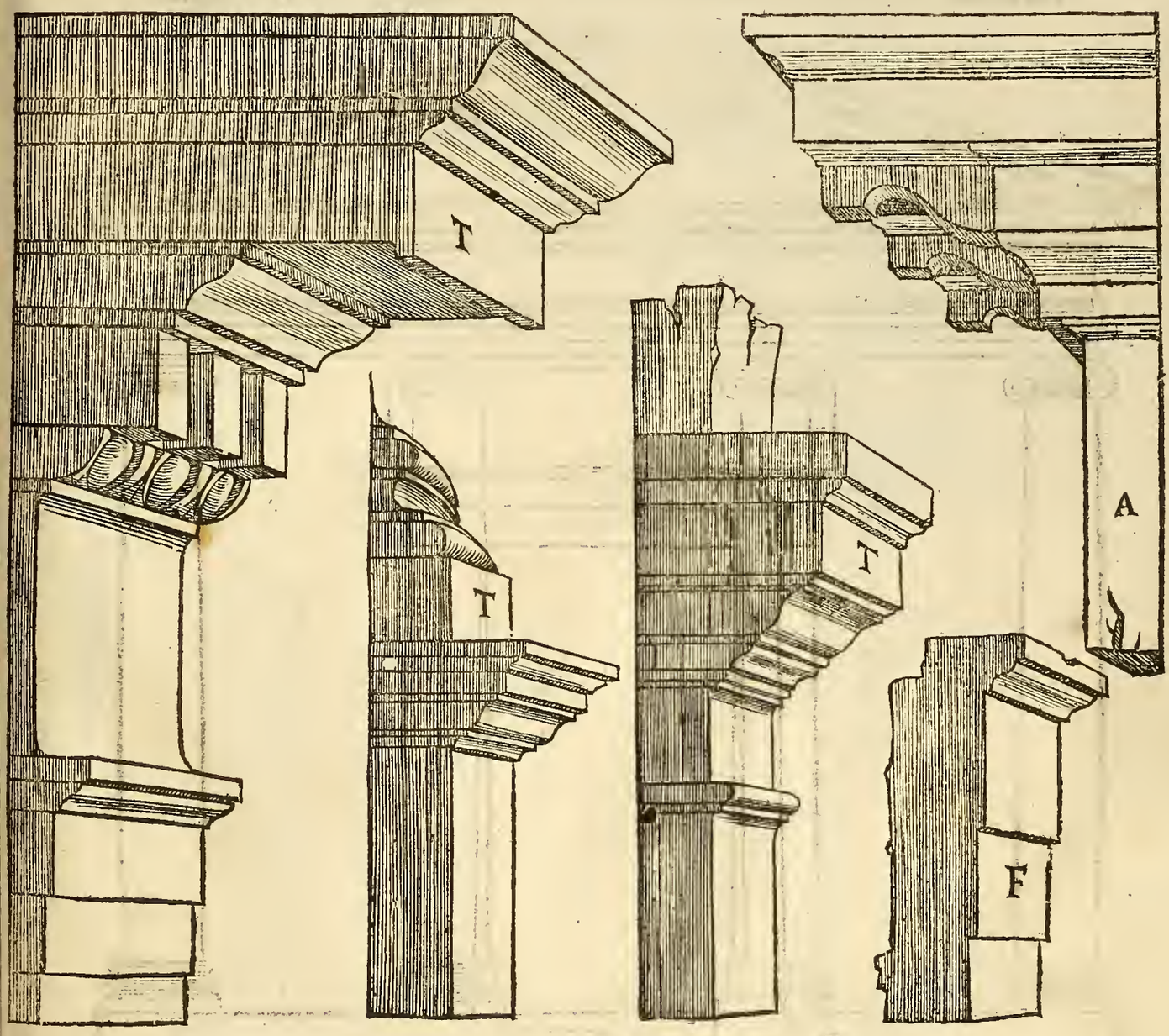
Of the Ionica



For that the works of Rome differ from the writing of Vitruuius, I will frame another Columne, whereof the Architraue, Frése and Cornice, shall be the fourth part of the height of the Columne: which 4. part deuided in 10. parts, three shall be for the Architrane, deuided after the rule aforesayd: 3. for the Frése, and 4. for the Cornices: which 4. shall bee deuided in 6. whereof one shall be giuen to the Denticules, one to the Cimatie which vpholdeth the Mutiles, and two to the Mutiles and the Corona; the rest to the Scima. The Projecture of all, shall beat least as much as the height: vpon such a Cornice was found written, A Sante Sabina, at Rome, in a building of the order of Ionica.

And if sometimes it be necessary to rayse vp Columnes, being not compelled or pinched by any thing thereabout, then the proportion of ỳ Pedestal shall be thus; it shall be as broad before as the Plinthus of the Columne: but the height of the flat of the Pedestall shalbe a foure square, and a fourth part: which deuided in sixe parts, one shall be for the Base, and one for the Cornice, which in all is eyght parts: so shall the Pedestal be of eyght parts like the Columne. This must alwayes be vnderstood in common, that it is left at the discretion of the workeman.

By reason of the great difference, which I finde in things of Rome, from those which Vitruuius writeth of; therefore I haue here shewed some of them, that are best knowne at this day, extant in Rome to be seene in worke. The Cornice, Frese, and Architraue marked T. is in the Theater of Marcellus, in the Ionica order, aboue the Dorica; the Pilaster with the Base thereupon, also marked T. is in the same order, vnder the Ionica Columne. The Cornice for the impost of an Arch, also marked T. is of the same order, and vpholdeth the Arch. The Cornice with the Mutiles marked A. was found at S. Adrians, and S. Laurence, in Rome. That Architraue marked F. was found in Nel Friulle: which Architraue, for that it had three Facies without Astragals, I iudge to be Ionica. Here is nothing said of the measures hereof, for I haue diligently reduced them from the great into the small: which measures are easie to be found with the Compasse.

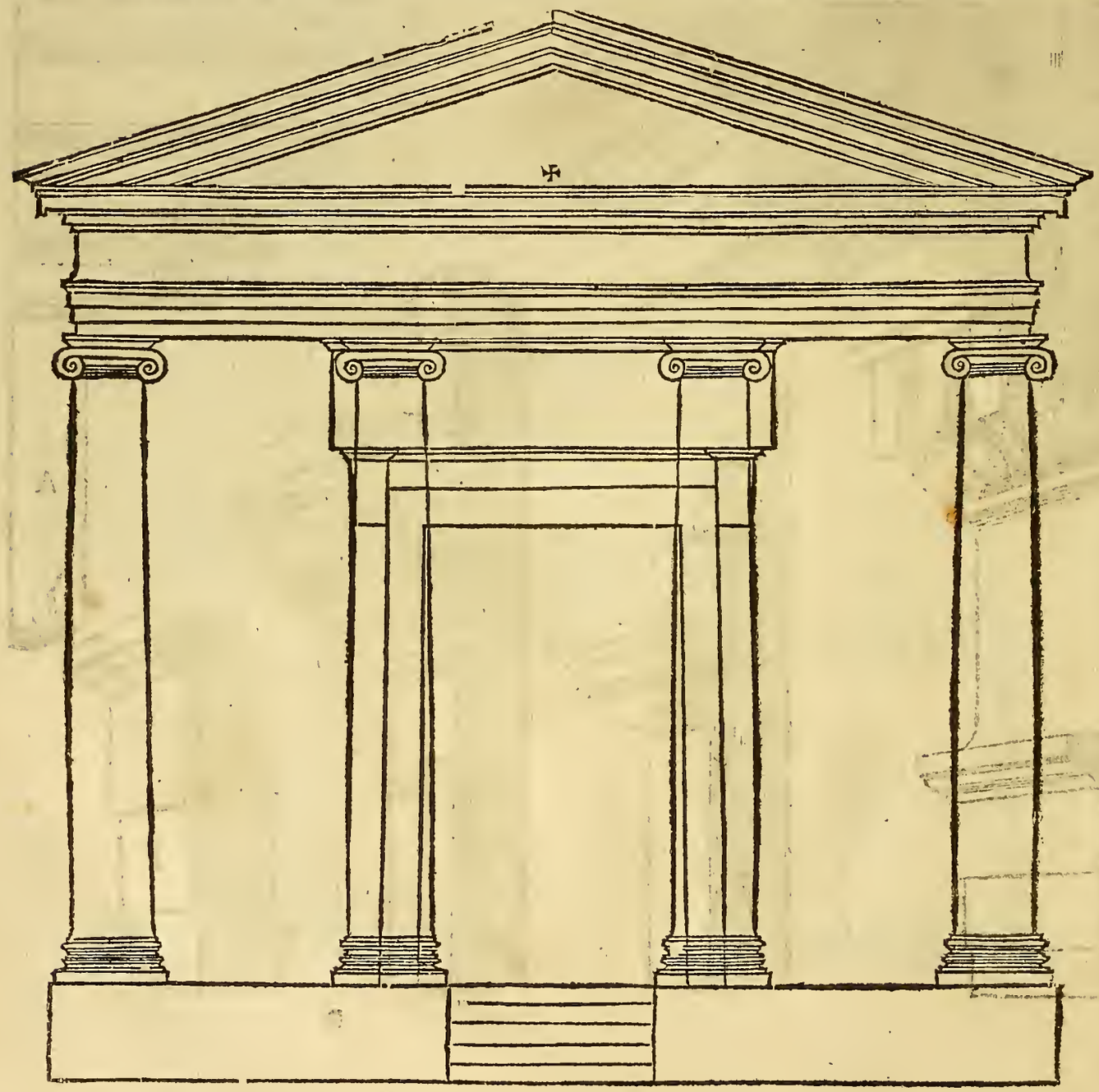


Of the Ionica

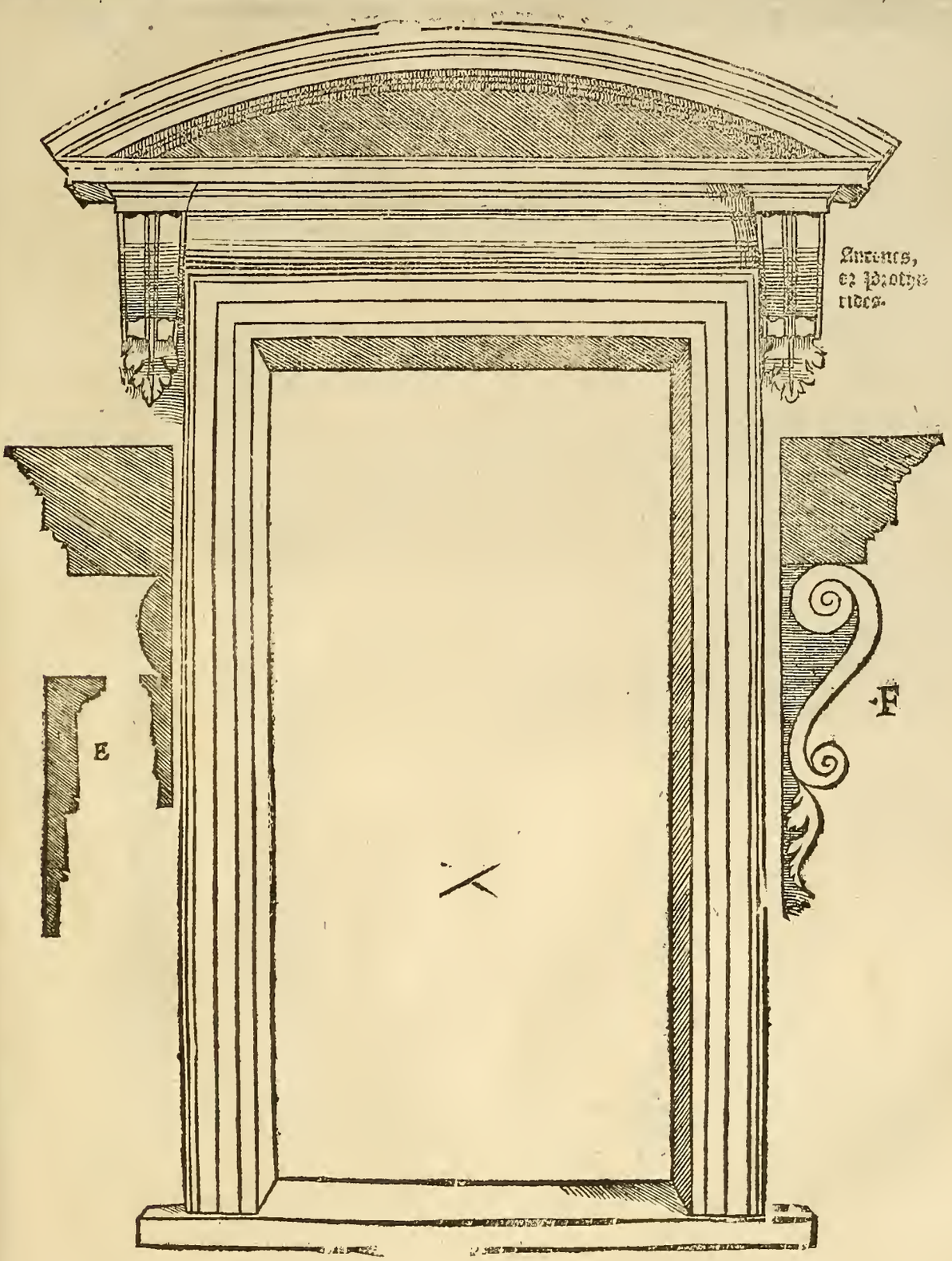
ALthough that the Thiromatum Ionicum, that is, the doore by Vitruuius described, in my opinion, not proportioned to answere the building (as it ought to do:) therefore I will speake thereof, according to my knowledge: I say then, that Vitruuius writing is not right, touching the height of the light of ỳ Thiromatum Dorici, viz. from the Pauement to the Lacunary, there were 3. parts and an halfe made, and two parts thereof were for the height of the light, whereby the Corona was very high, as also of the Dorica. But there followeth yet another errour, viz. making the Gate or doore 5. parts high, setting three parts thereof below, as Vitruuius saith, also lessened in the vpper part, like the Dorica: then I finde, that the widenesse thereof commeth to be broader then the inter-Columne in the middle, making a Temple of 4. Columnes, with the measure which Vitruuius hath set downe in his 3. Booke, as I haue set it downe here in Figure, that workemen may sée the correspondencie of this Gate or Doore, with the Temple thereof; which, in my opinion, is not iust, for this cause, for, if the doore of the Dorica, which order of Columnes is lower then that of Ionica, hath the height of 2. foure squares, and a little more, I say, the Ionica doores, whose Columnes are higher, ought to be higher also for light, then the Dorica. But it is not so much, according to Vitruuius Booke, which sayth, 5. parts in height, and 3. parts in breath: but let all this be spoken with reuerence of so great an Author. Neuertheleſſe, taking the parts in Vitruuius Booke, which may be to some purpose, I will make another Figure thereof, without lessening it aboue: but he that for his pleasure will lessen it aboue, obserueth the Dorica order.

The Translator.

WHat Vitruuius sayth, touching the height of the light of the Doore or Gate of this Dorica building, there is sufficiently spoken: but touching the widenes of this Gate or Doore, where he sayth, that the height or openneſſe thereof should be deuided into two parts and a halfe, and the widenesse thereof, to haue one part and a halfe: It may be (as it is in other places) that the place is falsified; and it may also be, that it is a quarter too much: for if it be made of 10. in height, and 5. in breath, the light then being of 2. foure squares, would bee reasonable, so the Intercolumnes were as wide as from the Dorica: for it is of foure Diameters, and this but of three Columnes wide, and the Antipagmentum would not be darkened; so that leauing out but a quarter, this building would thereby be made perfect.

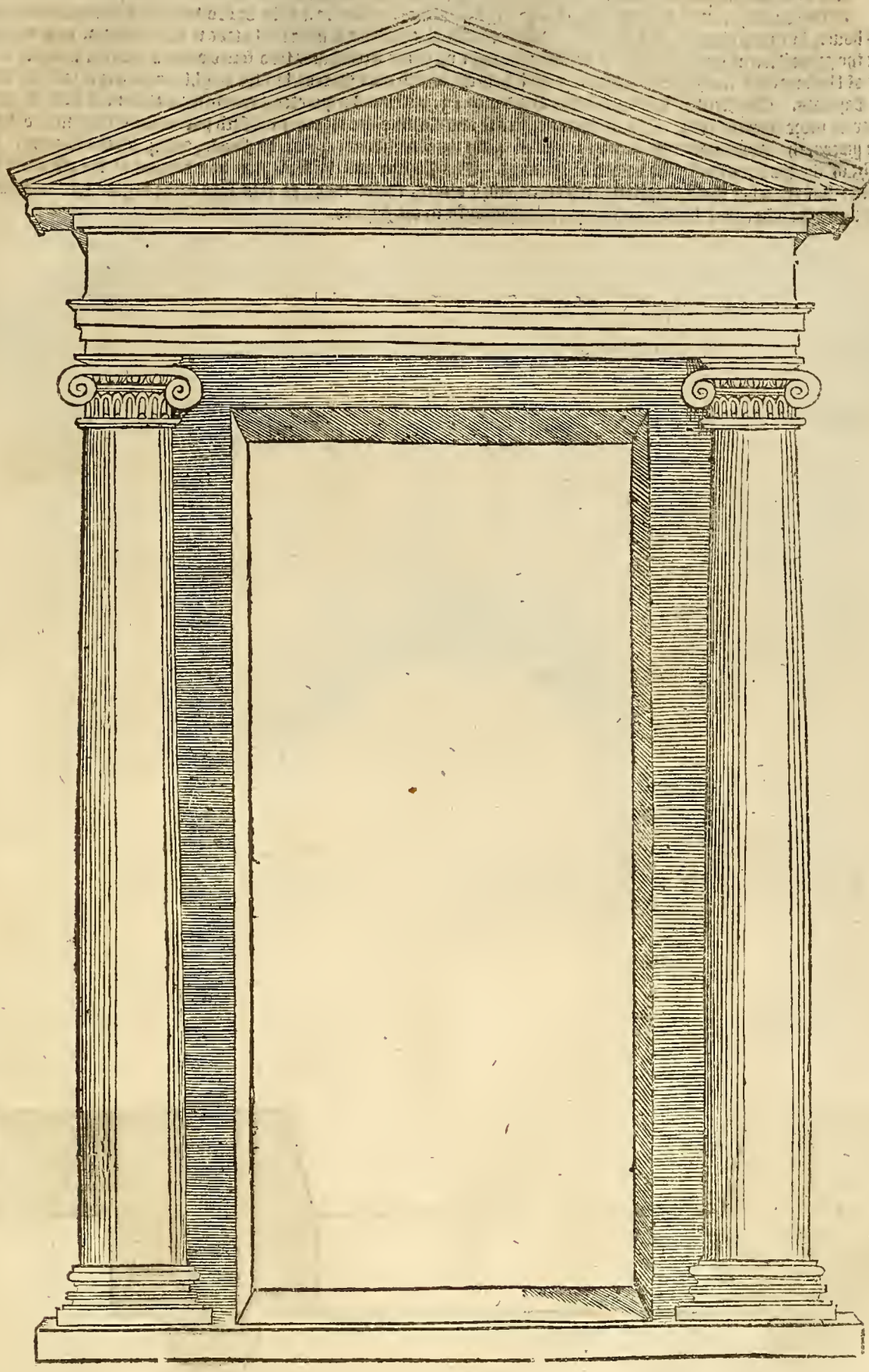


I Say, that the light of this door ought at least to be of 2. foure squares high, the Antipagmentũ or Pilaster shalbe the 12. part of that height, made in such maner as is said of the Epistilium Ionicum, & thereto the Astragals shalbe added, as it is shewed in the Figure E. If a workeman will cut any thing in the Freese aboue the Supercilium, then it must be a 4. part higher then the Supercilium: but if you leaue it plaine, it must be a fourth part lesse. The Corona, with the other members, shall be as high as the Supercilium, deuided as you see it in the Figure F. The Ancones or Brothirides, shall be broad aboue, like the Pilaster, but in the nether part, like the height of the hanging light, shalbe lessened a fourth part, from the which the leaues hang, as you see in the Figure F. That part of the Circle, in stead of the Fastigium, shal haue his height made in this maner; with a Compasse you must reach the two corners of the Scima in the vppermost part, and one foot of the Compasse sinking to the point of the crosse, with the other foot, the part of the Circle being drawne, shalbe the height, which will be the third part of a Circle: which maner of making or not making of a Fastigium, shalbe alwayes referred to the pleasure of the workeman; it may also serue for windowes.



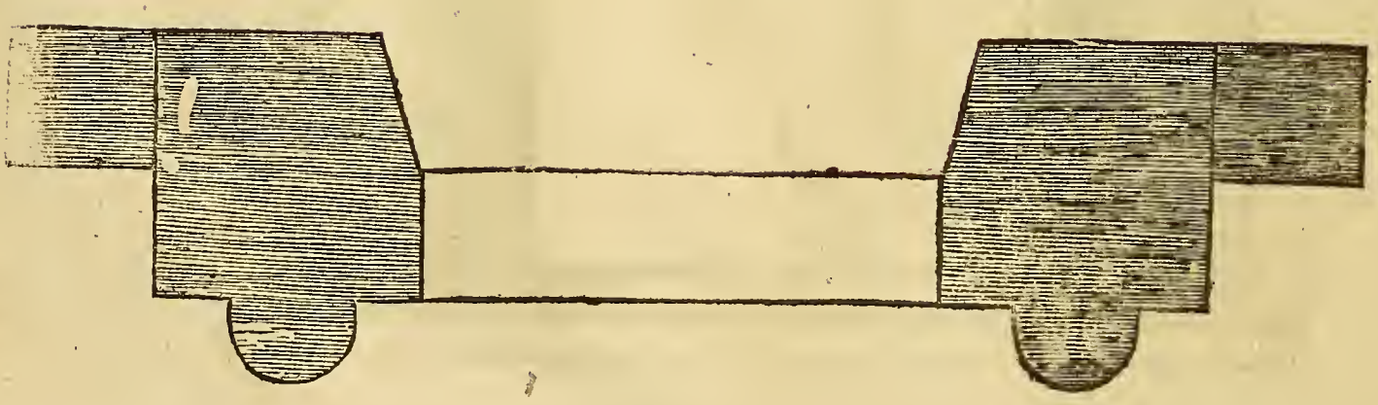
Of the Ionica

THe light of the Gate following, is more then of double proportion, viz. of two foure squares and a quarter: the flat of the Pilasters shall be the 8. part of the breadth of the light, and the Columnes shall be twice as thicke: the same Columne shall be lessened aboue a sixt part: the height shall be of 9. parts, with Bases and Capitals, according to the measure aforesaid. And although these Columnes hold a part more then the rule aforesayd, yet it is not therefore truely, for that the 2. third parts stand onely without the wall, bearing no other waight then the Frontispicium: further, if by any accident these Columnes should exceed 9. parts, yet were it not to be blamed: for they are onely set for an ornament, being made fast in the wall. The height of the Architraue shall be like the Supercilies ouer the doore: the Frese shall be cut, and shall be made higher, as is before: if it be not cut, you may lessen it so much lower: the Cornice shall be higher, like the Epistilium or Architraue: with the other parts you must handle, as it is said in the beginning of this order. The Frontispicie shall bee referred to the will of the workeman, eyther to make it higher or lower, by any of the aforesayd rules. By this inuention, a workeman may helpe himselfe in many things, making the light high or low, as need shall require; as sometimes of a foure square, or of two third parts: but if the workeman bee not otherwise compelled, I should best commend the double proportion, that is, of two foure squares.

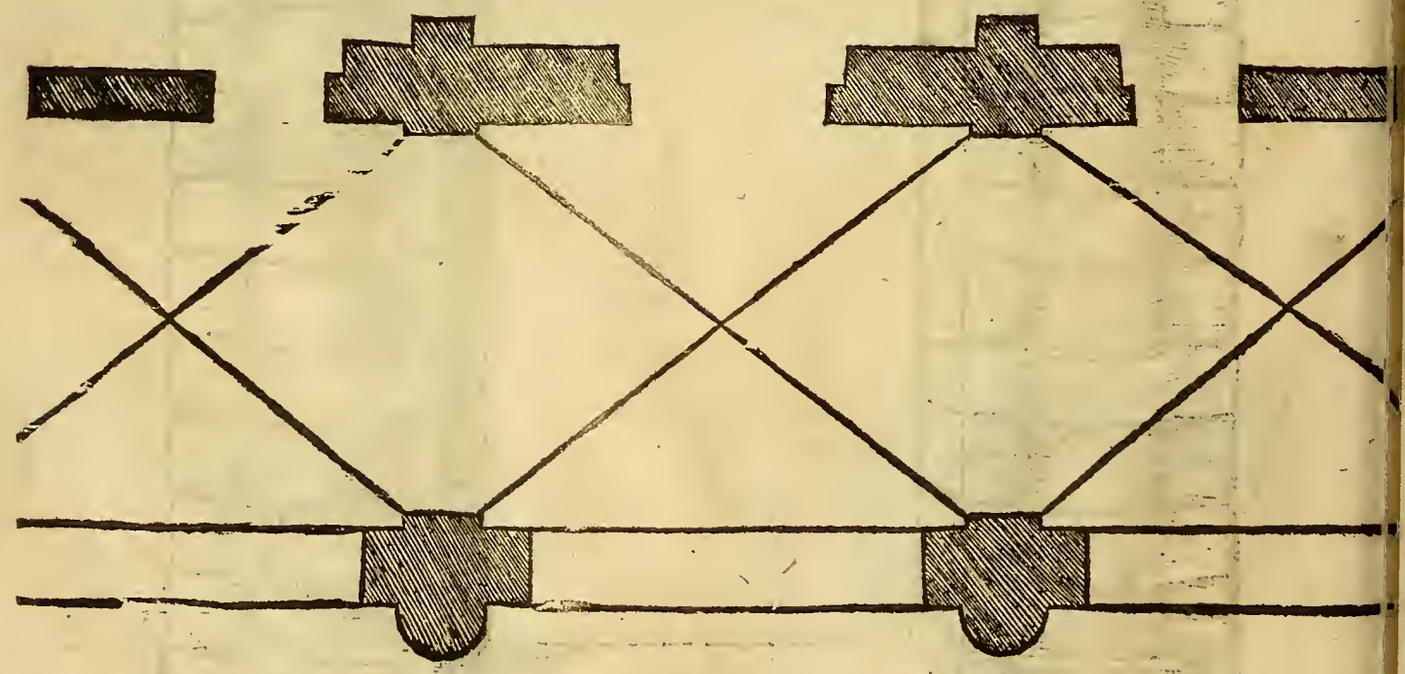


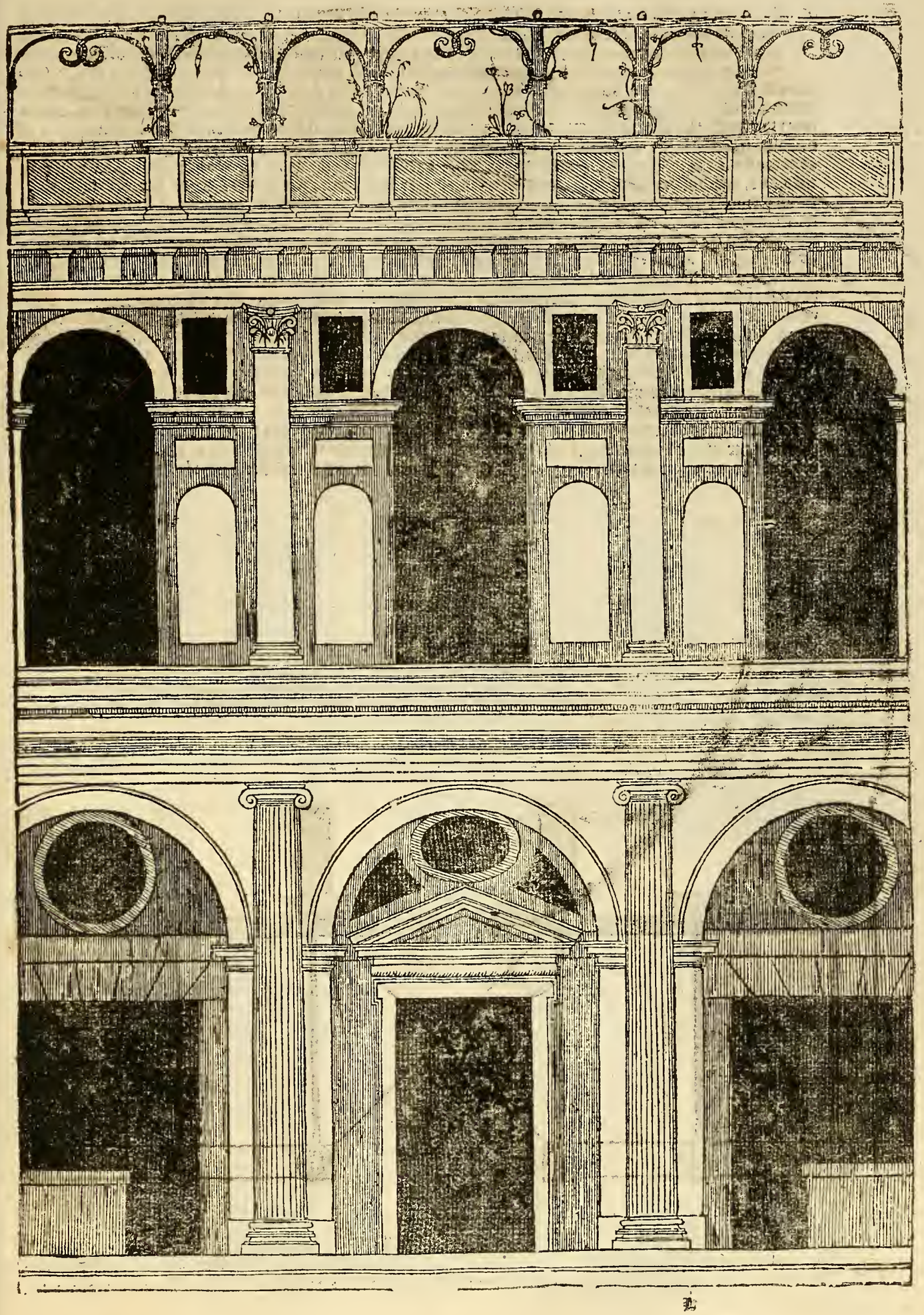
Of the Ionica

ALthough I haue set this rustical Gate in the order of Thuscana, and not onely in many places applyed it to the Thuscana, but also mixed it with the Dorica, yet I haue placed it here with the Ionica: although it is not therefore to be set in all buildings that are made after the Dorica, neuertheleſſe, to good intent and purpoſe, as without in the countrey, in ſuch a caſe alſo, it is not to bee discommended in a Citie or Towne, for a Marchants or Lawyers houſe; in which places it is tolerable. But in what place soeuer a man will make it, in a maner of bearing ouer, then the proportion of this worke ſhall be thus: the light vp to the Arch ſhalbe two foureſquares, and the Pilaſter the 8. part of the breadth of the light: the Columne ſhall hold the fourth part thereof, but the height ſhalbe 9. parts with Baſes and Capitals. The Arch of the halfe ſhalbe deuided in 13. parts and a quarter, becauſe the middlemoſt ſtone ſhall hold a quarter more then the reſt. The Architraue, Freeſe and Cornice, are together the fifth part of the Columnes: of which three pieces, the workeman ſhall make 11. parts: 4. for the Architraue, 3. for the Freeſe, and 4. for the Cornice. The height of the Podium ſhalbe the breadth of the light. The Cornice and the Baſe, may be taken out of the aforeſayd Stilobato: but the other Baſe, Capitall, Architraue, and Cornice, ſhalbe made as it is ſayd in the beginning. The Arch-ſtones and the other that bind the Columnes, you may ſee in the Figure.

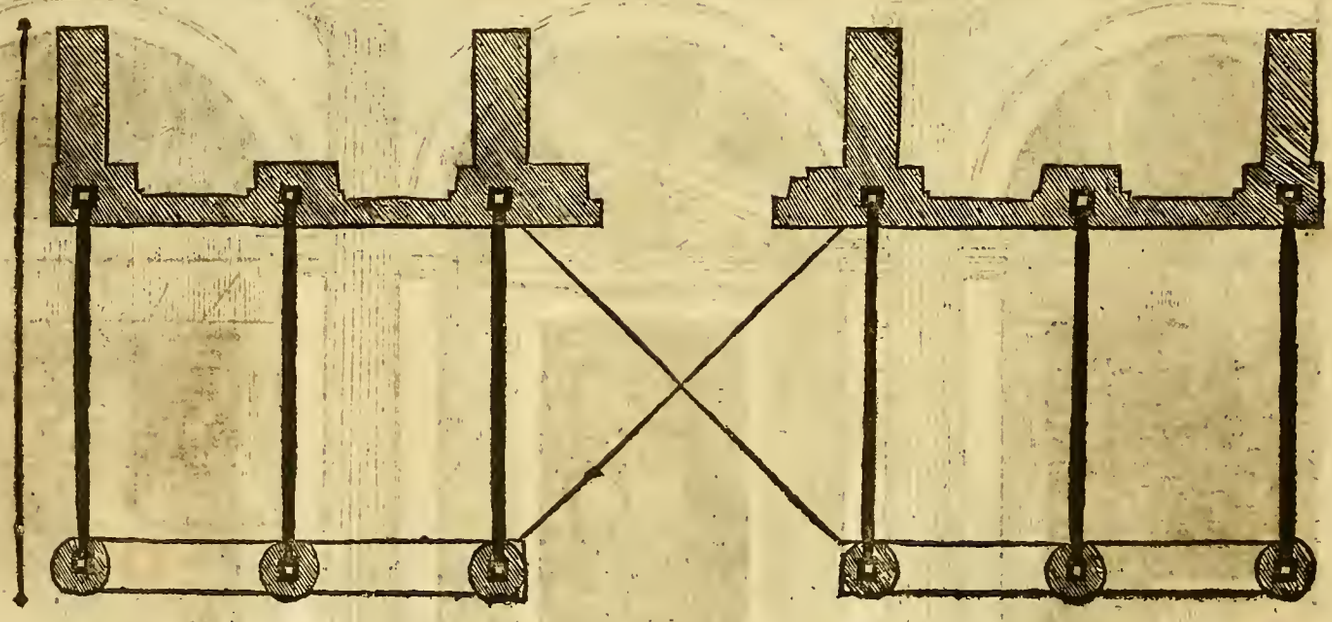


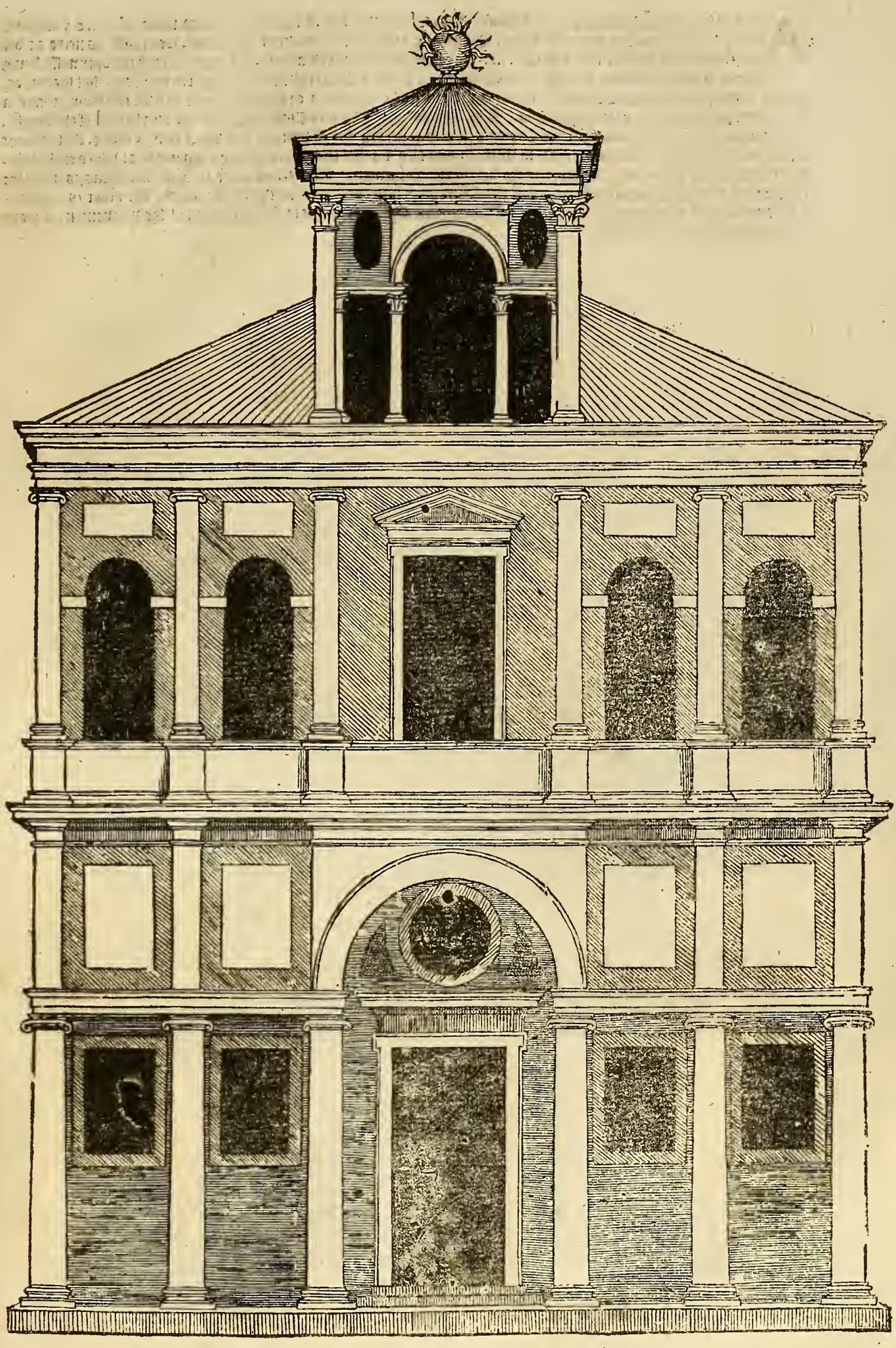
ALthough the height of this Arch is not of double proportion, as the most part of those which I haue shewed, yet it is not false, but is made by good discretion, for that it may sometime fall out, that in the compartition of a Facies, vpon occasion of any necessary height, and to make the Arches vnequall, which should be so to place the principall gate in the middle, which in such case should not attayne to such height: but if we be not constrayned by any necessity, I more commend the double height, then any other proportion. The widenesse then betwéene one Pilaster and the other shalbe 3. parts, and the height 5. but afterwards the widenesse being deuided in 5. then the whole Pillars which stand before the 2. Pilasters, haue 2. parts, and the thicknesse of the Columnes shalbe of one part: the Pilasters shall each of them be of halfe a Columne in thicknesse: likewise the Arch, and the Impost which vpholdeth the Arch, are of the same height made, as it is shewed in the Theater of Marcellus marked T. The Columnes shalbe 9. parts high, with Bases and Capitals, made according to the rule, in the beginning of this Chapter set downe: the dore in the middle shalbe halfe the widenesse betwéene the Pilasters: the height shalbe found in this maner: The Pilaster being made of the sixt part of the light, the Cornice like the eyes of the Impost, placed aboue it, and the Scima vpon that, making afterward the Fréese the fourth part lesse then the Antipagmentum, then the height will find it selfe, which will be litt'e lesse then two foure squares. The Frontispice shalbe made according to a rule set downe in the Dorica: the Architrane, Fréese and Cornice shalbe made in height, of the fourth part of the heights of the Columnes, by the rule aforesayd. The Story aboue shalbe lower by one fourth part: so shall the Architrane, Fréese and Cornice bee of the fift part of that height, which shalbe the fourth part of the height of the Columnes: but touching the deuision of the particular members, you shall find them in full measure in the Order of Composita. The windowes being made with Arches, shalbe in bredth like the dore: likewise the Pilasters and the Arches, but their height shalbe two foure squares and a halfe, which is to giue more light in the chambers. The Columnes shalbe flat, and one fourth part shorter then the lower. The bredth of the Niches betwéene the Columnes and the windowes, is one Columne and a halfe, the height of foure Columnes thicknesse. Thus of any parts or members that bee resting, you shall find meanes to make them by the prescription of the aforesayd rules of that order: for of this Corinthia, you shall find the measure in the beginning of that order. Aboue this Story, he that will, may make a walking place, well defended from water: and that the height of this Podium were of reasonable height to leane vpon, or to rest vpon with a mans armes, these Facies would bee a great beautifying to the building, and much ease to the inhabitants.





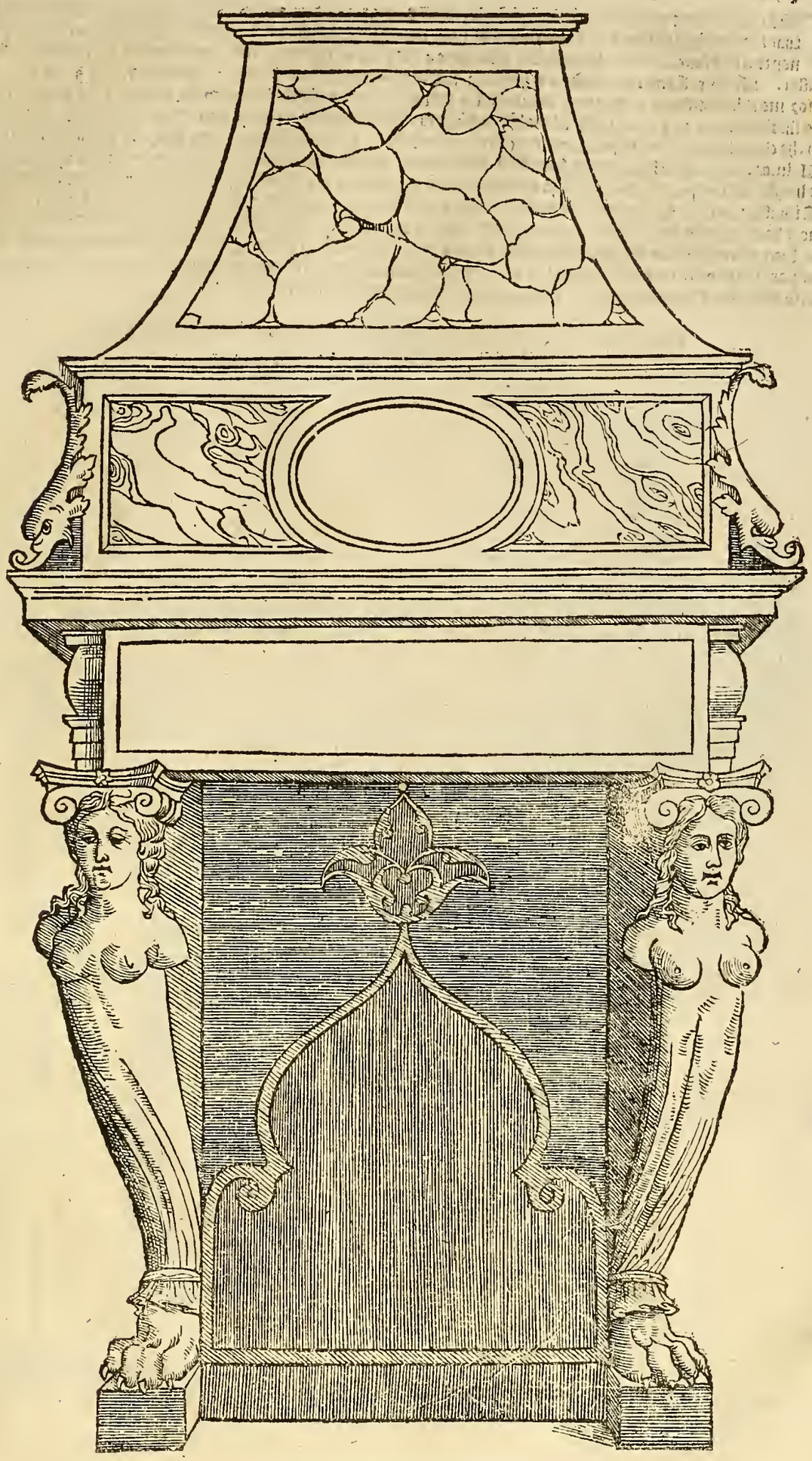
SOmetime, as is sayd, a workeman shall find a great number of Columnes, but so low, that they will not reach high inough for his worke, if he cannot helpe himselfe therewith, and apply such members, to serue the building which he hath in hand: therefore if the height of the Gallery riseth higher then the Columnes, then in the middle of the Facie you may make an Arch, being vpholden by the Architraue, which shalbe aboue the Columnes, which Architraue shall bee the Impost or vpholding of a round rofe. But where the Arch shall be, there shall be a Crociere, as the workeman may see in this ground: and for strengthening thereof, let there be Iron or mettall barres layd ouer, as it is taught in the Dorica Order. But the deuiding of this Facie shalbe such, that the middlemost Intercolumne shalbe of 6. Columnes thicknesse: and the height of the Columne, with Bases and Capitals shalbe of 8. parts: the Architraue holdeth as much as the Columne is in thicknesse aboue: likewise the Arch: aboue the which the workeman shall make a Cornice, which height shall hold a fourth part more then the Architraue, without the Thorus vnder, with the List: which Cornice shall also serue for a Capitall vpon the Pillars, aboue the Columnes, and shalbe of the same bredth that the Columne is aboue. The Intercolumnes on the sides shalbe of 3. Columnes in thicknesse: the height of the dore shalbe so, that the Architraue vnder the Arch shall serue for the Cornice aboue the dore, changing partly her members, as it is figured. Vnder the Cornice there shalbe a Frese set, which shalbe a fourth part lesse then the Architraue, the Supercilies with the Pilaster of the same height. But as much as shalbe vnder the Supercilies, to the stayres, of that halfe, the bredth of the light shalbe made; and so the light shalbe of two foure squares. The windowes shall stand as the eyes of the dore stand, and their widenesse shalbe of two Columnes thicknesse, but the height shalbe taken in Diagonall maner: the second Order or Story shalbe a fourth part lesse then the first; the Podium being taken of a reasonable height, that which resteth shalbe deuided in 5. parts, foure whereof shall be for the height of the Columnes, the other for the Architraue, Frese and Cornice, obseruing the giuen measures of such a Story. The bredth of the window in the middle, is with the Antipagmentum as wide as the light of the dore, but the light shalbe double in height: in the Ornaments aboue, workemen may follow and obserue the rule set downe. The windowes on the sides shall be like those that stand below, and their height like the greater: the raysing vp in the middle aboue the second Story, shall also be a fourth part lesse then the other, and euery part thereof lessened accordingly: for the light thereof, the order of the lowest Story is obserued: but the making of this third Story, or the not making thereof, is at the pleasure of the workman.





Of the Ionica

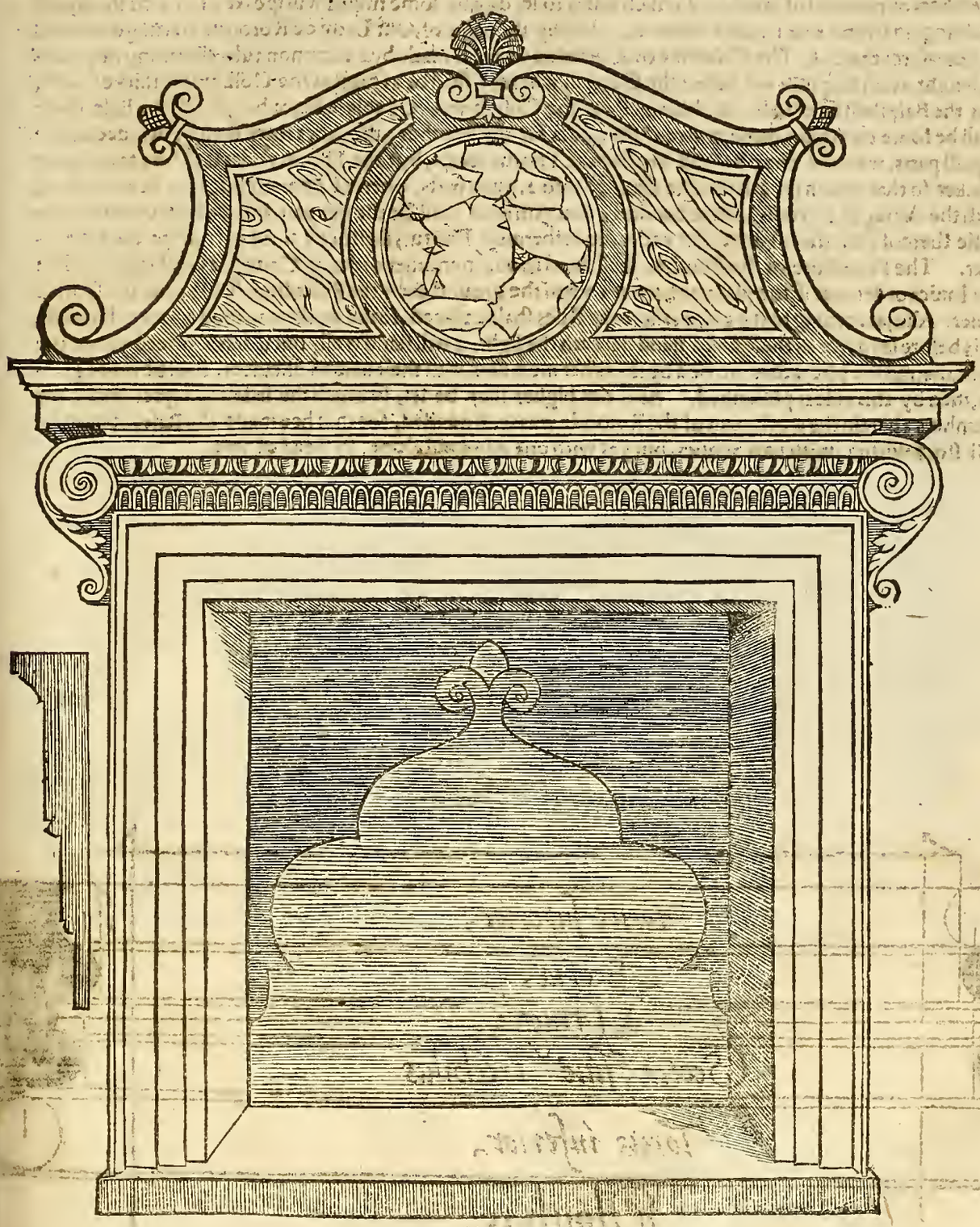
As it is said in the beginning of this Booke, the maner and order of the Ionica being made after the Feminine kind, it is so likewise a materiall thing, that hauing a Chimney to make of that order, wee must, as nére as we can, make some shew of that seye therein: the proportion whereof shalbe thus, that ỳ height of the openneſſe, being placed, it shalbe from the ground of the Chamber or Hall, to the Architraue, eyght parts high, and that shall be according to the placing of the Columnes, which shall be such like, monsters or strange formes (as we call them) made in this maner, which shal serue for Mogdilions. The Architraue, Frése and Cornice, shall be the fourth part of the height, as it is before sayd. The table vpon the Capitals, which couereth the Architraue and the Frése, I iudge, that ancient workemen haue vsed to finde more space to write in, and also, for that they were desirous of nouelties: which table, whether it be made or not made, is referred to the will of the workeman. The second order, with the Dolphins, is made for two causes, the one is, to make the mouth of the Chimney, which doeth receyue the smoke wider: the other is, to make a Piramicall forme, making the necke of the Chimney in a Chamber, but it is still at the will of the workeman, to make them more or lesse, or not at all.



Of the Ionica

THis other maner of Chimney is very easie for small romes, and they are vsed to be made lower then a mans sight, that the fire, which is enemy to mens eyes, may warme the rest of a mans body. The widenesse of this Chimney is a full foure square: the Pilaster shall haue a sixt part of the widenesse: the Cimatie the seuenth part of the Pilaster. Of the rest you may make 12. parts, 3. shalbe giuen to the first Facie, 4. the second, and 5. the third Facie: and for more beautifying, a man may also make the Astragals, as you se them here in the sides. The height of the Volutes shalbe like the 3. Facies without the Cimatie, and of them must be made 3. equall parts, one part for the Frise, with the chanelature or hollowing, and the other for the Echine, with the Astragall and List, the third shall bee giuen to the Volutes, which shall hang on the sides like the Cimatie, but the leaues shall hang downe as low as the Architraue. The height of the Corona, with the two Cimaties, and the Scima, are like the second and third Facie, together with the Cimatie: but the Projecture of Corona, Cimatie, and Scima, each of them hold as much as the height. This like forme I haue made in worke, very well liked of: but, as is sayd of the other, if by occasion of worke it taketh ouermuch place, then you may make the Pilasters of the 8. part of the widenesse, so will they be much more seemely of themselues. That part made ouer for an Ornament, is also at the workemans will, for this Chimney is to stand in the thicknesse of a wall, so that this Ornament, of this Order, would serue for a window or dore.

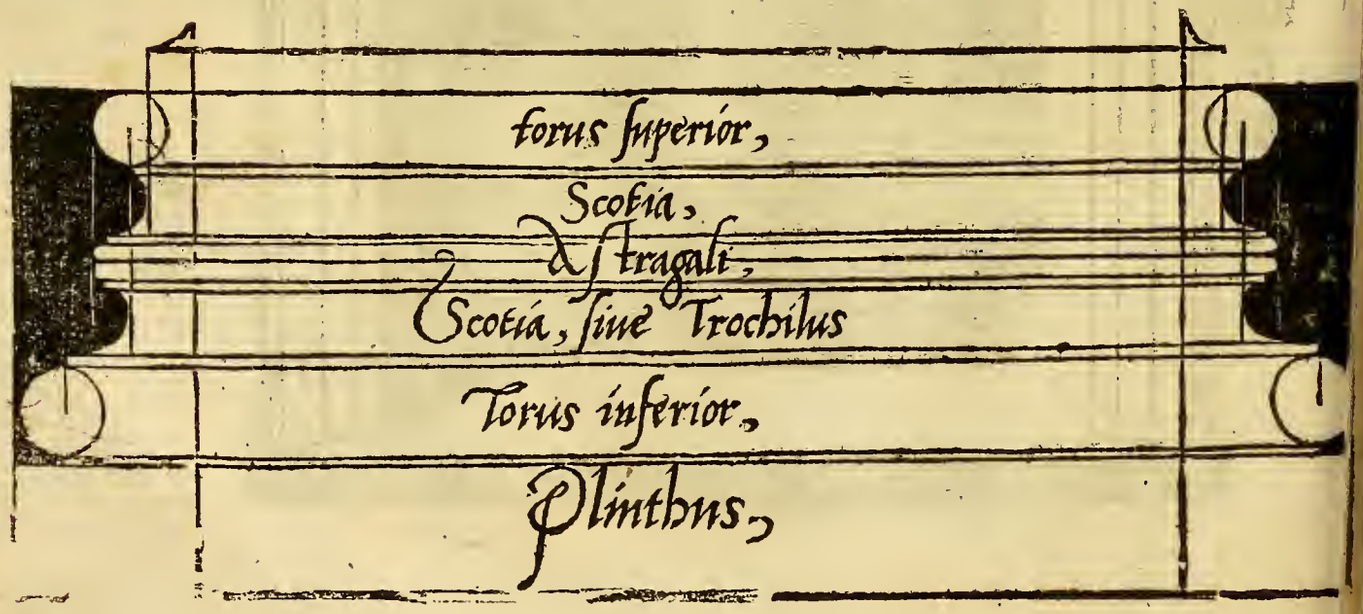
Here endeth the Ionica Order of building: and there followeth the Corinthia.



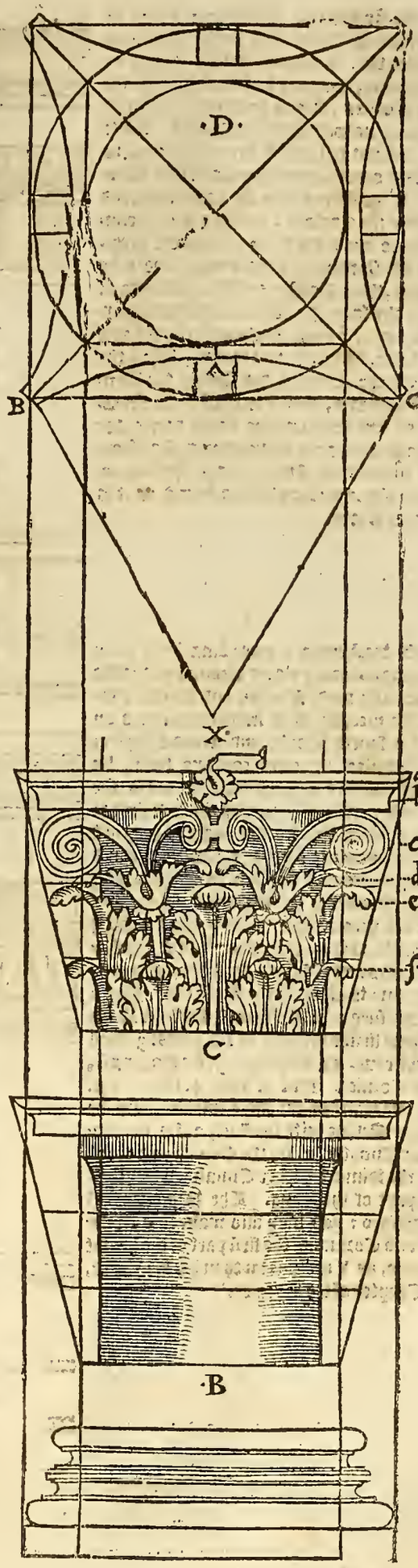
Of the order of Corinthia worke, and the Ornaments thereof.

The eyght Chapter.

OF Corinthia worke, *Vitruuius* speaketh onely in his fourth Booke, and the first Chapter, in a maner as if he would say, that the same, which is sayd of the Ionica Columne, is in Corinthia worke: and in his second Chapter hee speaketh of Mogdilions among the Coronas, therefore not giuing any other rules or measures of the other parts: but the ancient Romanes vsing this order of Corinthia much, (as also the rest) made the Bases of these Columnes, with a great number of members or parts full of worke: of which Bases to set downe some rules, I will speake of one of the fayrest buildings in Rome, that is, the Pantheon, called by the name of, Our Lady de Rotonde, setting downe all the measures thereof. The Columne of Corinthia worke is made by a common rule, consisting of 9. parts in height, with Capitals and Bases: the Capitall whereof, shall be as high as the Columne is thicke below, but the Base shall be of halfe the thickenesse of the Columne. Of this halfe, or height of the Base, there shall be foure euen parts made, whereof the one is for the Plinthus, the other three shall be deuided in fiue equall parts, whereof one part shall bee for the Thorus aboue, but the Thorus vnder shall be a fourth part thicker: so that which resteth shall be deuided into 2. euen parts, whereof one part is for the Scotie below, with the Astragall, and two Lists or borders: that Astragall shall be the sixt part, and each list or border the halfe thereof: but the list or border vnder the nethermost Thorus, shall bee a third part more then the other. The Proiecture of the Plinthus shall stand aboue in another order of Columnes, making them like the Ionica order; but if the place be beneath vpon the ground, then the Proiecture shall be like the Dorica order. Also, according to the place where the Bases shalbe placed, so the workeman must adde or diminish, as is before sayd: for as these Bases stand beneath the sight, it will stand well; but if it bee placed aboue the sight, then all the places that are vsed by the other members, with their seuerall distances, shall be made greater, then by this rule is prescribed. And the higher they be set, so much the lesse and fayrer seeme the members: herein the workeman of the Rotonde was well aduised, for that hee made the Bases aboue the first story within, with two Scoties, but yet with one Astragall alone, in stead of two.



THe deriuation of the Capitall Corinthia, was from a Mayd of Corinthia: but for that Vitruuius in his fourth Booke and first Chapter describeth his petygree, whereof I will not trouble my selfe to speake of, thus much I will say: If a workeman had a Temple to make for the Virgin Mary, or any other Saints that were Virgins, or Houses or Sepulchers for persons of honest life and conuersation, then a man might vse this maner of worke. The height of this Capitall shall bee like the thicknesse of the Columne below: the Abacus the seuenth part of that height. Of the rest there shalbe three parts made: one for the leaues below; the other for the leaues in the middle; and the last for the Volutes, as we may call them. But betweene the Volutes and the middlemost leaues, there is a space left to the lesser leaues, from the which the Volutes grew. The Capitall marked B. shall bee vnderneath like the Columne aboue: vnder the Abacus, there is a Cintha made, the height whereof shall be halfe the Abacus: of which Abacus, three parts being made, one shalbe for the Cimatie with the Lists, and the rest for the Plinthus. Vnder the foure corners of the Abacus, the greatest Volutes are made; and in the middle of the Abacus, there is a flower as great as the Abacus is thicke, vnder the which the least Volutes shalbe made; vnder the greatest, and also vnder the smallest Volutes, the middle leaues shalbe set, betweene the which the least leaues shall grow out, and out of them the Volutes spring. The middlemost, and also the vndermost leaues, shall each be 8. in number, standing betweene each other, as the figure C. sheweth. The widenesse of the Abacus, from poynt to poynt, shalbe two Diameters of the Columnes below: which Diameter shalbe placed in a 4. square, & a Circle drawne without the foure square, which shall touch the foure corners: then, without this great Circle, another foure square being made, and deuided in Diagonall, that is, crosse-wise, those lines will shew to be two Diameters in length (as Vitruuius teacheth.) But from the line B. C. you shall make a perfit Triangle: and vpon the corner X. shall be to make hollow the Abacus: from the spaces, betweene the great Circle and the small, there shalbe foure parts made, one part shal rest aboue A. and three shalbe thus taken away: the one fote of the Compasse being set vpon X, the other vpon A. drawing about from B. to C. where the crooked line shall reach on the two sides of the Triangle, there shalbe the termination of the corners of the Capitals. The example is in the figure D. in this maner. The Abacus shall come in Perpendicular, with the Plinthus of the Base.

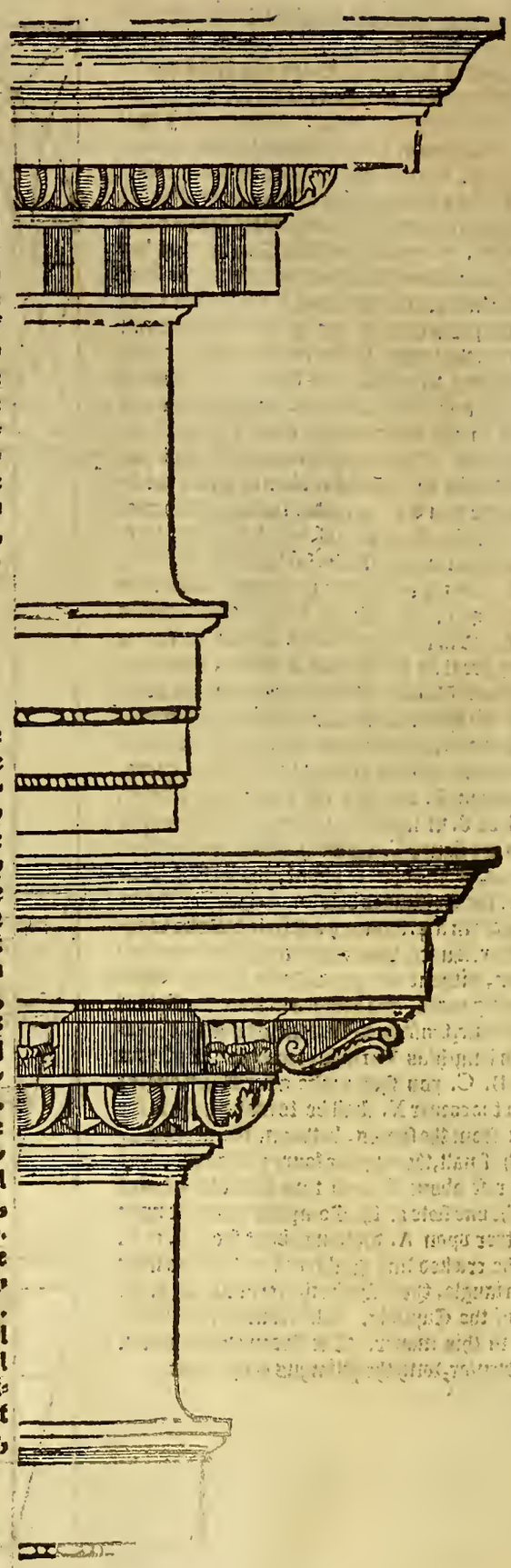


D. The Columnes thicknesse below.

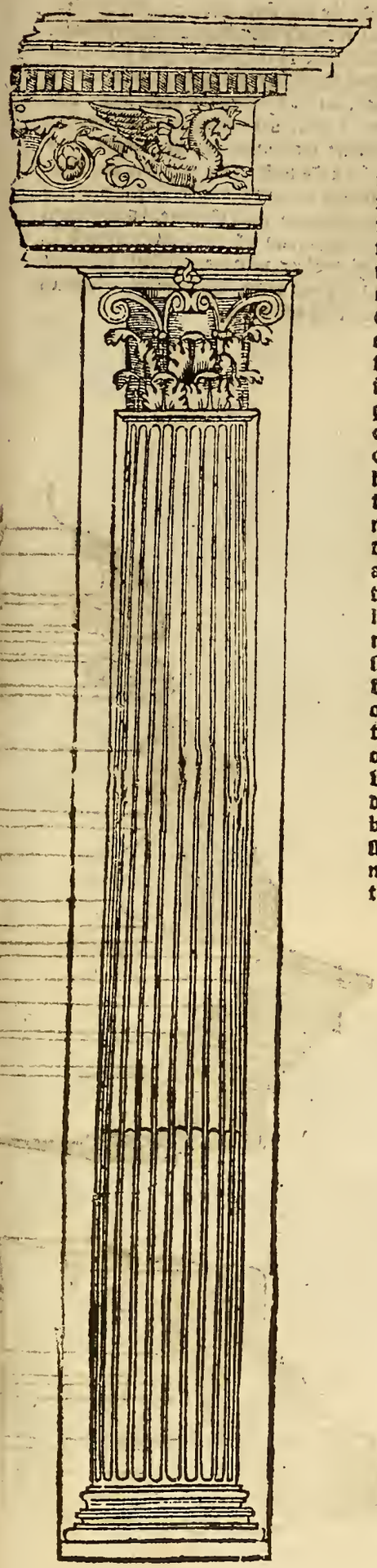
g. Leaues.
Cimatie.
Abacus.
Caulicul.
Lessening leaues.
Middle leaues.
Vndermost leaues.

C. The Columnes thicknesse aboue.

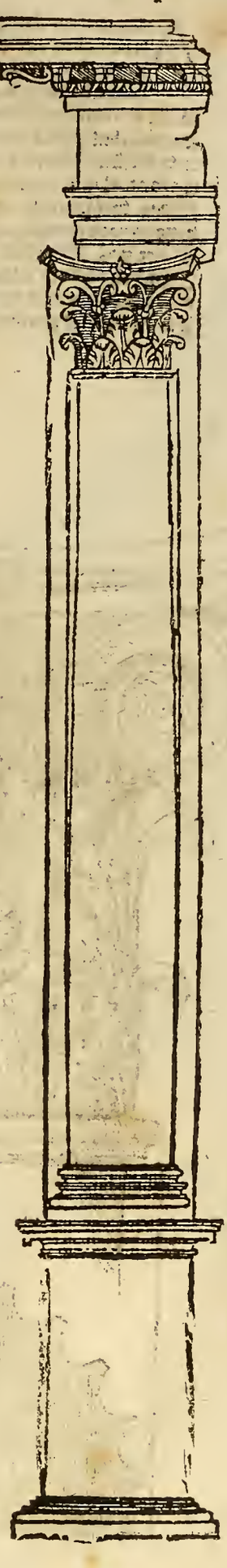
TOuching the Architraue, Freese and Cornice of the Corinthia, as I haue sayd in the beginning of this Chapter, Vitruuius setteth downe no measure thereof, although he setteth downe the originall of the Mutiles, which may bee made in all maner of Cornices, as wee see in Antiquities: but to proceed orderly, and not to leaue Vitruuius writing too much, I will set the ornaments of Ionica in this Chapter, adding thereto the Astragall in the Architraue, and an Echinus vnder the Crowne, as some Arch-Architects in Rome haue done. So I say, when the Architraue is made as it standeth by the Ionica, vnder the middlemost Facie, there shall be an Astragall made of the eyght part of the same Facie, and vnder the vppermost Facie also, one of ye eyght parts of the sayd Facie wrought with Lead, as you see: after that, when the Freese is set with the Cimatie, and thereto the Denticules with the Cimatie, then you must place the Echine aboue it, of such height as the first Facie is, the which with the Projectures and cuttings, shall shew more then the middlemost Facie: aboue the Echine, you must set the Corona, Cimatie, and Sima, as it is sayd in the Ionica Order.



SOme Romish workemen, proceeding with more boldenesse, haue not onely placed Echines aboue the Denticules, but also made Mutiles and Dentiles together, in one Cornice, which is much condemned by Vitruuius in his fourth Booke, and second Chapter: for that the Dentiles represent certaine teeth, by Vitruuius called Alteri, and the Mogdilions are for the supporting of other ends of wood, by the sayd Author called Cantery: which two kind of beames may not stand together in one place; and I, for my part, could neuer endure Dentiles and Mutiles in one Cornice, although Rome aboundeth therein, and diuers places of Italy also: but proceeding orderly in this worke, I find a generall rule, that is, that the height of the Columnes with Bases and Capitals, shalbe deuided in 4. parts, whereof one is giuen to the Architraue, Freese and Cornice, and such a height agreeth with the Dorica: the fourth part shalbe deuided in 10. parts: 3. shall be for the Architraue, as aforesayd, 3. for the Freese, and 4. for the Cornice. But of those 4. there are 9. parts made, one shall bee for the Cimatie aboue the Freese, 2. for the Echine with the List, 2. for the Mutiles with their Cimatie, 2. for the Corona, and the 2. last parts for the Sima, with her Cimatie, which shall be the fourth part of the Sima. The Project of all shall be as aforesayd: you may also make this Architraue, Freese and Cornice, of the first part of the height of the Columne, as Vitruuius sayth in his fift Booke, and seuenth Chapter of the Theater.

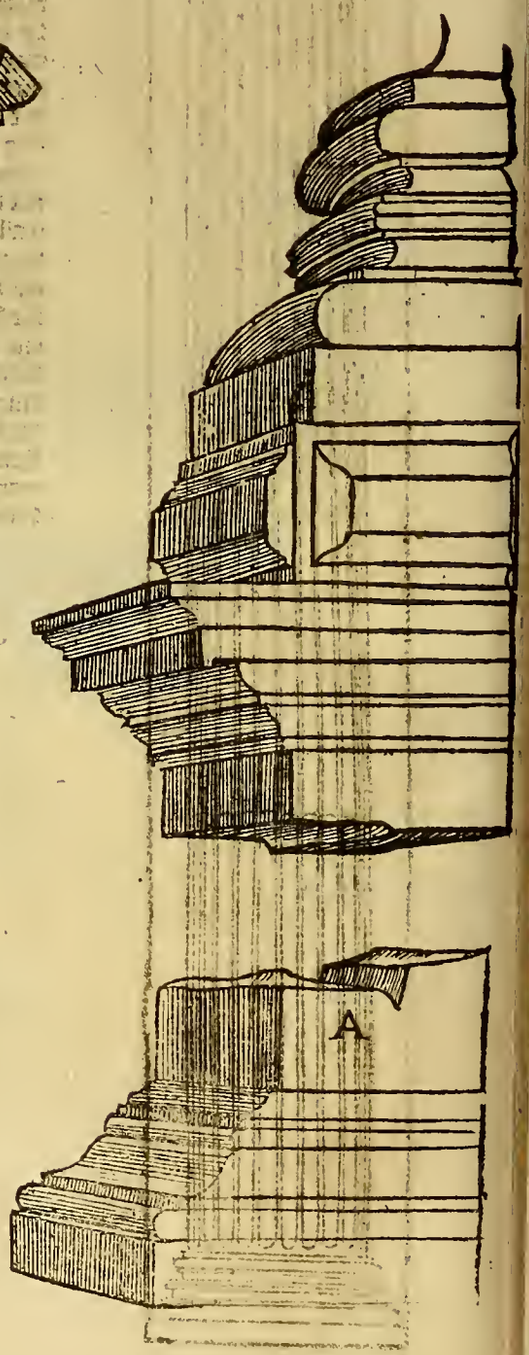


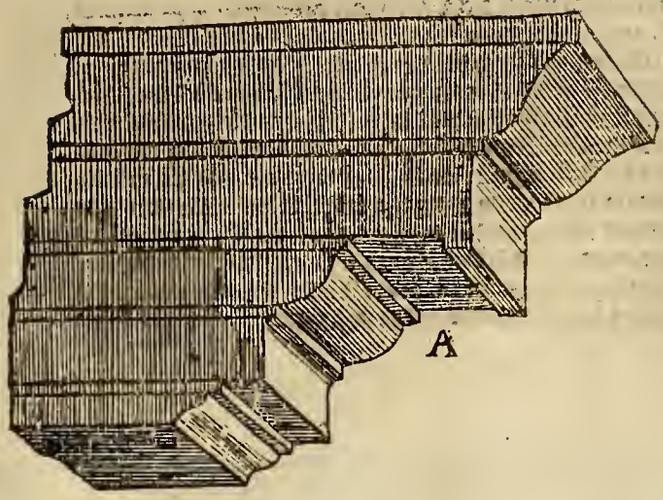
The lessening of the Corinthia Columne shall be made, as it is sayd of the other: and also thereafter as the height is but of 16. foote downewards: it shalbe lessened above the first part, by the rule aforesaid: and if it bee striked or chaneled, then you shall make it like the Jonica; but from the third part netherwards the carving or hollowing shall be full, as you see it in the Figure on the side: The Corona is without Mutiles, whereof the Architraue is halfe the Columnes thicknesse: the Frèse, for that it is cut, is the fourth part more then ỳ Architraue: and the Cornice without the Cimatie of the Freese, is as high as the Architraue: the height of all together is somewhat lesse then the fift part of the Columne: nevertheless, if the Proiecture of the Corona bee well made, then it will shew to bee higher then it is, and shall bee lesse waygbt vpon the building: wherefore, that the skilful workman may chuse out those parts, that best serue his turne, that he may not exceed Vitruuius doctrine, and the good Antiquities, which men, by his writing, acknowledge, if by any accident this Columne had need of a proportioned Pedestal, being not let by any occasion, then ỳ proportion thereof shalbe thus: the bredth shalbe deuided in 3. parts, whereof 2. parts shall bee for the height, that is, one fourth parts, and 2. third parts, (I meane the flat) which height shall be deuided in 7. parts: one for the Bases, one for the Cornice above, which shall in all be 9. parts, proportioned according to the Columne: but of the particular members of the Bases and Cornices, I will hereafter shew more, with some Antiquities, whereof men may take such measure as shall best serue their turnes.

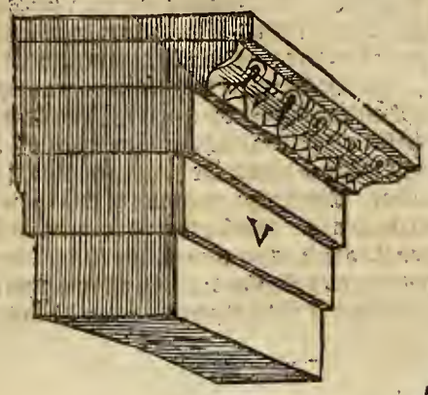


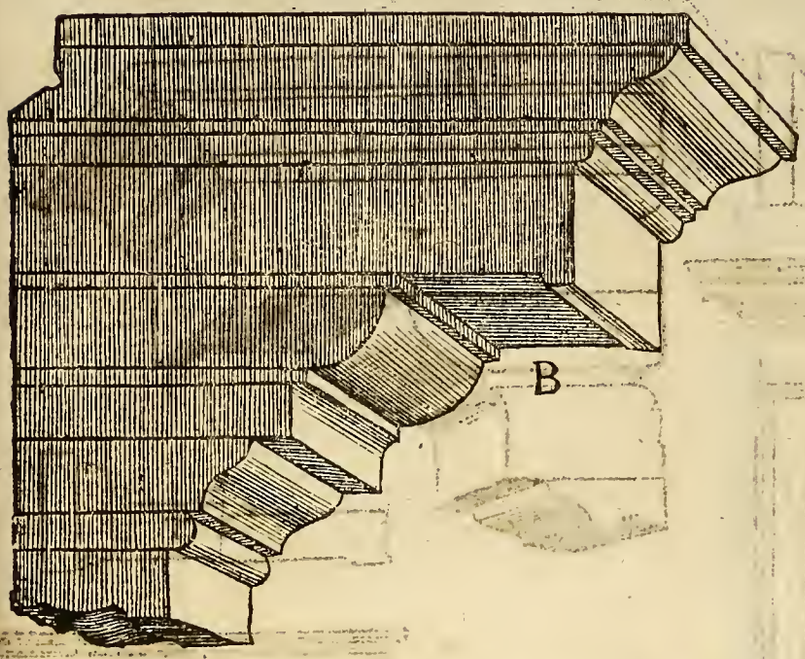
Of the Corinthia

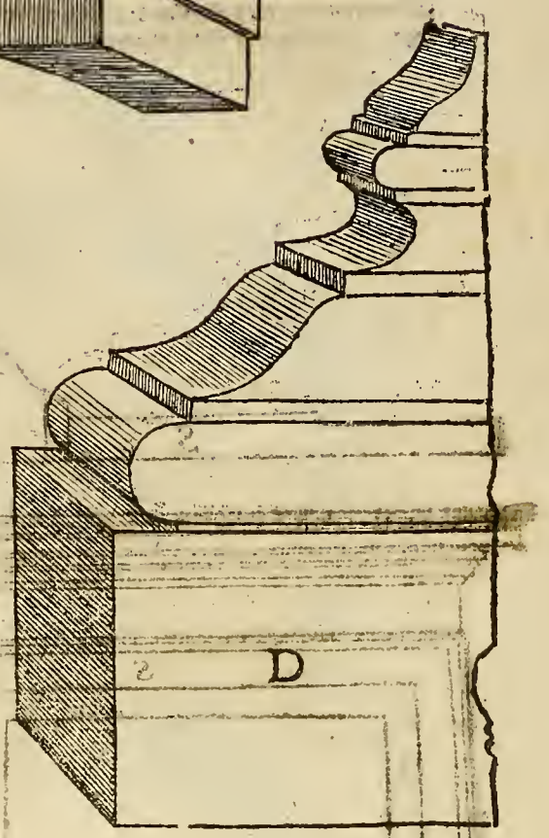
AMong other Antiquities of the Corinthia, which are séene in Italy, I thinke the Pantheon of Rome, and the Arch tryumphant, at the Hauen of Ancona, are the fayrest and best to be séene: of which Arch, the Capitall hereunder marked A. is with great care proportioned after the great: which height is contrary to the writing of Vitruuius: neuertheleſſe, it had good correſpondencie; & it may be, that Vitruuius meant, that the height of the Capitall ſhould be one Columnes thickeneſſe without the Abacus: but the text herein is falſified, for that I haue not onely found this Capitall, but others more of ſuch proportion. The Columnes hereof are chanelled, as it is ſhewed here: the Pedeſtall with the Baſe vpon it, is a member of the ſame Arch, alſo proportioned in the ſmall: the Cornice hereunto added, was found at Al foro tranſitorio in Rome: that marked with A. is very handſome, for a Corinthian Cornice without Mogdilions: that marked with B. is a little fayrer; but that with C. is the vnhandſomeſt, becauſe of the double parts, which haue no good grace from the Corona downewards: and alſo, for that the Corona, vpon ſo much Cornice, hath ſo ſmall Proiecture. The Baſe of the Pedeſtall marked D. in my opinion, is very fayre, and alſo the Baſement with E. I thinke hath béene a thing that hath continued in ſome building: which things, altogether, men may applie to the order of Corinthia; and in the Ionica I haue ſéene the like. The Architraue V. is in Verona, in an Arch tryumphant, which Facies ſtandeth contrary to Vitruuius writing: yet I haue ſet them here to ſhew ſuch difference.

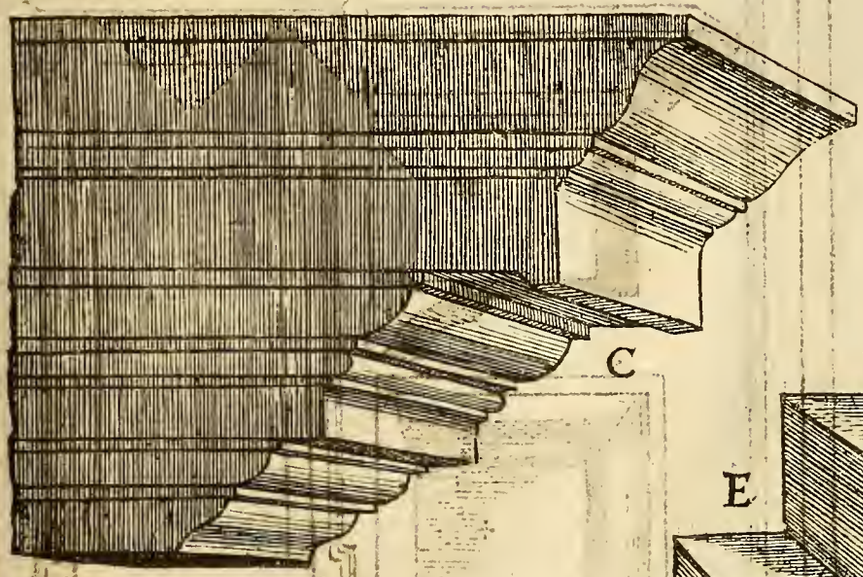


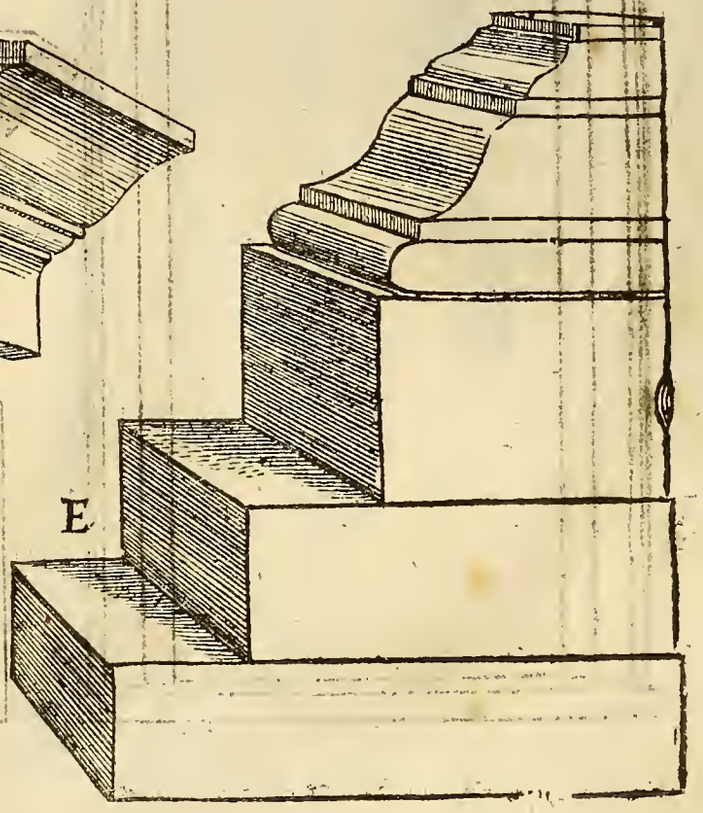

A


V

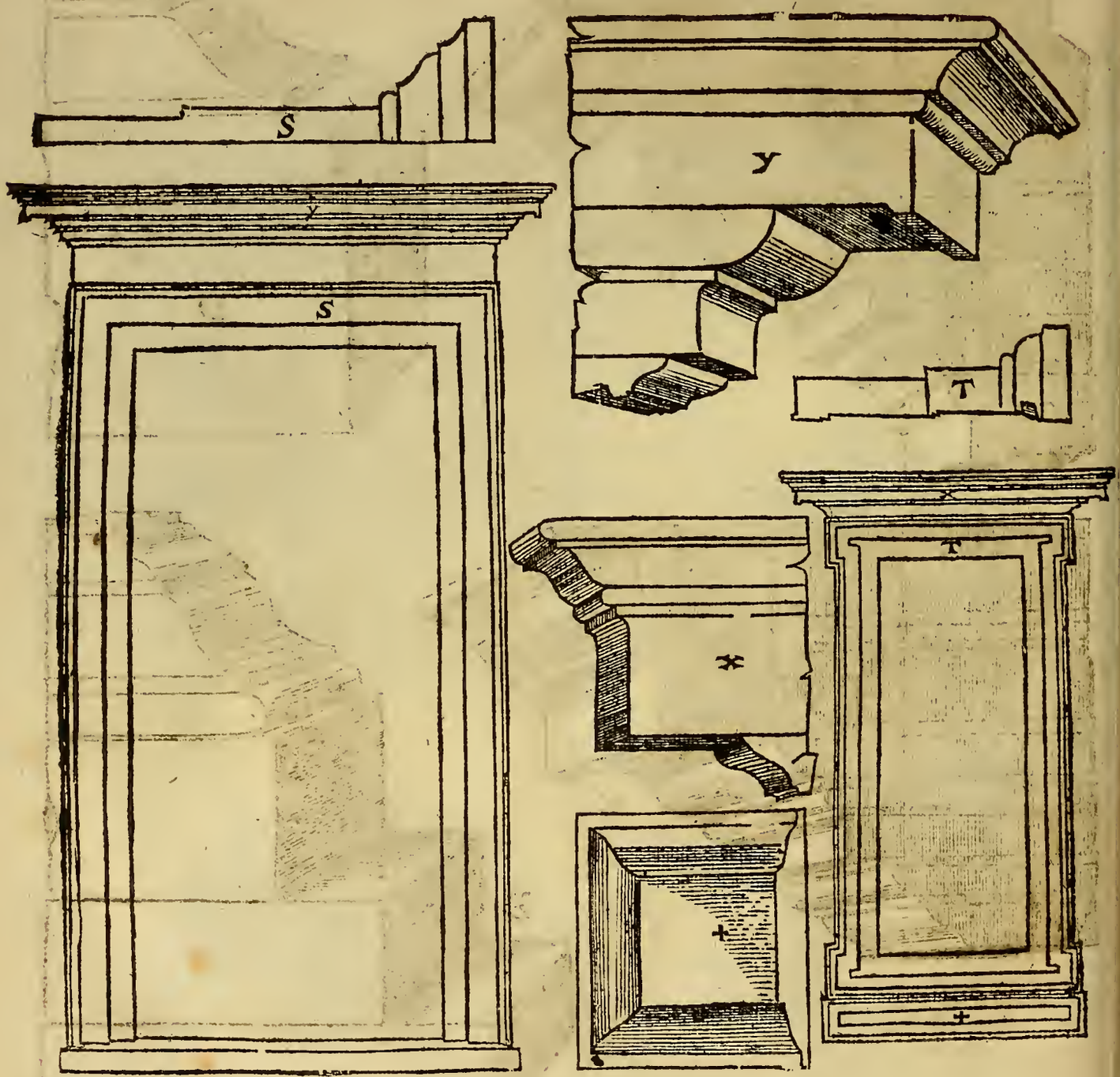

B

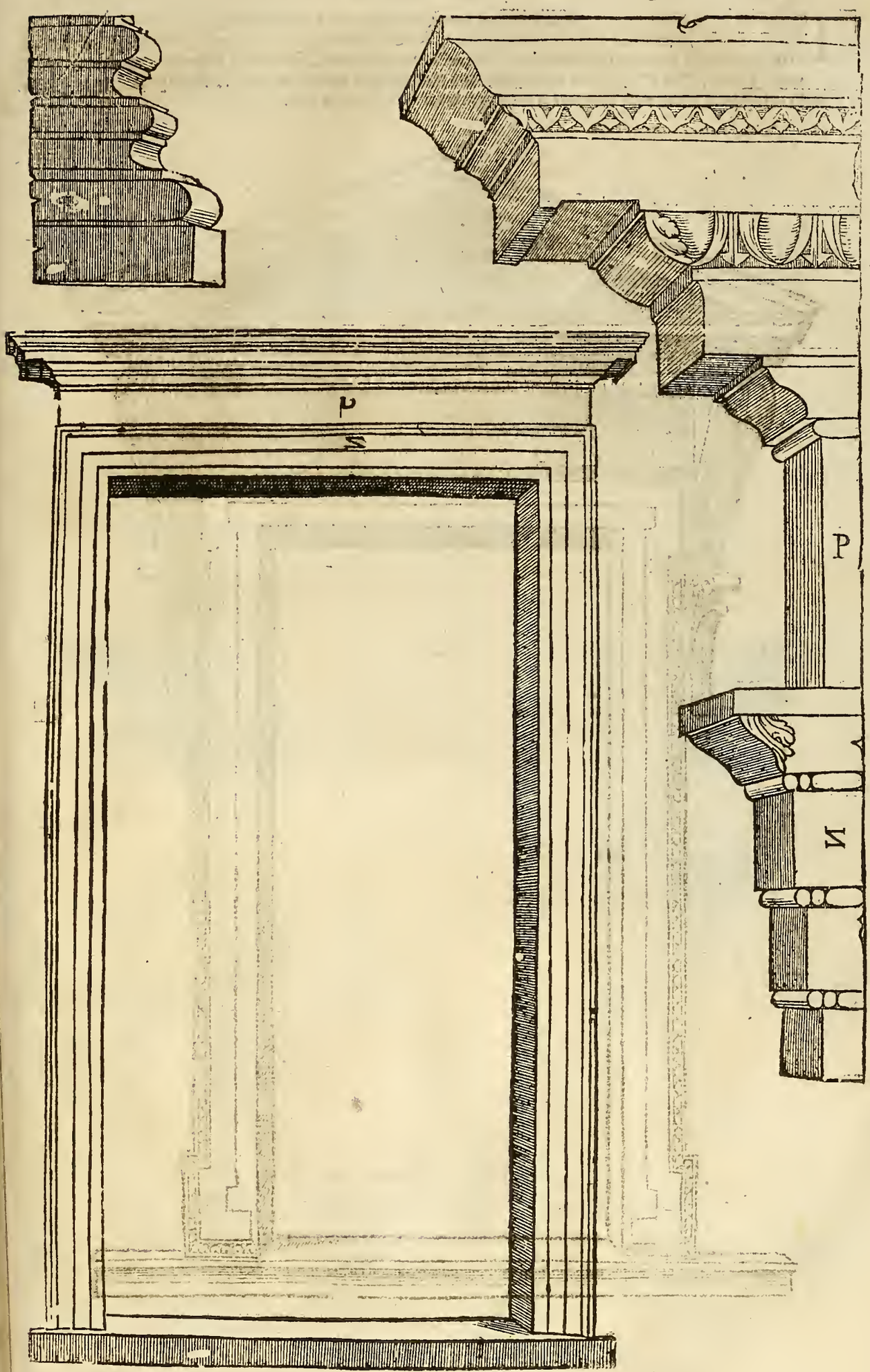

D


C


E

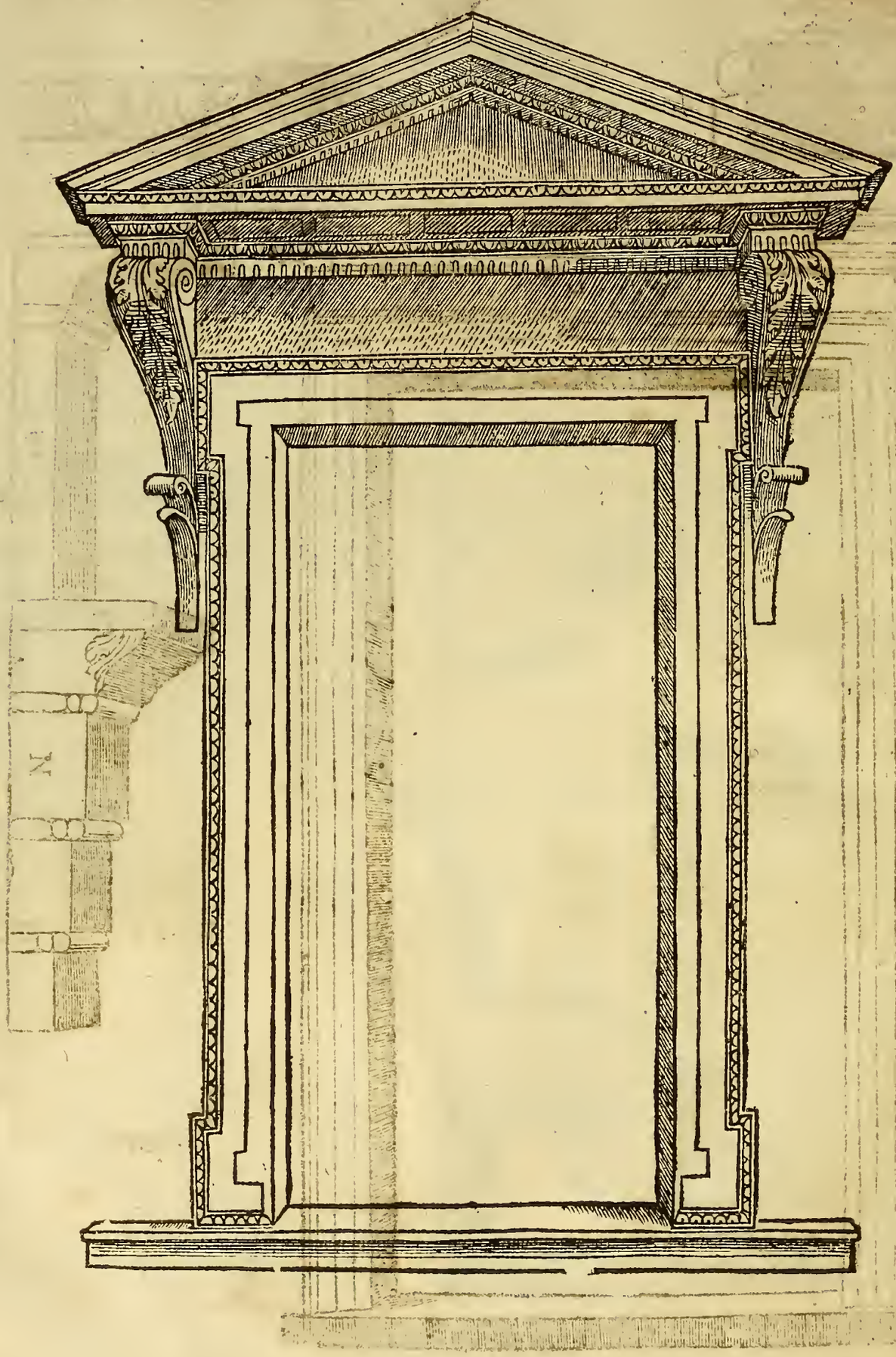
OF the doores of Corinthia worke, Vitruuius speaketh nothing at all; but I will speake of the Antiquities which are yet to be seene. The Gate or doore marked S. Y. is at Tiuoli, vpon the River of Aniene, in a round Temple, made after the Corinthia maner, which doore is lessened aboue the eyghtenth part. The height is aboue, 2. 4. squares: the rest of the members are proportioned after the great. The window T. and X. is in the same Temple, and lessened aboue like the doore: the Pilasters or Antipagmentum are all proportioned, which a man may find with the Compasse. The doore following, marked P. Z. is that of the Pantheon in Rome, also Corinthia worke; which is 20. ancient Palmes broad: the height 40. And it is sayd, that the Antipagmentum is all of one piece, and I also haue seene no other. The Antipagmentum of this doore is the bredth of the 8. parts of the light thereof, and in the sides it is of a good thickenes. But for that you cannot see the first, without seeing a part of the sides, therefore it seemeth to such as looke on it, to be broader then in effect it is. And this doore, because it is so high, comes in Perpendicular, and is not lessened as the other aforesayd: all the other members are proportioned according to the greatnesse. The Base aboue the Gate, is like that of flat Columnes aboue the first order, which I haue set downe by the Corinthia.



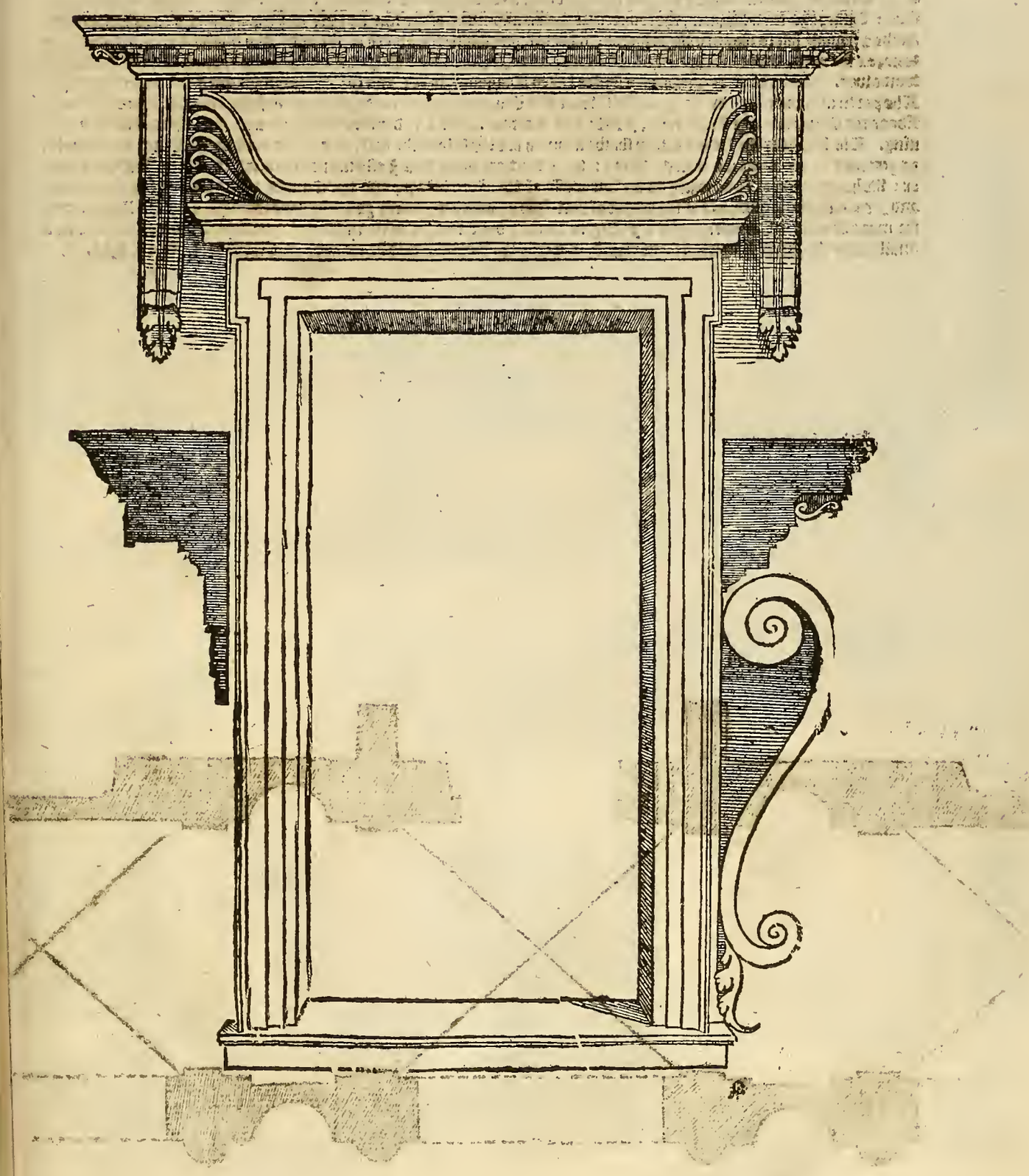

P
N

Of the Corinthia

The door hereunder set downe, is at Palestina, and is Corinthia: the widenesse is 2. foure squares: the Antepagmentum or the Pilaster is broad the sixt part of the widenes, deuided in maner aforesaid. The Sophore or Freese is the fourth part more then the Supercilie. The Corona and the rest, are like the Supercilie, deuided as you see in the Figure. The Prothyrides or Ancones, with that which is vpon them, hang so slightly or loselyas you see. The Frontispicie is made, as in the order of Dorica, in the second Facie, is sayd.

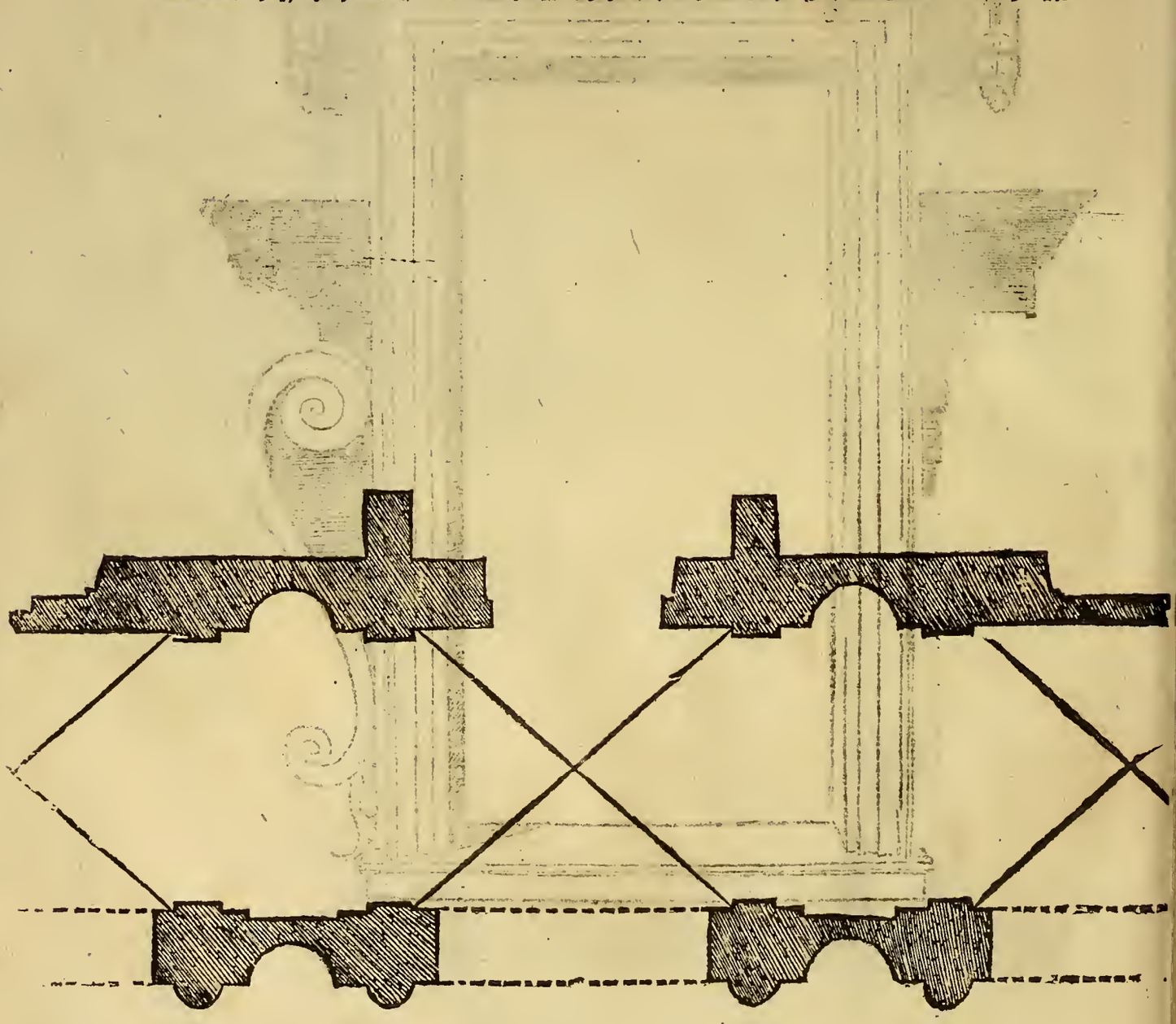


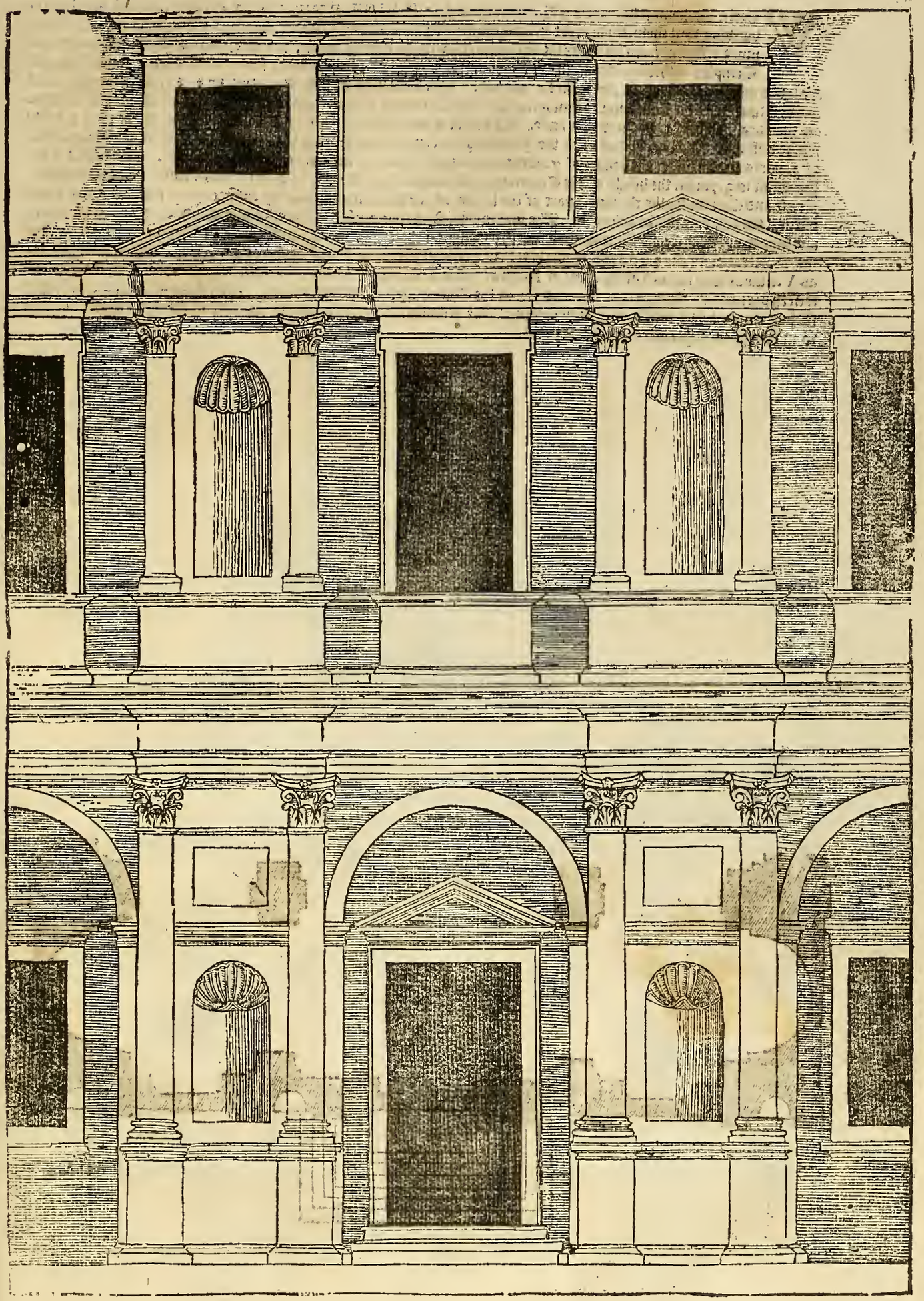
ALthough this Doore differeth from all the other, that euer I saw in any Antiquitie, neuertheleſſe, it is very pleaſing to the ſight, and ſheweth well: which Doore is without Spoleta, about halfe a mile without the way, in an ancient Temple, made of the Corinthia maner; of the proportion and particular members, I will say nothing; for hee that ſaileth neere, may find it with a Compaſſe.



Of Corinthia

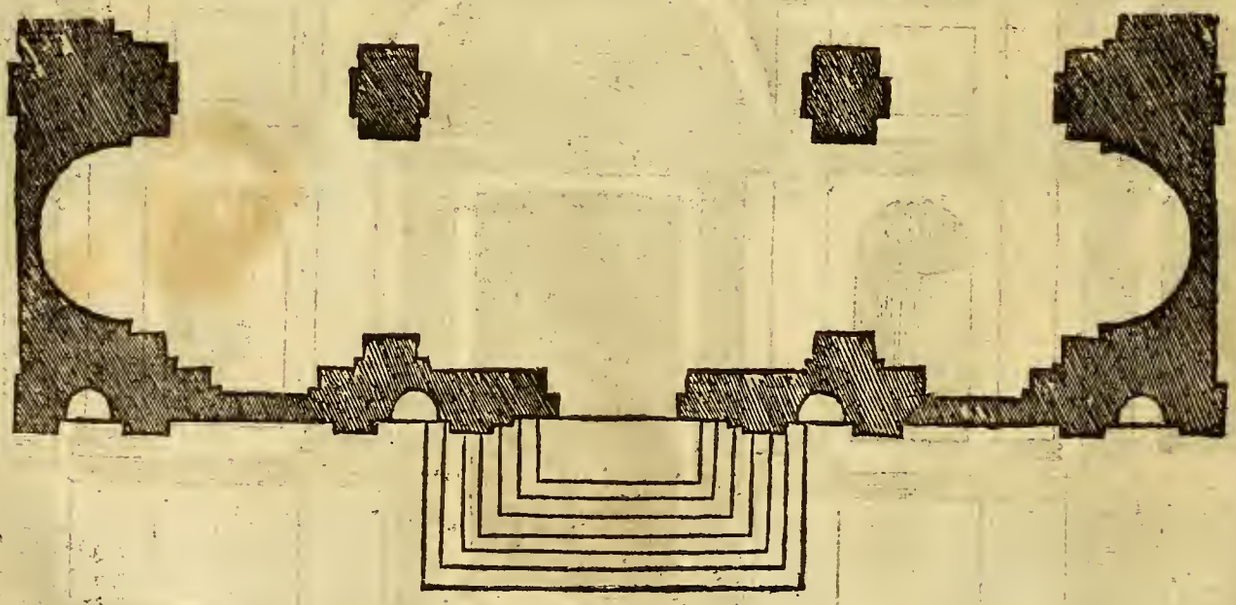
Of this Order of Corinthia, which is pleasing vnto all men, I will make more sorts of buildings, setting downe some generall rules, to satisfie those that take pleasure to read this worke: and for that ancient workemen, in times past, that desired to make their things strong and euerlasting, made Pillars (wherein the Pilasters are closed) which beare vp the Arches of a great thicknesse; for that cause, the Forefront or Facie ensuing hath the Pillar (that is, the whole body) as broad before as the widenesse of the Arch is; but the thicknesse is 1. fourth part lesse. The thickenesse of the Columnes shall bee a first part of the Pillar. The Niches betwéene the Columnes are 2. Columnes thickenesse in breadth: their height is somewhat lesse then 2. foure squares. The height of the Pedestals of 3. Columnes thicknesse. The height of the Arch shalbe made of 2. foure squares. The height of the Columnes with Bases and Capitals, shalbe 9. parts and a halfe. The breadth of the Arch with the Pilasters, shalbe of halfe a Columne. The Impost which beareth the Arch, shalbe of the same height, made, in maner, like that of the Theater of Marcellus, in the Order of Ionica: which Impost shall serue for a Cornice aboue the dore: but the height of the dore shalbe made thus: Vnder the sayd Cornice, the Supercilie shalbe also made of the like height; and from thence downewards there shalbe 2. equall parts made to the Stayres; whereof, one shalbe the breadth of the light, and likewise the Cornice of the dore, as the eyes, shall come with the windowes, and the Cimatie of the Pedestall shall also come in like sort vnder the windowes. The light of the windowes shalbe taken Diagonall wise: and the Antepagmentum a first part of the light. The particular members of the Pedestall, Base and Capitals shalbe made, as in the first part of this Order it is sayd. Aboue the Columnes, the Architraue, Frése and Cornice shalbe set, deuided in such maner as is shewed in the beginning. The height of the second Story shalbe a fourth part lesse then the first, and all the members lessened accordingly, as you may see and measure it in the figure: the eleuation aboue this I esteeme not for a whole Story, but much lower: the height thereof is as much as the widenesse of the Arch below; and the Cornice which seruetb for Architraue, and Frése, shalbe the fift part of the height of that Story; which measures you may take from the Capitall Dorica: and for more Ornament, a man may set a Fastigies aboue: but setting it in the middle, it would hardly agree with the two small aboue the Niches, vnlesse it ran round, whereby the worke should be changed, and shew better to the sight.

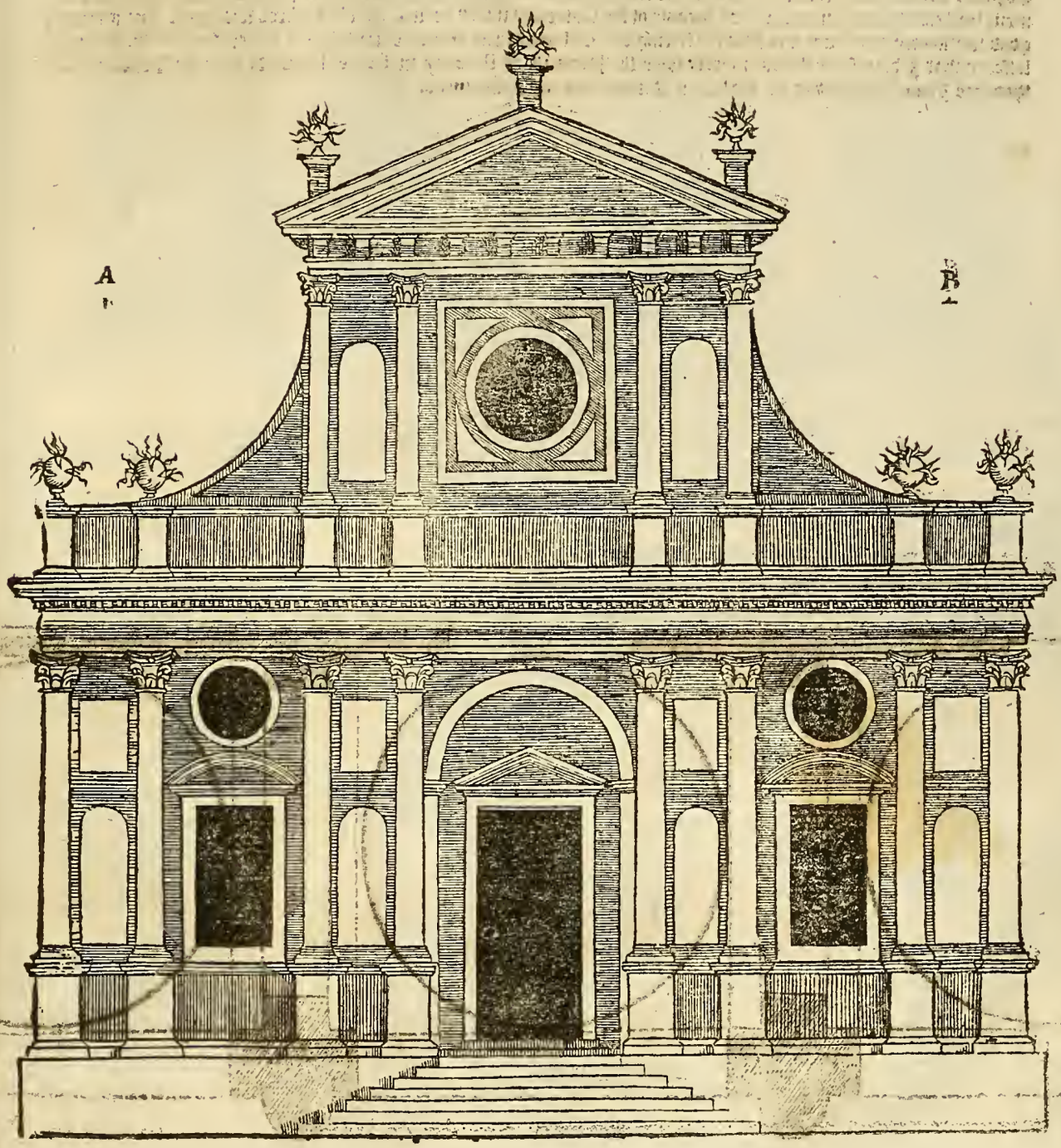




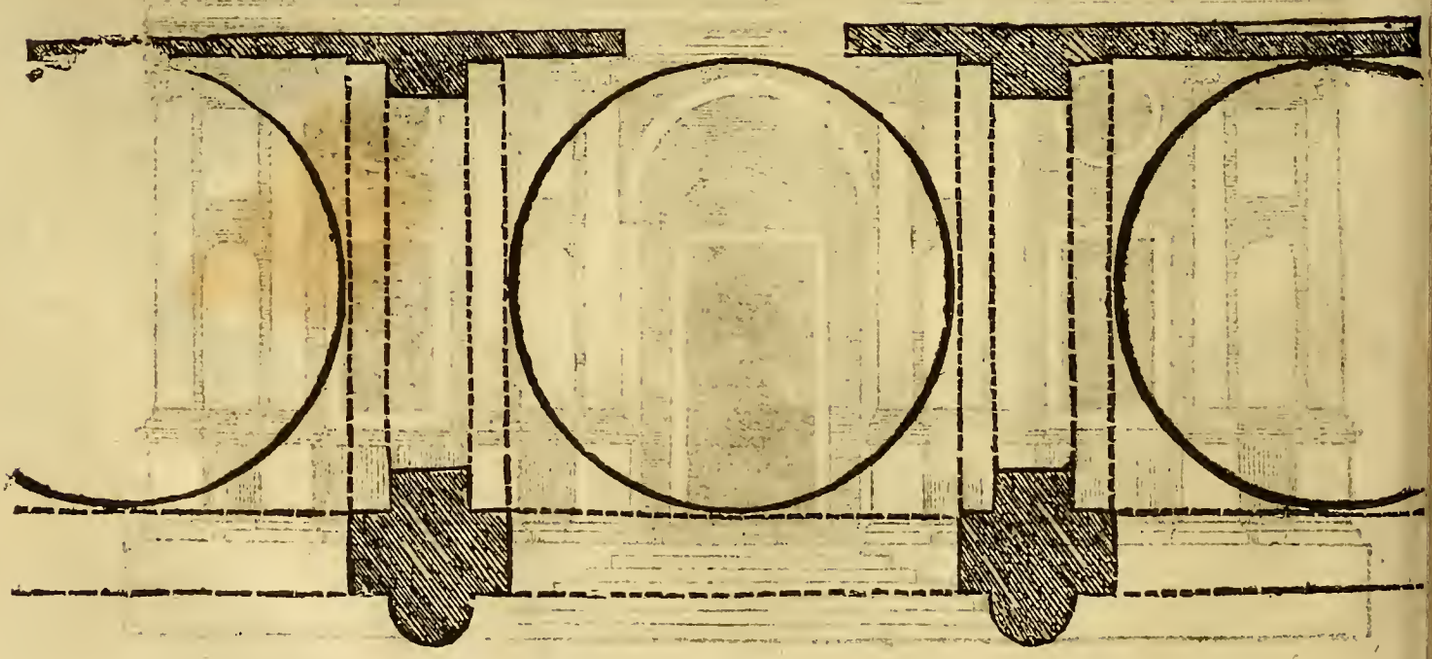
Of the Corinthia

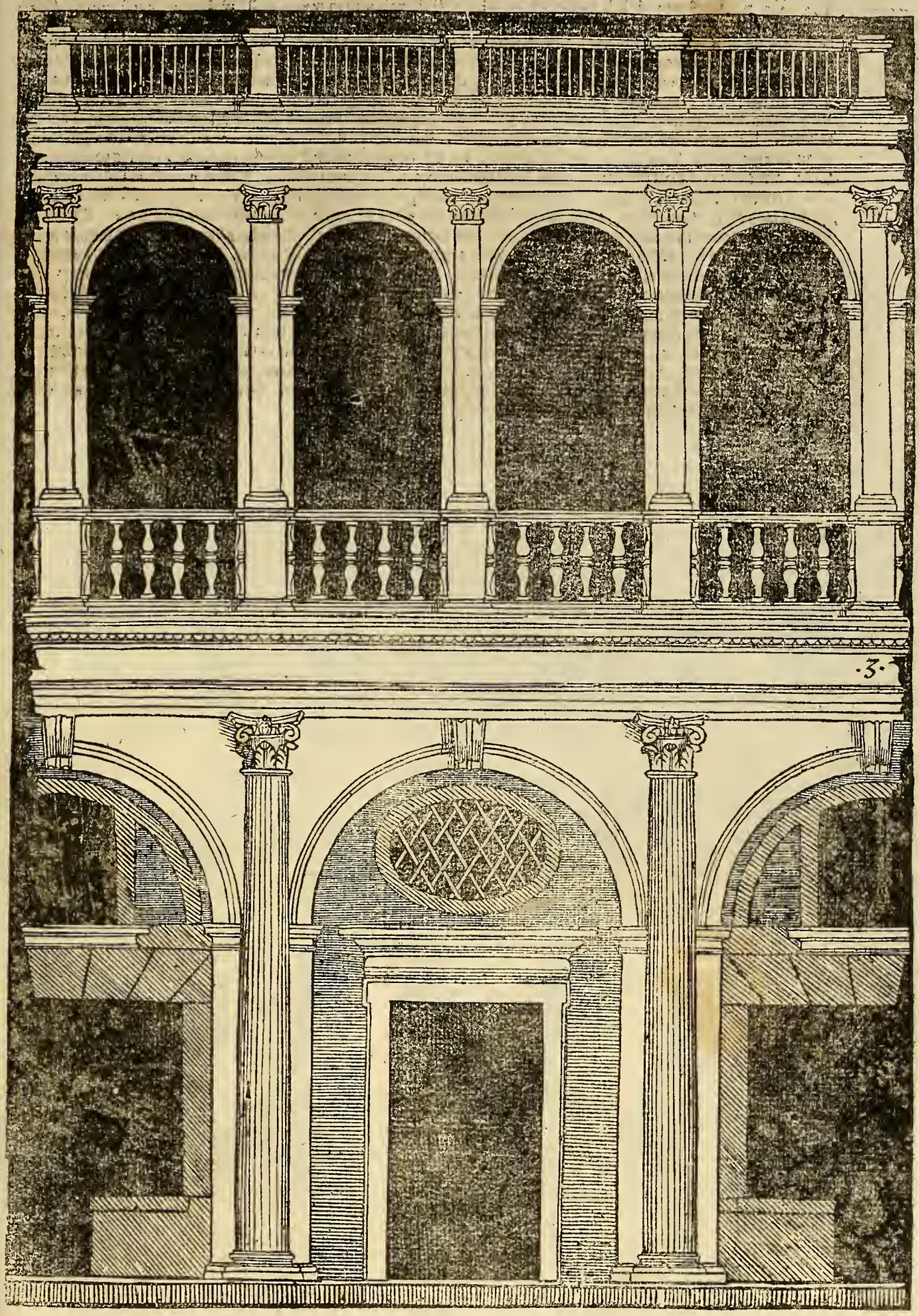
When a workeman will build a Temple, the higher the ground or Pauement is eleuated, so much statelyer the building will shew, for so right ancient workemen haue done, although they vsed other formes of Temples, much different from this here set downe: for they made a body alone, but wee, that are Christians, make our Temples in three parts, setting one part in the middle, and 2. parts on the sides: and sometimes the Chappels are made without the sides, as you sée in the ground. The widenesse of this Facie shall be of 32. parts: one whereof shalbe ý thicknes of a Columne: the middlemost inter-Columnes shall containe 7. parts: the greatest inter-Columnes on the sides shall bee 4. parts and an halfe. The inter-Columne with the Niche shall be 2. parts: and so the 32. parts shalbe distributed. The Arches with the Pilasters shall be halfe a Columne broad: the widenesse of the Doze shalbe of 3. parts and an halfe: the height of 7. parts: the Impost vnder the Arch is as broad as the Arch. The height of the Pedestall is 3. parts: the height of the Columne, with Capitall and Bases, is 9. parts and a halfe. The Architraue, Frése and Cornice shalbe the fourth part of the height of the Columnes: and so for the particular members and parts resting, the first rule shalbe obserued. The windowes, Niches and other ornaments, a man may conceaue in the figure and measure. The second storie shalbe a fourth part shorter then the first, and all the members lessened accordingly: but the Architraue, Frése & Cornice, shalbe placed in 3. equall parts, as I sayd of the other. The Fastigies shalbe made, as Vitruuius hath shewed in the order of Dorica. The 2. sides that stand for beautifying and vpholding, shall bee the fourth part of a Circle, whereof A. and B. is the Center; and aboue each Arch that parteth the Chappels, a man may set such things, which will be a great vpholding to the middlemost worke, and also along vpon them, the water may fall from the vppermost roofe to the nethermost.




A
B

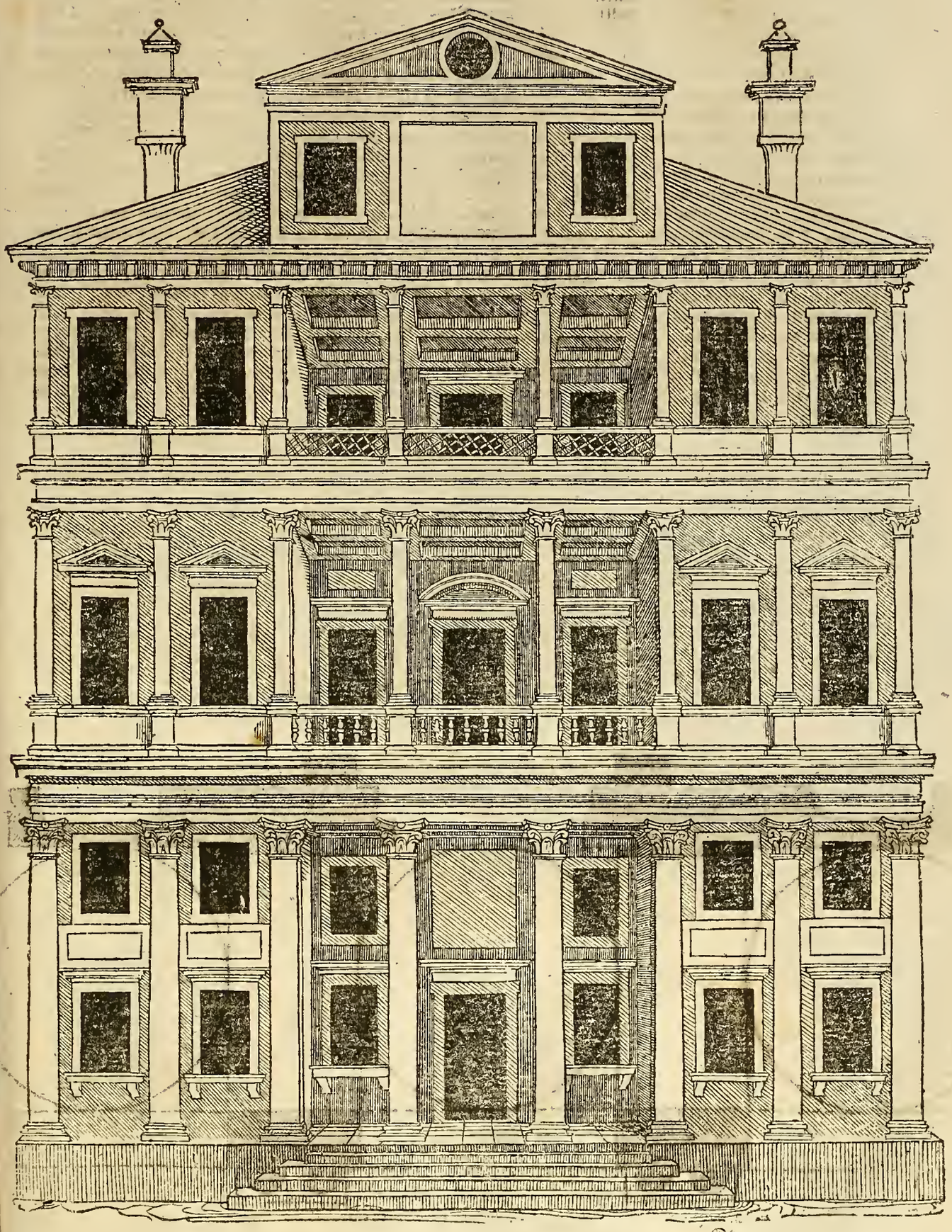
The deuiding of this worke ensuing shalbe thus, that the Pillar shalbe the third part of the wideneſſe of the Arch, but the thickeneſſe of the ſixt part: the thickeneſſe of the Columne also as much. The height with Base and Capital of ten parts and an halfe: the Arch, Pilaster, and impost of the halfe Columne: the measure of the Impost a man may take from the Dorica Chapter, altering the members: the same shall also serue for a Cornice abone the doore, and for supporting of the windowes aboue the shops: the height of the Arch (for sometimes vpon occasion, a man shall be forced to haue it so low as you sée) shall be of 3. parts in the breadth, and 5. in height: and the doore also shall haue the same proportion. The Antepagmentum shall be the ſixt part of the light; and if the workeman will make the height of the Arch of double proportion, the doore also will be of such proportion: but the Columnes should néd a great stone vnder th Bases, with which things ancient workemen holpe themselues. The height of the Architraue, Freese, and Cornice are of 2. Columnes thickeneſſe, as it is said in the first part of the rules, or in maner of some Antiquities aforeshewed. And for that the space vnder the Arch to the soller, which is euen with the flat of the Cornice, should be to great to make crossewise, in such case my aduice should be, to make an Arch right behind the Columne, and to make each space kettlewise, as you sée in the ground. The height of the second story shalbe one 4. part leſſe then the first, deuided in this maner: the Podium shall bee as high as the thickeneſſe of two of the lowest Columnes, and from thence vpwards shall be made 5. parts, one for the Architraue, Freese and Cornice, and 4. for the Columnes: the Arches with the Pilasters shall be of halfe a Columne; and for the rest, you shall obserue the generall rule: and if the Facie standeth in any place or market, as it is shewed by the winkels or shops, it will be easie and comely to make a leaning aboue the vppermost Cornice: but for safety from rayne, snow, and frost, aboue all other things, it shall bee requisite to make a roofe or pauement well closed and leaning forward, because of the water: but it will be surer, if it be couered with lead. And although good workemen condemne and shun the setting of a Columne in an emptie place, which I also commend not, neuertheleſſe, for that I haue séene the like matter vpon the Porticus of Pompey in Rome, but made after the Dorica maner, therefore I haue presumed to set the like, if it may serue any mans turne.



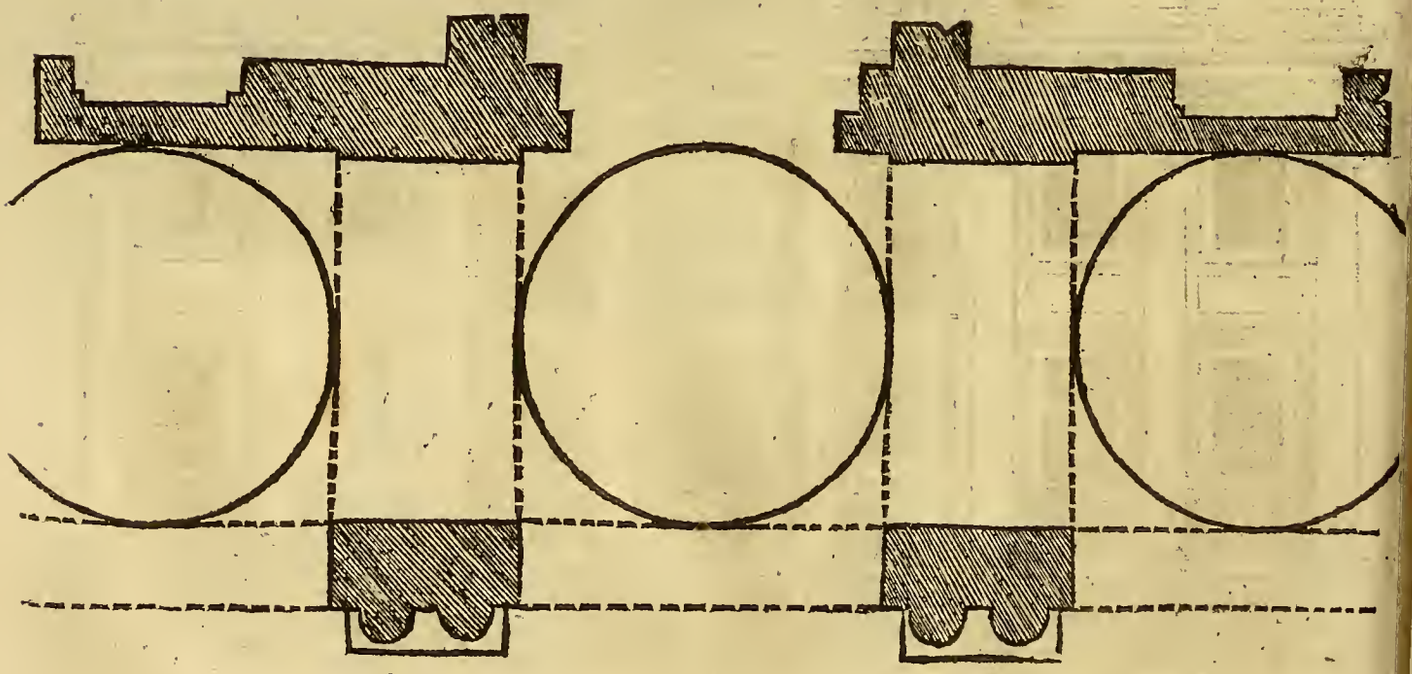

·3·

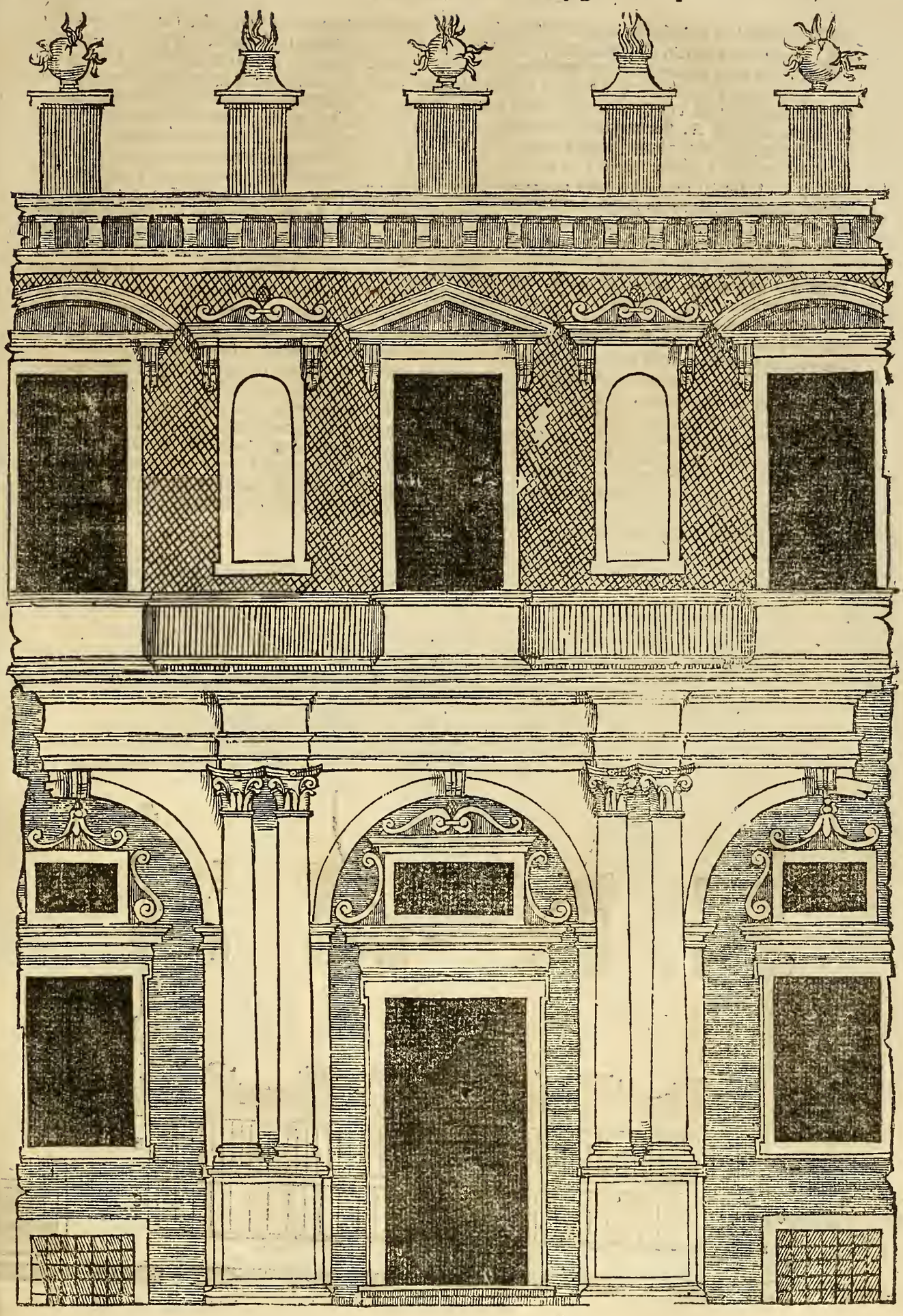
Of the Corinthia

For that the Venetians, in their buildings, vse much Corinthia worke, and also many windowes and Podiums, therefore I haue made one here, which is full of windowes & Podiums, & haue also made Story vpon Story, which is more commodious then bearings out and leanings ouer are, and the building will haue a better shew; for that all the things which a man may see within, will be seemely. The Compertition of this Facie shall be thus: The breadth shalbe deuided in 30. parts, and one of those parts shalbe the thicknesse of a Columne: the middlemost Intercolumnes shalbe of 4. but all the rest of 3. and so the 30. parts shalbe distributed. The height of the Columnes shalbe of 10. parts & a halfe, with Bases and Capitals. The Architraue, Frése and Cornice shall, together, be the fift part of the height of the Columnes. The members shalbe deuyded, as aforesayd. The light of the Windowes are a Columne and a halfe wide, all in Perpendicular from the top to the bottome: but the height of the first windowes are of 3. parts broad, and 4. high: and those that shall stand vpon them, haue their height in Diagonall maner. The widenesse of the Dore shalbe of 2. Columnes: and the height 4. The Antepagmentum, with the Supercilie, Frése, and Cornice, shalbe deuided, as it is sayd of the other before: and so shall the Cornice also of the Dore be, as the windowes below are. The second Story shalbe lower then the first the fourth part: but the leanings with the Balusters being made, as high as a window is broad, the rest of the height shalbe deuided in 5. parts: one for the Architraue, Frése and Cornice, and the other 4. for the Columnes, with Bases and Capitals. The height of the windowes shalbe of 2. foure squares: with the rest of the Ornaments, you must doe as I haue sayd of the like: and also the Dore of the Gallery shalbe like that below. The third Story shalbe lessened more then the second one fourth part, and euery member proportionably; onely, the height of the windowes, they shalbe of 2. foure squares, and rather higher then lower, because the height of it selfe lesseneth: The eleuation also in the middle, shalbe the fourth part lessened, as it is sayd of the other. The Architraue, Frése and Cornice are the fourth part of that height. The Fastigium shalbe made, as it is sayd of the Dorica Temple: and if there remayneth other measures, you must alwayes turne to the first rule. Hereunder I will set no flat ground: for the Perspectiues of the Galleries shew all clearely.

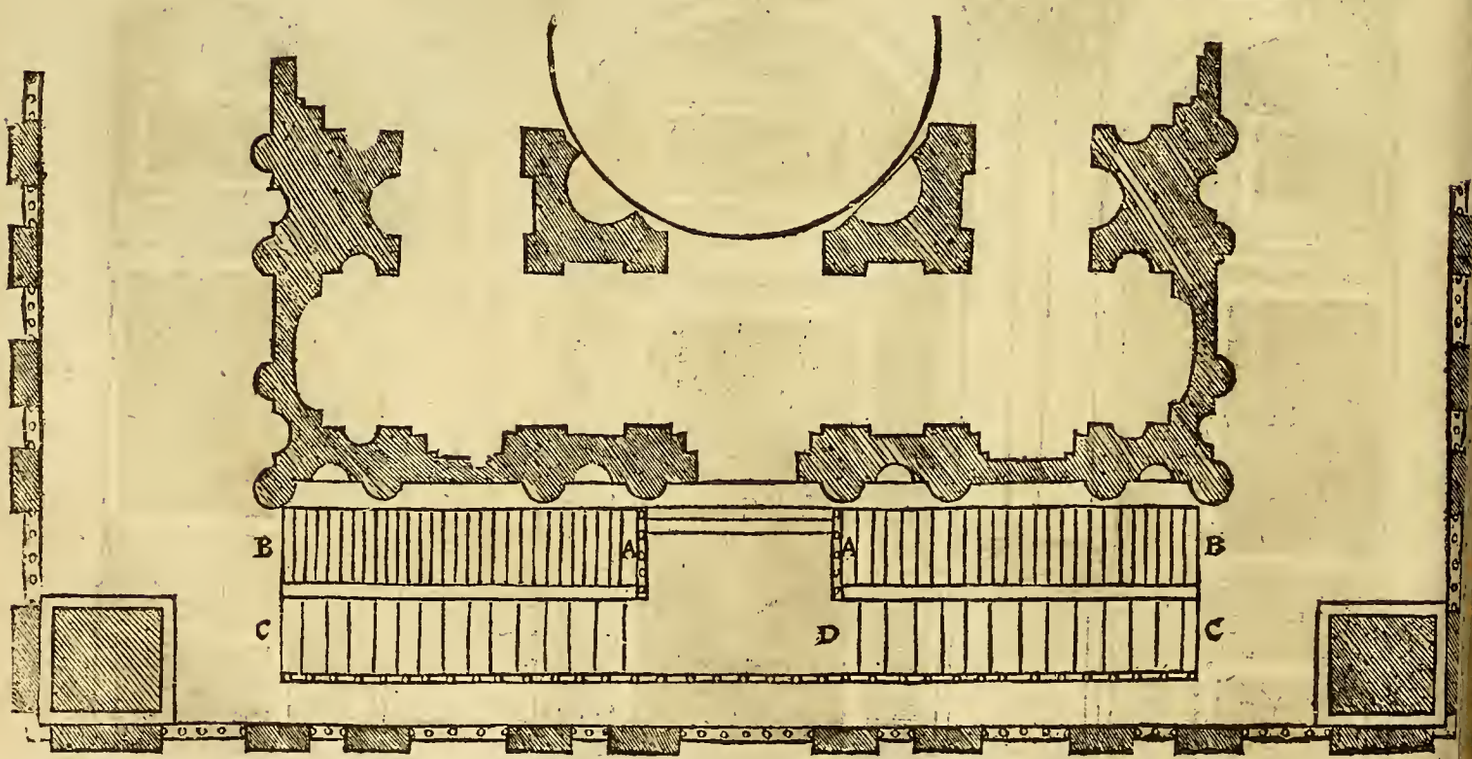


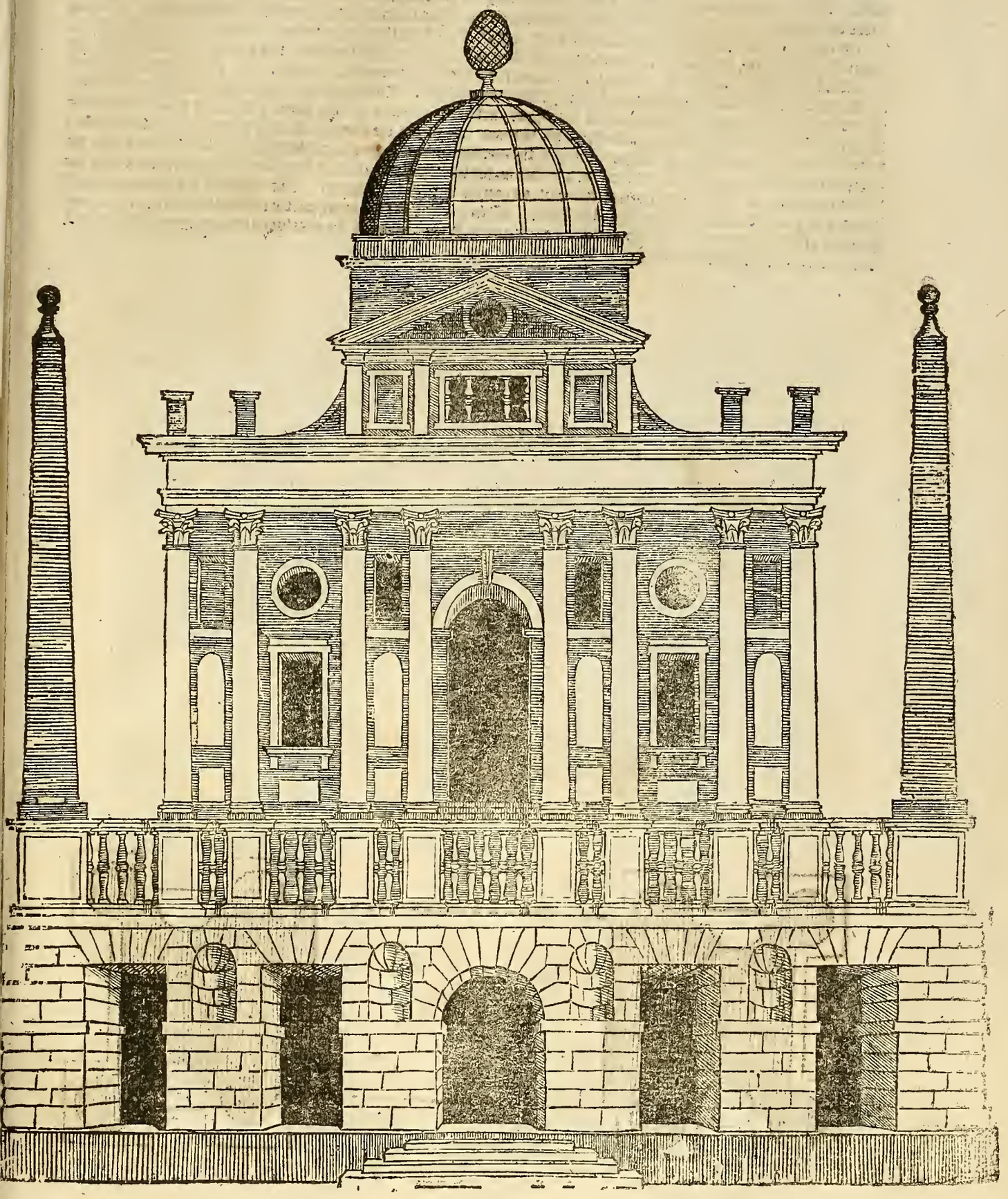
AS I haue at other times sayd, that the workeman shall haue Columnes inow, but yet so short, that somtimes they will not serue his turne, vnlesse the industrie and cunning of the workeman bee such, that he can helpe himselfe therewith. The composition of this Facie shall bee thus, that the wydenesse of an Arch shall be of double height in bredth: the Pillar shall be halfe the same widenesse before: but that Pillar being made in three parts and an halfe, one part thereof shalbe the thickenesse of one Columne: The inter-Columne of a halfe Columne: and so much also the Pilasters and the Arch hold. The height of the Pedestals, without the Plinthus vnder them, shalbe as much as the whole bredth of the Pilaster, the members being deuided, as I haue sayd of the Pedestals of Corinthia. The height of the Columne, with Bases and Capitals shalbe of 11. parts, and that shal not therefore be false, for it is set fast on a stone, more for ornament, then for vpholding of any waight. The height of the Architraue, Frese, and Cornice shall be made of the fourth part of the Columnes, and in Perpendicular the Columnes shall beare out all the members without the Corona or Cima, which will goe right through without crookening; for good Antiquities vsed to doe so: and *Bramant* also, the light of Architecture in our age, made such a house in Rome, called *Beluedere*. The widenesse of the dore, shalbe of foure Columnes thickenesse, and twice as high. The Antepagmentum, Supercilie, and Frese, shall bee made so, that the Cornices, which vpholds the Columnes, shall serue also aboue the dore, and also ouer the windowes. The widenesse whereof shall bee of three Columnes thickenesse, and the height of fiue. The second Story shall be lesse then the first, the fourth part: but the whole height being deuided in 6. one shall be for the Podium, foure for the spaces of the windowes, and the other for the Architraue, Frese and Cornice, deuided in such maner, as you shall see it in the order of Composita. The widenesse of the windowes are in Perpendicular to the nethermost; and the bredth twice in the height: the rest of the ornaments, as windowes and Niches, shalbe done as in this Ionica Gate is shewed, which being wrought with more liuelynesse and flourishings, will bee a Corinthian worke. The bredth of the Niches with the Pilasters, shalbe in Perpendicular aboue the Columnes, but the widenesse thereof, being deuided in 7. Rus shalbe for one Niche, and 2. for the Pilasters. The height shalbe of 3. bredths, because they stand farre from sight, whereby they shew shorter. The Pillars aboue the Cornice are made for ornament, and also for commoditie, to make Chimneyes of some of them.





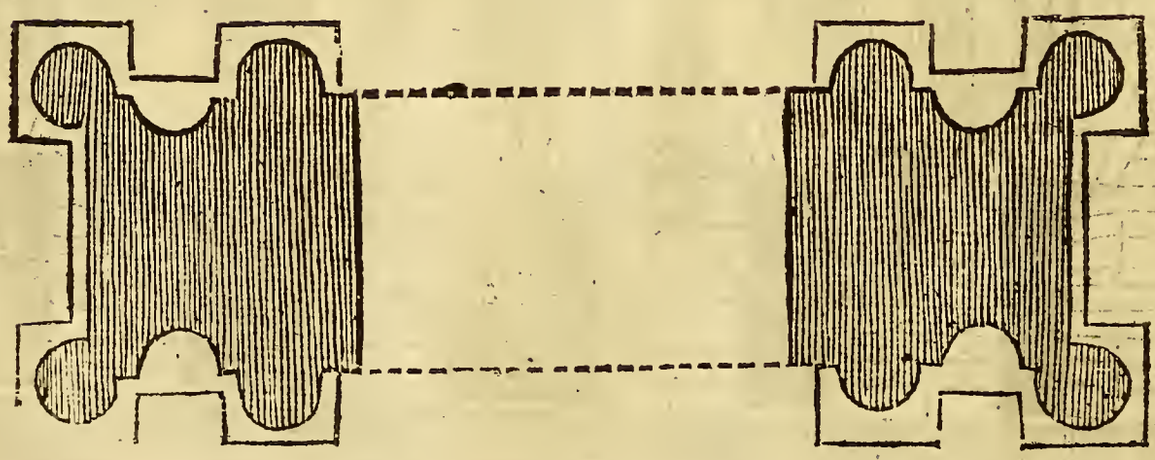
THings that are made for common vse (although they are placed in all proportion and measure) are much commended; but not admired. But things that are not vsed, if they were made for some causes, and well proportioned, shall not onely bee commended of most men, but also wondred at. Therefore this building following, which representeth a Temple, shall first be made of strong rusticall maner, as you sée, and of such height as the place and situation requireth; but it must not be higher then 2. mens length: On which flat or Pauement, a man shall goe vpon, beginning at the step A. standing within the entrie, and going vp to B. then it shall bee flat where the Temple shall haue a broad walke, with a leaning round about. The which Temple shall bee elevated from the walking or Pauement, till you come aboue the height of the Podium, or leaning, 3. steps more: and to come to that, you must goe vpon the step C. to the flat D. which shalbe the height of the Podium, with another leaning, which shalbe higher then the lowest. And from this flat, to the Pauement of the Temple, the sayd three steps shalbe: the widenesse of this Facie shall be deuided in 24. parts, and one of these parts shalbe the thicknesse of the Columne. The middlemost inter-Columne shall haue 4. parts: those that stand on the sides, where the windowes are, shalbe 3. parts: and where the Niches shall be, they shall each of them haue a part and an halfe, so shall the 24. parts bee distributed. The same Stilobato, as is without at the Podium, shall also bee made vnder the Columne; of which Pedestall, the height without the Plinthus, the Base shalbe 3. parts. The height of the Columnes, with Bases and Capitals, shalbe of 3. parts and an halfe. The Architraue, Freese, and Cornice, shalbe a fourth part of the Columne, as it is sayd of others: and the members also deuided in 4. sorts, the widenesse of the Gate shalbe 3. parts, and the height 7. parts and an halfe, which is about 2. foure squares and an halfe: and this is done, for that by reason of the distance, they sémed shorter to a mans sight, then these that are below. The widenes of the windowes shalbe one part and an halfe; but the height shalbe more then 2. foure squares, because of the sayd shortening. The bredth of the Niches shalbe one part, and the height of 3. bredths, for the same reason: the order that the Fastigium holdeth, shalbe like the Pedestal in height, and the Cornice the fourth part of the sayd height: and the other, where the Ketteil or Lanthorne riseth vp, is also of the same height, which shall be so much more then halfe round, as the Proiecture shall couer the Cornice. On the 4. corners of the Temple, for the more beautifying, you may make 4. Piramides: the height whereof (without the Stimen) shall be as the eyes are at the beginning of the Fastigium: and the Scima like the Fastigium: which Fastigium shalbe made by the like rules, as are spoken of before, of the Temple of Dorica. The parts vnder the Temple, shalbe for certayne Oratories, called Confessionals, whereof I haue séene many vnder the high Altar.

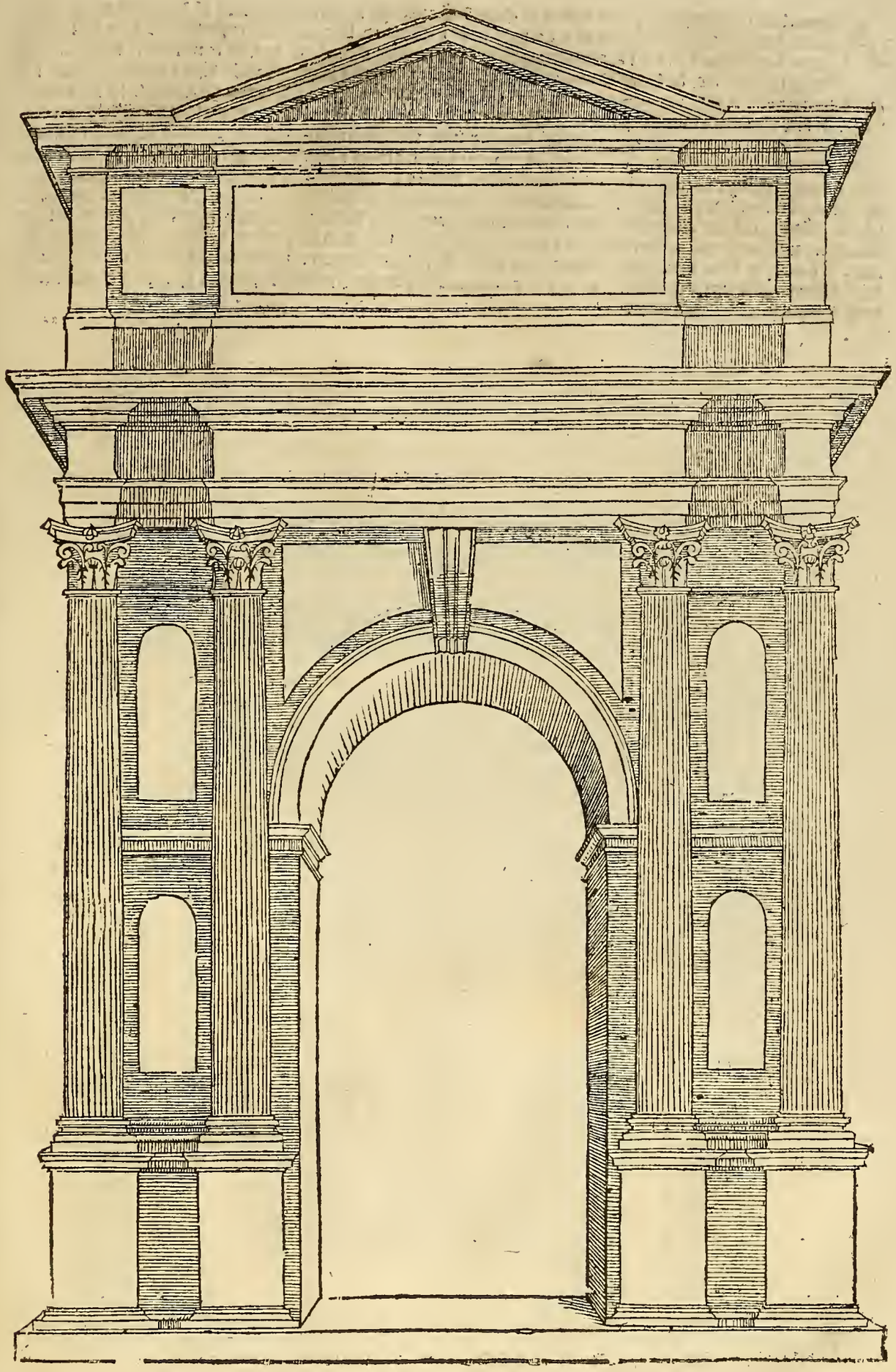




Of the Corinthia

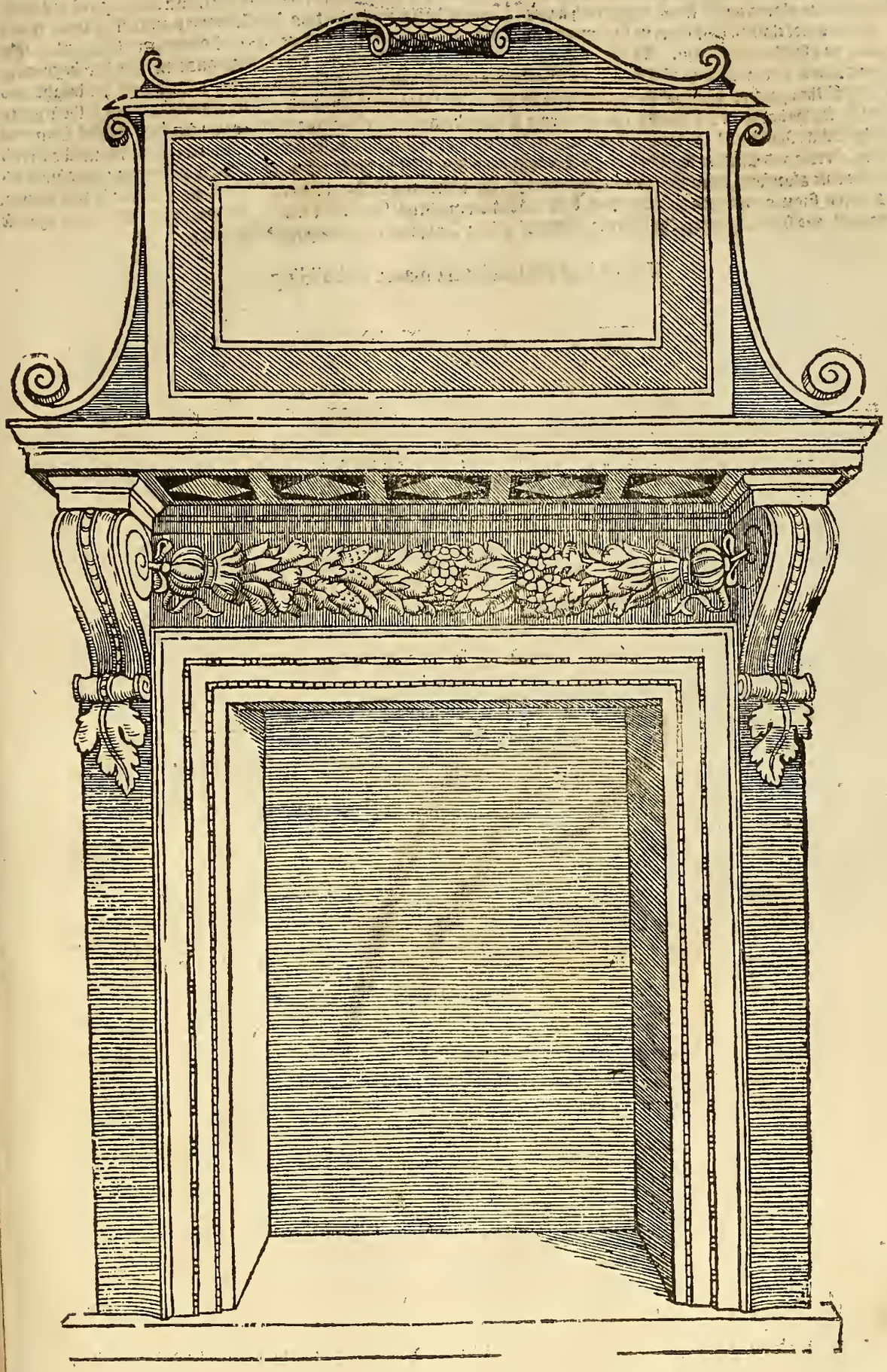
ALthough in these our dayes, men make no Arches Tryumphant of Marble or of other stones, nevertheleſſe, when any great personage entereth into a Towne, they vſe to make Arches tryumphant for to welcome him in, which they set in the fayreſt places of the Towne, adorned and painted in moſt curious maner. Therefore, if you will make an Arch after the Corinthia maner, the proportion and measure ſhalbe, that the light ſhalbe of two foure-squares, and one ſixt part: the thickeneſſe of the Columnes ſhall be the 5. part of the wideneſſe of the doore or light: The height of the Pedeſtals ſhalbe of three Columnes thicke: and the height of the Columne ſhalbe of ten parts and an halfe. The Epiſtilie, Sophore, and Cornice, are together the fourth part of the height of the Columne: and ſo from vnder the Arch, to vnder the Architraue, there ſhall hang a role of two Columnes thickeneſſe in height, and the leſſening thereof vnder, ſhalbe drawne vp to the Center of the Arch. Touching the particular members, as the Pedeſtal, Bale, Capitall, Architraue, Freſe, and Cornice, you ſhall obſerue the rule before ſet downe: the breadth of the Arch, with the Pilaſter, ſhalbe halfe a Columne. The inter-Columne muſt be of a Columne and an halfe. The Niches are a Columne broad, and the height three, for a ſtanding Image to be placed in them. The height of the ſecond order ſhalbe made thus: the Columne without Pedeſtal, ſhalbe ſet in the vpper part in the Cornice in three parts, and one of thoſe parts ſhalbe the height: but of that height there ſhalbe foure parts made: one ſhalbe the Cornice aboue; the diuiding whereof, may be drawne out of the Chapter of Dorica, altering the members. The height of the Baſes ſtand eleuated aboue the Cornice the thickeneſſe of a Columne below; and that is, for that the Proiecture of the Corona darkeneth the reſt of the Baſes netherward. The Cornices ſhall giue out, as you ſee them in the Figure. The height of the Faſtigium ſhall be made by one of the rules ſet downe in the Dorica. This preſent Figure doeth partly reſemble the Arch at Ancona: but with great reuerence, in regard of ſuch a workeman, I haue brought the meaſures into one generall rule, that euery man may eaſily put ſuch meaſure in vſe.





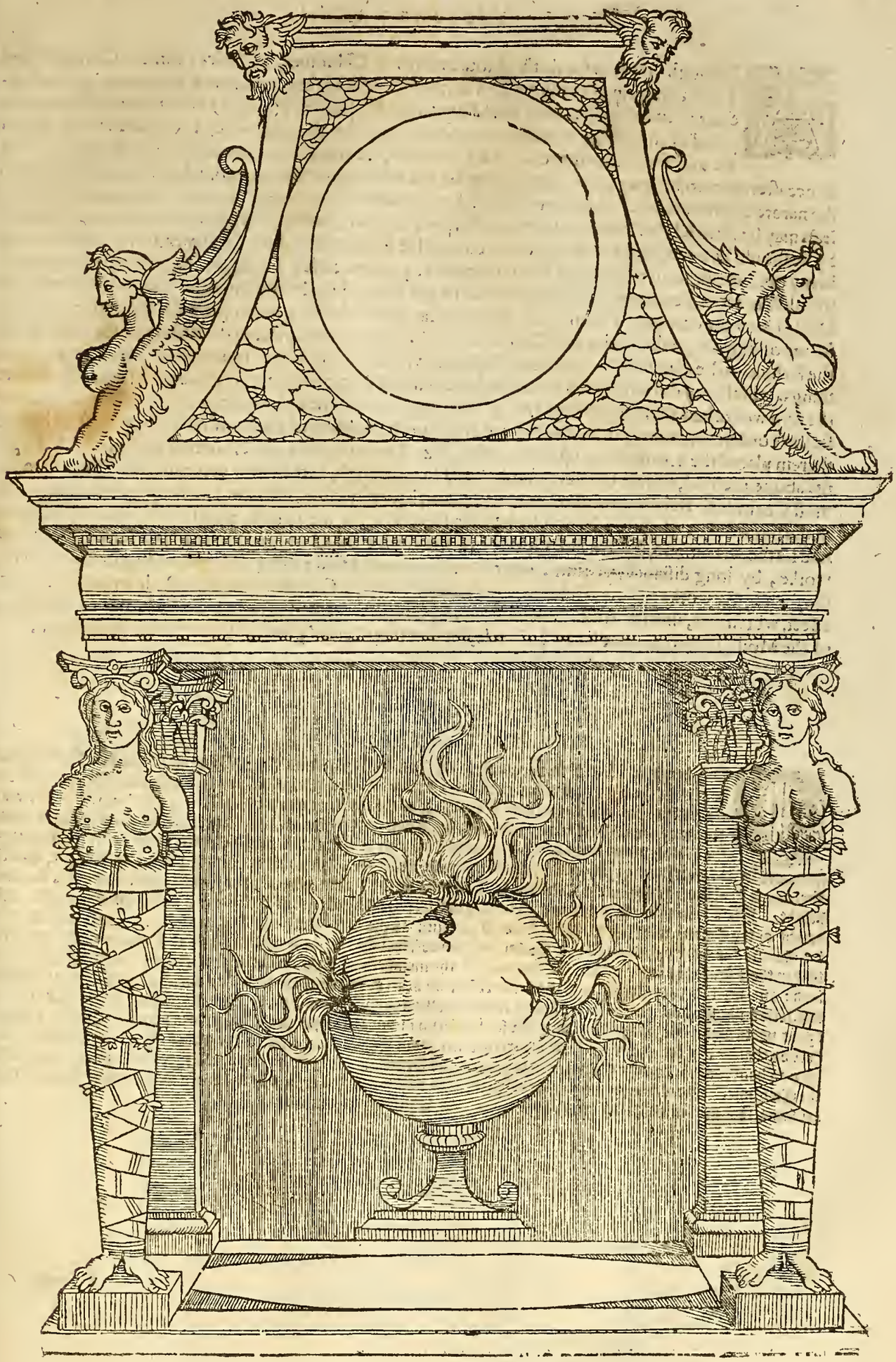
Of the Corinthia

AS much as nád required, I haue spoken of Corinthia; although a man might speake of diuers kindes of ornaments: but it is náddfull to speake of the ornament of a Chimney, because of the dayly vse thereof, so that a man cannot bee without it: for not onely in great, but also in small Chambers men vse to make fire, where, in such straight places, they set such Chimneyes within the wall, whereon a man may make diuers ornaments after the Corinthia maner. But if you make them in this forme, then the widenesse must be taken, according to the situation of the place: and the Pilaster shall be made of the first part of the widenesse; but of the eyght part the worke will be smaller: the which Pilaster or Antepagmentum, together with the Supercilium, shall bee deuyded like the Architraue of the Corinthia. This Frése aboue, because it is grauen, shalbe made a fourth part greater then the Supercilium. The Cornice, together with the Capitals of the Mutiles, shall hold as much as the Supercilium, and the same deuided in thré, as it is sayd of the Cornice, in the Corinthia. The breth of the Mutiles, or Ancones (as we say) aboue, shalbe like the Pilaster, but beneath, which reacheth down to the opening, they shalbe one fourth part smaller; and vnder them there hang out two leaues, as you sée in the Figure: which Protecture shall bee referred to the pleasure of the workeman. To make or leaue the ornament aboue, there consisteth not much therein: and this inuention shal serue not onely for a Chimney to beautifie it withall, but also for a doore, or other things, and the Frontispicis thereon will agré well with it, when you vse it for a doore.



IN a Hall or a great Chamber there is a great Chimney required, proportioned according to the distance, the which needeth a great conueyance; therefore, if a man will make the Modiglions sufficient for such a bearing out, hee must make two places on the sides: but in such a case (I meane) he should make two flat Columnes, and before them round Pillars, not close to the other, in such maner, that betweene them both the place for the Columns must be, and in this maner you shall adorne them. As I sayd in the beginning of this Chapter, the Corinthian maner had her beginning from a mayd, of the Towne of Corinthia: therefore I haue placed a mayd here, in stead of a Columne: the height and bredth of the opening, being made according to the place, the height shall be deuided in nine parts, and one of those parts shall be for the heads of the mayds, and the whole Figure being formed and swaddled, as you see: then the flat Columne or the Pillar shall be of the same proportion, obseruing the measure before set downe. Vpon the Columne, the Architraue, Freese and Cornice shall be set: which height, together, shall be the fourth part of a Columne lying, measured after the rule aforesayd, from the Cornice vpwards, to the place; and the height thereof a man may adorne in this maner, as in the Figure: and who doubteth that this inuention might not serue for a Dore, making such a Columne against the wall, and specially before the Gate or Dore of a Court, or place of tryumph, and such like.

The end of the Corinthia maner of building.

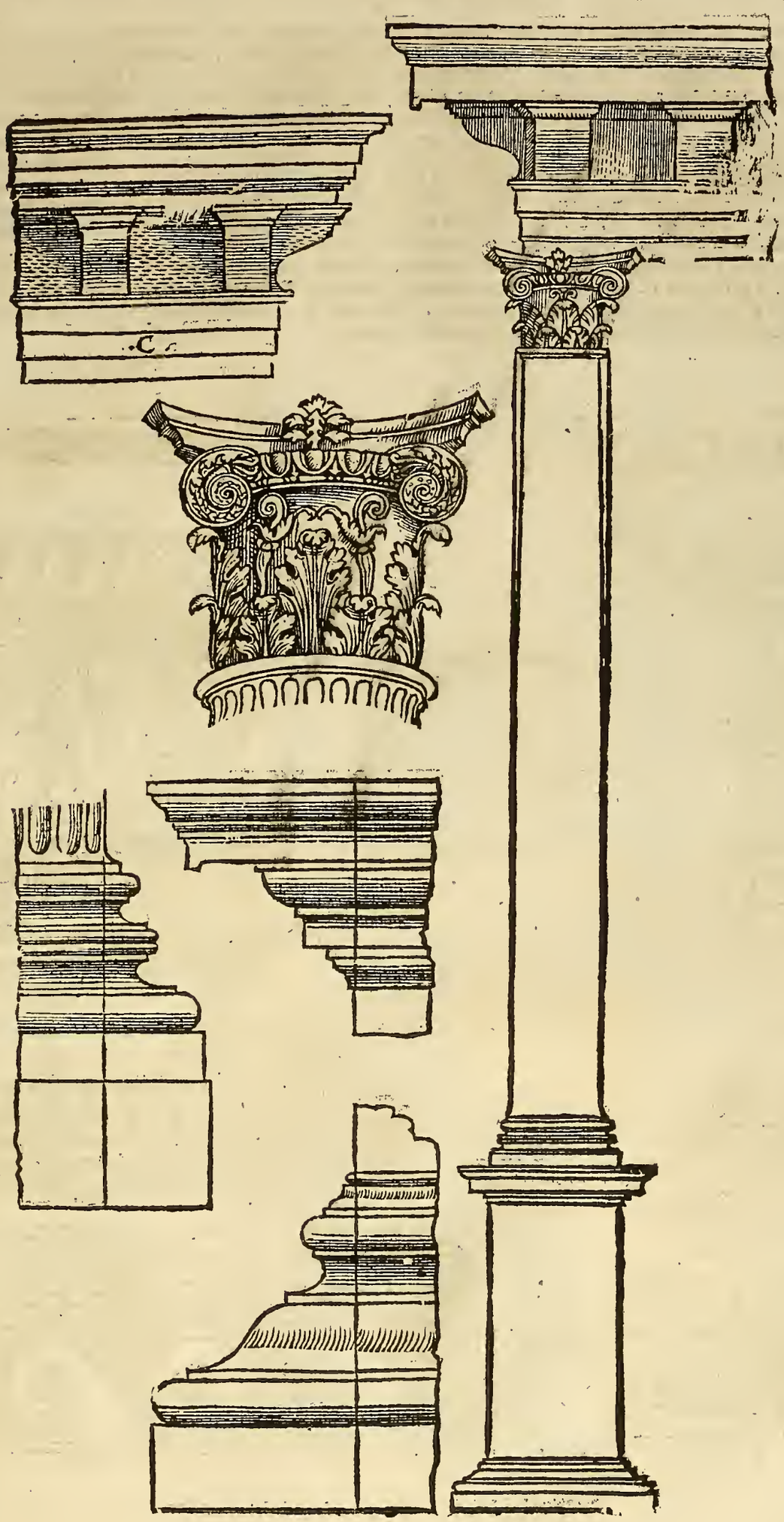


The maner of Composita Building, with the Ornaments thereof.

The ninth Chapter.

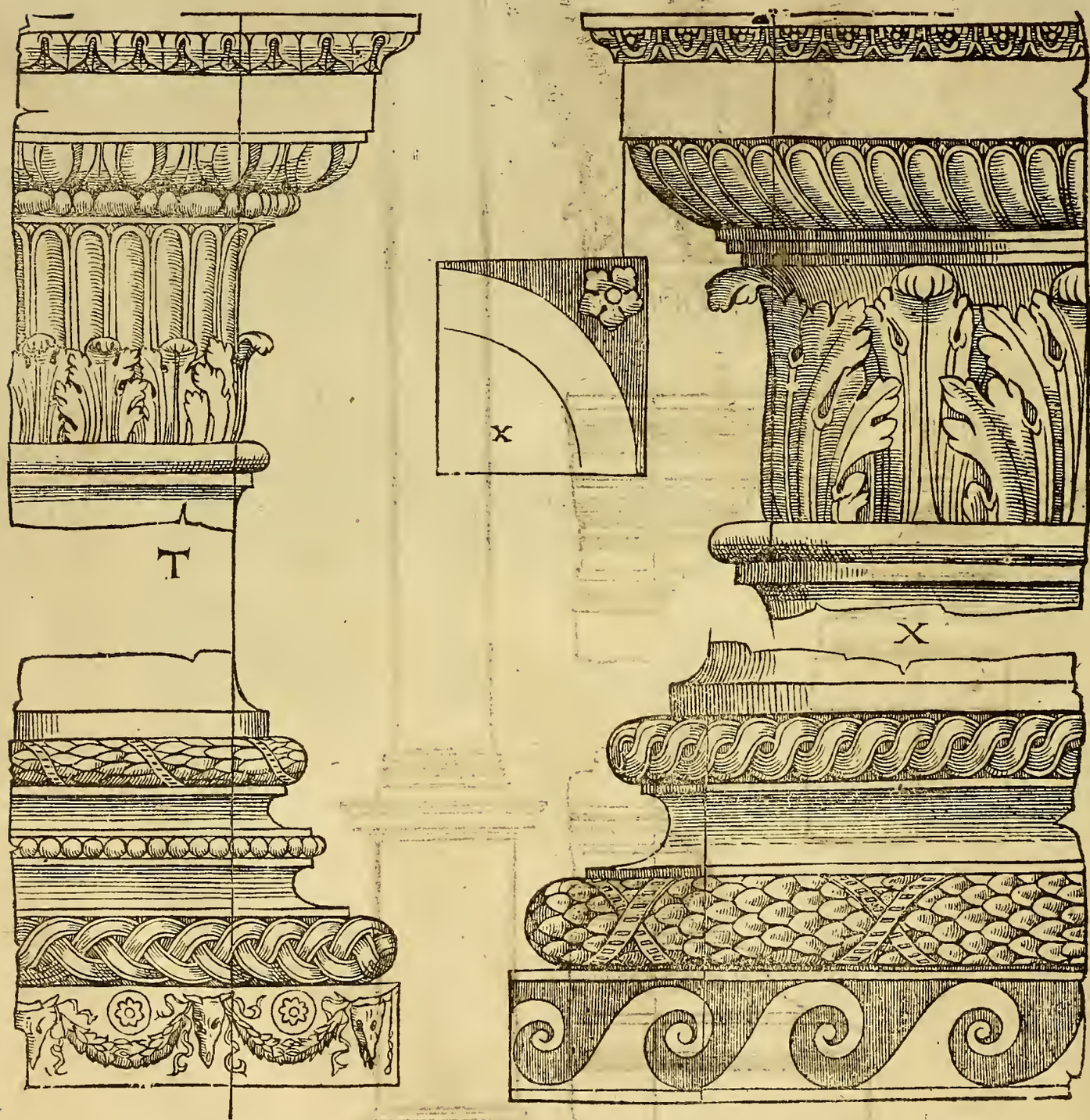
ALthough *Vitruuius* speaketh of foure maner of Columnes, as Dorica, Ionica, Corinthia and Thuscana, giuing hereby vnto vs almost the first and simple maner of ornaments of Architecture: neuertheleſſe, I haue added one to the ſayd foure, as (almost) a fift maner of Pillar, composed of the others aforesayd, moued thereunto by the authoritie of Romane worke, which we may see with our eyes. And, in trueth, the workemans foresight ought to be such, that as occasion seruetb, he may make many things by the sayd simple and compound worke, respecting both the nature and the subiect. And therewithall the workeman sometimes (to whose iudgement many subiects may be referred) shall be abandoned and left by *Vitruuius* counsel, that could not conceaue all; whereby he should be brought into a straight, and compelled to do, as he seeth case: (I meane) for that *Vitruuius*, in my opinion, speaketh not at all of this Composita, by some called, Latina, and by others, Italica; which the old Romanes, peraduenture, being not able to goe beyond the inuention of the Greekes, finders of the Dorica, after the example of men, and of the Ionica, resembled to women, and the Corinthia, after the forme of maydes, of the Ionica and Corinthia made a composition, piecing the Volute of the Ionica, with the Echino in the Capitall Corinthia; and these they vsed more in Arches tryumphant, then in any other things: which they did with good foresight, for that they tryumphed ouer all those countries, frō whence the sayd worke had their beginnings: and so they might well at their pleasures, as commanders ouer them, set these orders together, as they haue done in the great building of the Romish Coliseo. And hauing therein placed the 3. orders one vpon the other, viz. Dorica, Ionica and Corinthia, they placed Composita aboue them all, which, by euery one, is called so: although, as men may perceyue, the Capitals are almost Corinthia. But it was an excellent iudgement, in my opinion, of them, that hauing placed this order in the highest part of the Coliseo, which being farre off from mens sight, men should haue seene, if they had set the Architraue, Freese and Cornice of the Ionica and Corinthia aboue the Columnes, that such worke, by long distance of time, would haue prooued bad: but placing the Mutiles in the Freese, they made the worke rich, and it holpe the Proiecture of the Corona; and withall, it wrought another effect, which was, that the Architraue, Freese, and Cornice, seemed to be one Cornice alone, by meanes of the Modiglions that were set in the Freese, for that they seemed great, obseruing their proportion.

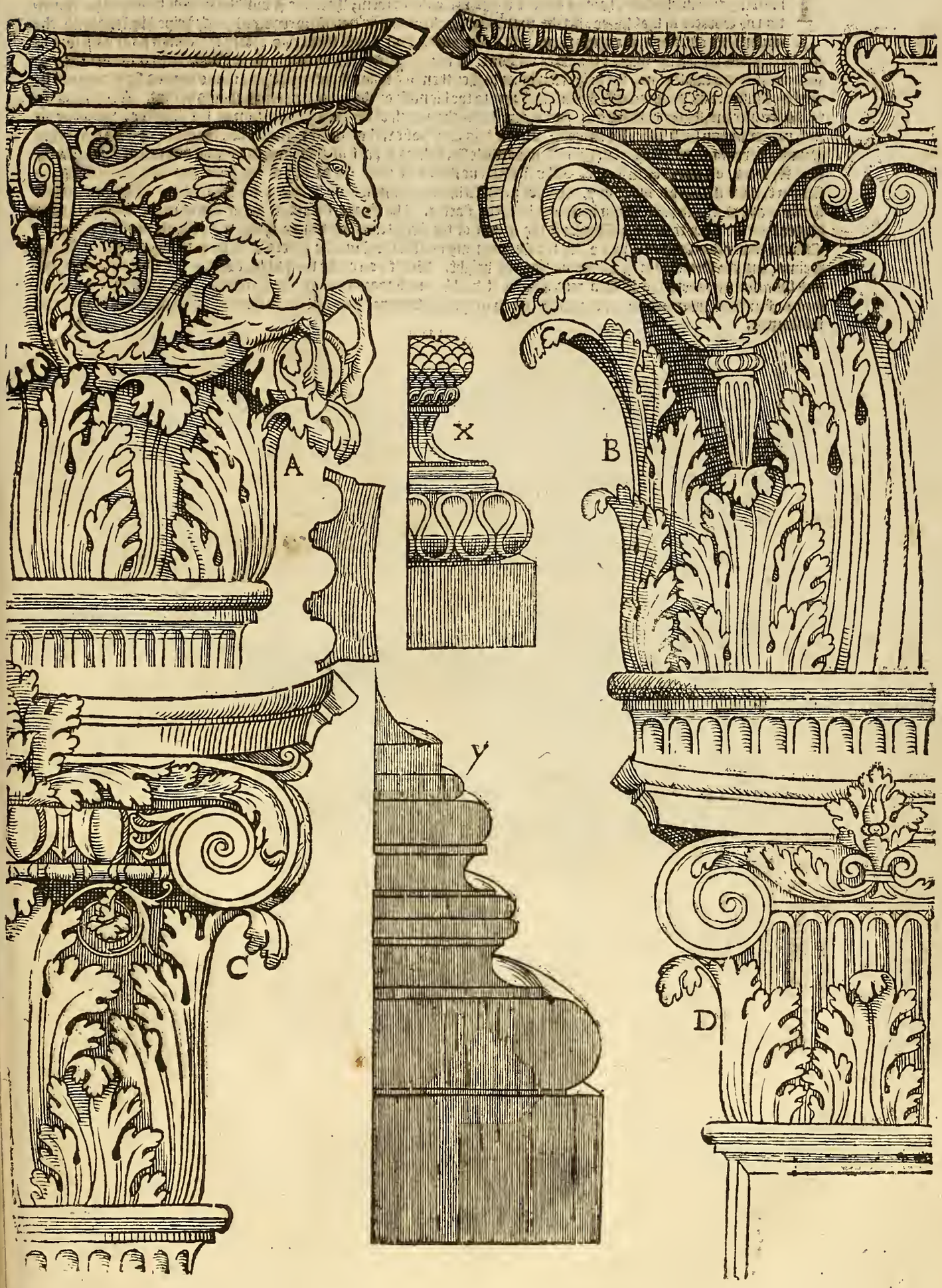
THE height of this Columne, Composita, shall, with Base and Capitall, be of 10. parts: the Base shall be of halfe the Columne thickenesse; and it shall bee made Corinthia, with the measure set downe by the Corinthia: and this is yet sene in the Gate of the Arch tryumphant of Titus, and Vespasian, in Rome. You may make the Columnes chaneled, as you doe the Ionica, and sometime like the Corinthia, make the Volutes somewhat greater then the Caulicoli of Corinthia: which Capitall you sée in the Arch aforesayd, and is set downe here in Figure: for the Architraue, Frēse and Corona, if it stand farre from mens sight, then the Architraue shall bee as high as the Columne is thicke aboue: the Frēse, wherein the Mutiles are, shall bee of the same height. The Cimatie of the Mutiles shall be of a sixt part: the Proiecture of the Mutiles shalbe like the height. The height of the Corona, with her Cimatie, holdeth as much as the Architraue, and that deuided in 2. parts, one shall bee the Corona, the other the Cimatie; the Proiecture thereof, shall be like the height: and this is a common rule, although that in the Figure ensuing, marked C. you may sée the members and measures of that, which is in the Coliseo aforesayd: and for that this Columne is the slenderest of all others, therefore the Pedestall ought to bee sémelier then the rest, following the common rule: the height thereof shalbe a double breadth, that is, flat, and of that height there shall be eyght parts made, one for the Base, and one for the Scima: but of the particular members you may take the example here on the side, in the Figure; which, altogether, are proportioned according to the Pedestals of the aforesayd Arch tryumphant: and so, being a Columne of ten parts, the Pedestall shall also be ten parts in it selfe, proportioned after the Columne. And although men make all Pedestals in Perpendicular, yet in Athens, a most ancient Towne, there are some, that are somewhat lessened in the vpper part, which I discommend not.


C

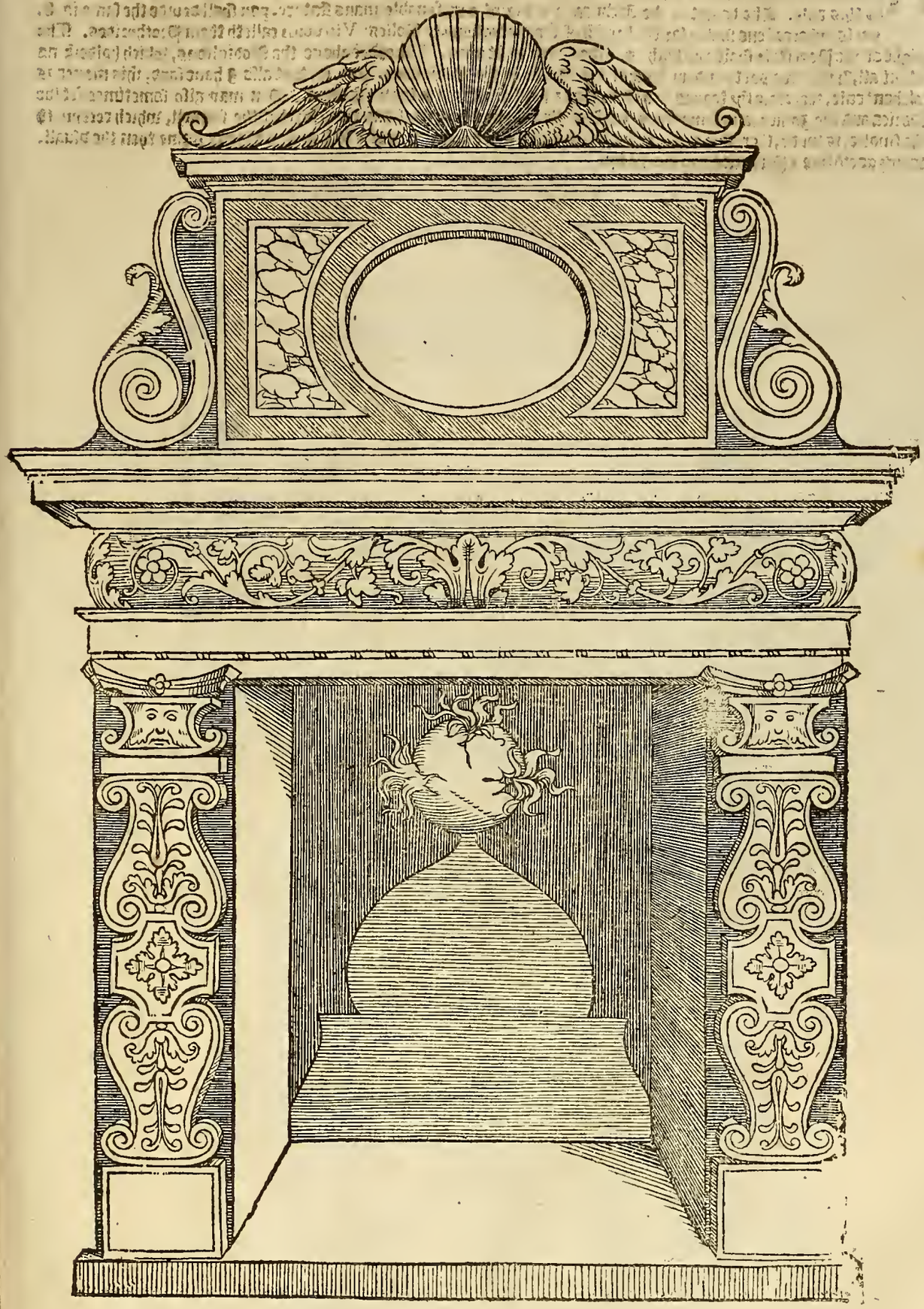
Of the Composita

For that ancient workemen haue vsed diuers mixings of worke, therefore I will not set downe those that are best knowne and composed, for that the workeman may chuse out of them such as he thinketh will serue his turne best. The Capitall hereunder set, marked T. is composed of Dorica, Ionica, and Corinthia: the Abacus and Cimatie is Dorica: the Echine and Strike, is Ionica: the Astragal and Leaues, are Corinthia, as also the Base with the two Thorus, is Dorica: but by the 2. Scoties, and the Astragals, as also, because of the beautifulnesse thereof, it sheweth to be Corinthia; which things are in Trestevere in Rome: the Capitall X. and also the Base, are of 2. kinds, Dorica and Corinthia. The Abacus of the Capitall, and also the Base, is Dorica; but the Base, by meanes of the liuelinesse of the worke, may be named Corinthia, and so are the Leaues of the Capitall of Corinthia: but for that the Abacus is foure square, and all the other members round: therefore you shall cut the Rose vnder the Abacus in the 4. corners, as you see it in the Figure. The Capitall A. with the monstrous horse, in place of Caulicules, may be called Composita, and is in the Basilico del foro transitorio. The strikes of the Columne are different from others, as you may see them beside the A. The Base X. is Composita, and is in Rome: the Capitall is mere Corinthia, and is at the 3. Columnes, beside the Colisee. The Capitall C. is composed of Ionica and Corinthia; and is in an Arch tryumphant in Verona. The Capitall D. is in the same Arch, on some flat Columnes. The Base Y. is Composita, with the Astragalus, which standeth vpon the vppermost Thorus, and is of Antiquitie in Rome.



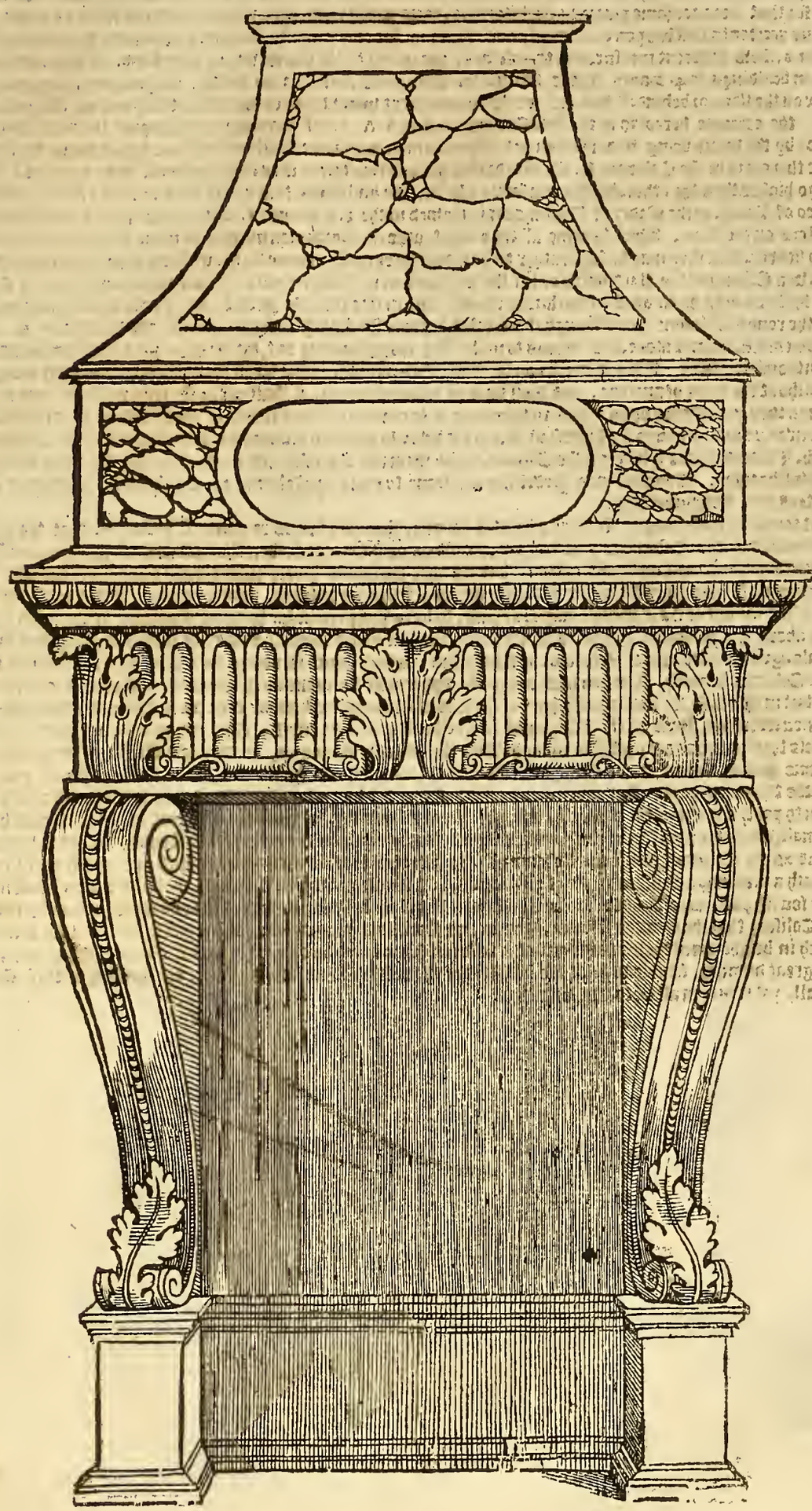

A
B
C
D
X
Y

YOu sée not many Arches triumphant made of Composita, and the most part are made of pieces, taken out of other buildings: neuertheleſſe, hauing ſhewed a generall rule for them; therefore I will not ſet downe any other inuention of Edifices of that kinde: for the prouident workeman, as neceſſitie requireth, may helpe himſelfe with the inuentions aforeſayd, changing them into Composita. But I will ſhew two orders of Chimneys of each ſort of worke; the one within the wall, & the other without. This Chimney, which ſhould ſtand cleane within the wall, if you will make it in a ſmall place, the height ſhalbe no higher then to a mans ſhoulders, that a mans eye and ſight may not be hurt by the fire: and the widenelle ſhalbe according to the bignelle of the place wherein it ſhould bee ſet. The height vp to the Architraue, ſhalbe deuided in 4. parts, one ſhalbe the breadth of the Antepagmentum or the Pilaſter, wrought in ſuch maner as you ſée it heere ſet downe. And in this Composita, (becauſe it is freer then the other) I haue made this Pilaſter very much differing from the reſt, neuertheleſſe, taking a part of this inuention from an ancient ſcole, which is at S. Iohn de Lateranes in Rome. The Architreue ſhalbe of halfe the breadth of the Pilaſters: the Cimatie of the firſt part: the reſt ſhalbe deuided in 7. whereof 3. parts ſhalbe for the firſt Facie, and 4. for the ſecond. The Aſtragalus ſhalbe made of a halfe part, taken betweene both the Facies. The Freſe, becauſe it is cut, ſhalbe made the fourth part higher then the Architraue: the Cornice is the height of the Architraue, and there ſhalbe 7. parts made of it: 2. for the Cimatie vnder the Corona: other 2. for the Corona: and one for the Cimatie thereof. The 2. that remaine, are for the Scima; and the Proiecture of all ſhalbe like the height. But if you make the Pilaſter of the firſt part of his height, and the other members diminiſhed accordingly, it will be much more ſeemely, and ſpecially, if the worke bee of ſmall forme. For the ornaments aboue the Cornice, you may chuſe whether you will make them or not; that is referred to the workeman.



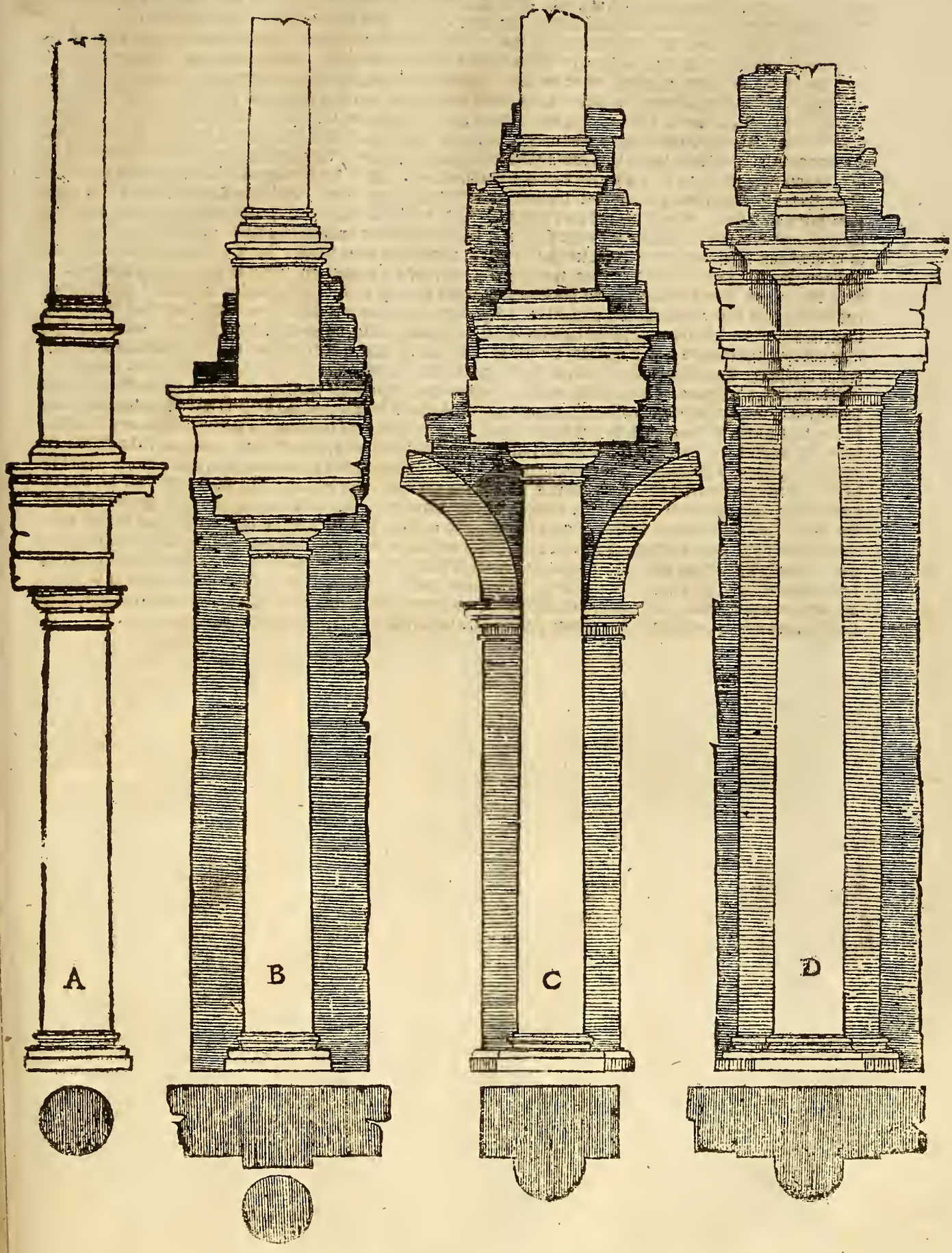
Of the Composita

A Man may make other ornaments of Chimneyes of this Composita worke, & in diuers formes as this, because it is more licentious then the other maner of building: and for a changing of the other forme, you may also make this by this rule. The height of the Architraue being of a reasonable mans stature, you shall deuide the same in 8. parts, whereof one shalbe for the breadth of the Modiglions or Rolles: Vitruuius calleth them Prothyrides. The height of the Pedestals shalbe as high as if they were to sit vpon. The order aboue the Modiglions, which holdeth no rule at all, shalbe two parts and an halfe of the breadth of the Modiglions. And for that also I haue sayd, this maner is without rule, therefore the leaues and other parts, shalbe referred to the workeman. Men may also sometimes set the Dorica and the Ionica, and sometimes the Corinthia aboue the Modiglions: and for that the funnell, which receyueth the smoke, is wyde, therefore you may make the small order aboue it, which will giue it a fayrer forme then the vsuall, which goeth like a Piramides, or sharpe vp.



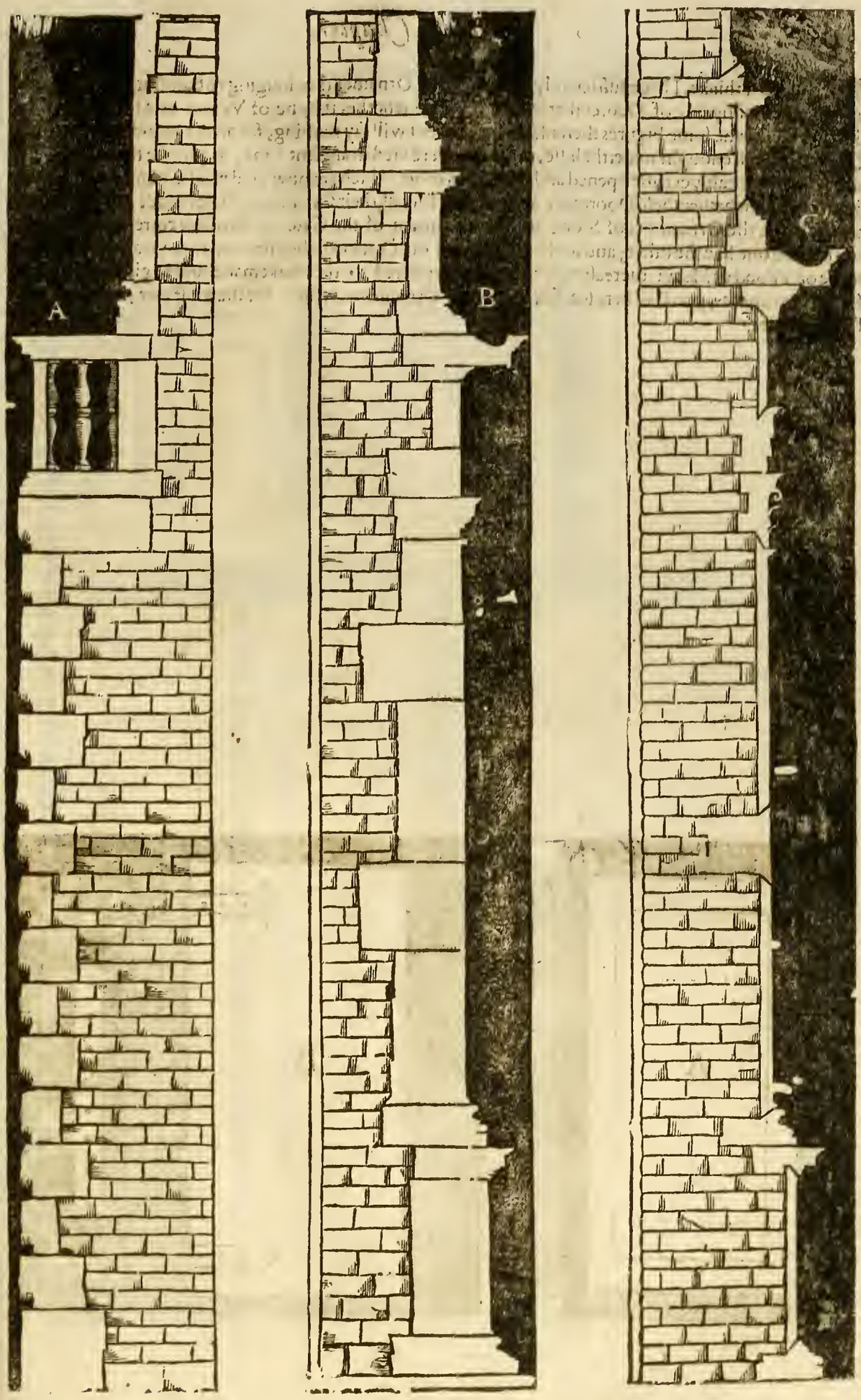
The Workeman is to haue a great iudgement, because of the diuersitie of composition in Ornaments of buildings, for that there are some places in Architecture, of the which there may, almost, certayne rules be giuen, for they are no accidents that happen contrary to our opinions, for euery day we see some Columnes, that with their different positions, shew different measures in themselues, according to the places where they stand. These alterations are so made in buildings in 4. wayes, that is, setting the Columnes almost in an Insule, without any companion to helpe it eyther on the sides or behind. These certaynely beare a great waight, and in their height they goe not aboue the aforesayd rule: the example hereof is in the first Columne marked A. but if you place them against the wall (though they bee round) by the which being vnderholden and holpen, a man may make another thicknesse higher aboue the same: the example thereof is in the Columne B. Or also drawing alone two third parts from the wall, there may yet a thicknesse or wall go higher then the other, for that you see the like in some buildings, that rise to nine thicker e a halfe, and most in the Coliseo of Rome, in the Order of Dorica, as it is shewed in the 3. Columne C. but they are more holpen when they haue Pilasters on the sides, which bearing all the waight, giue the workeman meanes to make the Columnes more semely, and so slender, that they may be sayd rather to be placed there to fill a rome for beautifying, then for strength. You may also draw a Columne two third parts out of the wall, and on each side set halfe a Pillar, which will helpe the Columnes so well, that you may make another thicknesse aboue: and in this case, the Architrane, Frese and Cornice may beare out vpon the round Columne, yea although it were flat, because the halfe Pillars would hold the Architrane, &c. on the sides: but vpon one Columne alone, it is vicious to make such worke bearing out, for the other parts besides should be abandoned without any helpe. This example you see in the Columne D. But when the Columnes haue any waight to beare vp, without the helpe of another, and shall haue fit Intercolumnes, it shall not be thought meete to exceede order, yea, although they haue Story vpon Story to beare vp: it is reason that they should be made better, that the worke may be more durable: and although the Pedestall be a great helpe to rayse vp Columnes, neuertheleſſe, if the Columnes be high inough, I would thinke it better if the Columnes had them not, specially in the lowest Story, but in the third and fourth Story with reason. Podiums and Pedestals also serue to rayse vp Columnes, which the old Romanes obserued in Theaters and Amphitheaters.

But touching the setting of Columne vpon Columne, there are diuers reasons: The first is, that the Proiecture of the Pedestals of the Columnes placed aboue, should go no further out, then the thicknesse of the vndermost Columne, and this should be a most certayne reason: but for that the second Story should lessen much from the first, and would serue no more for any other Story, considering the great lessening ensuing, another reason, and more to the purpose, is this: That the flat of the Pedestall ought, at least, to be in Perpendicular with the Columne below, and to set the Columne aboue this Pedestall, lessened a fourth part from that which standeth vnder, as well in thicknesse as in height: so this rule agreeth with that of Vitruuius in Theatrum: which figure is aboue the Columne A. and if you will not lessen the Columne so much, then you must make the vppermost Columne as thicke as the nethermost is in the vppermost part: but in this case, the flat or massy part of the Pedestall would be broader then the nethermost Columne is thicke below: neuertheleſſe, those of the Theater of Marcellus worke that effect. The example hereof is in the Columne B. and these three reasons are probable inough. But the ancient Romanes, in the great Edifice of the Coliseo, made the Columne Ionica, Corinthia and Composita all of one thicknesse; and the Dorica, vnder all the other, they made thicker, about the twentieth part. And this (in my opinion) they did by good aduice: for if they had lessened all the Columnes the fourth part, one aboue the other, the last, in so great a building, by reason of the great distance, would haue shewed very small, which we now see to be of good correspondence, by reason of the height. The shewing of this is in the Columne C. And as the Columne aboue the Columne D. is lesse then that which standeth lowest one fourth part: for that, if a man hath a reasonable house to make of 3. Stories, so I would not thinke it amisse, that a man should lessen euery Storie the fourth part, according to Vitruuius aduice: but if the building be high, then you were better obserue the Order of the Coliseo, that the Stories Dorica, Ionica and Corinthia, may each bee about one height, but the Story aboue increaseth in height about the fift part: and this is so (as I haue sayd) because of the great distance: which part, by meanes of the great distance, seemes to be of the height that the rest are: and although that the shewing of these Columnes is Dorical, yet it is so in all sorts of Columnes.


A
B
C
D

Of Bricke.

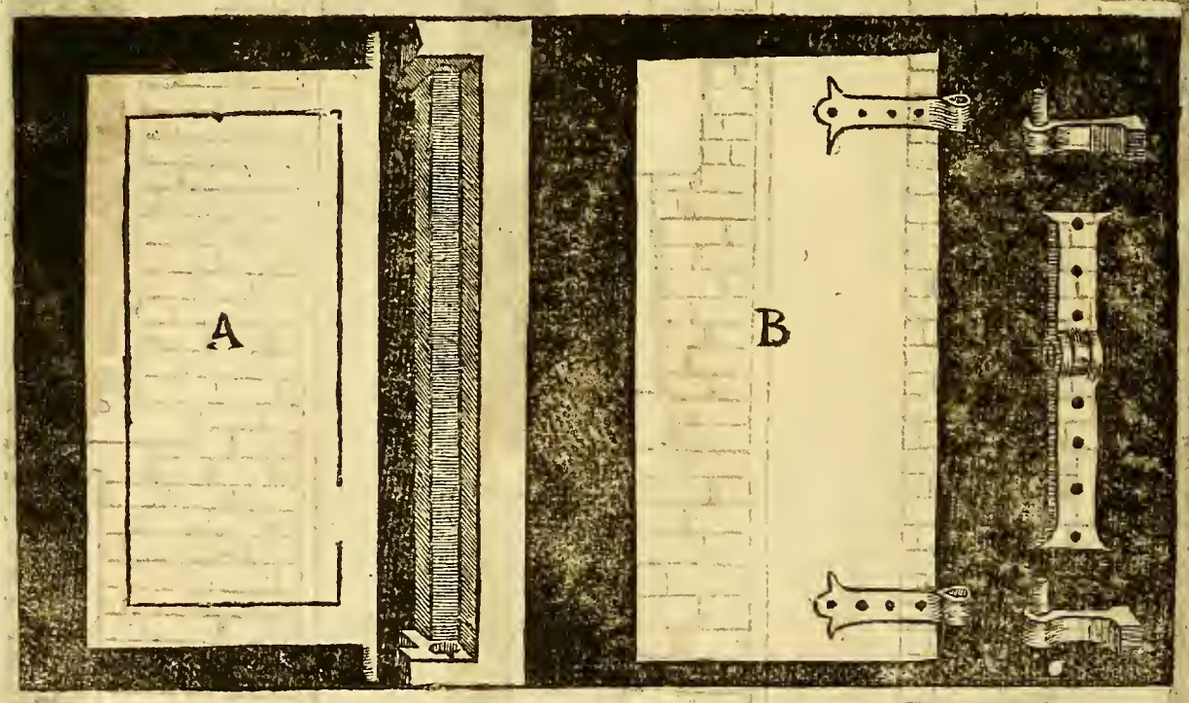
HAuing spoken of so many and diuers Ornaments of stones, it is requisite, that I should also shew how they are to be placed in worke; and specially, when a man is to mixe hard stones & bricks together, which requireth great diligence and Arte: for that bricks are like flesh in a pece of worke, and hard stones like the bones to knit and hold them together: which two things, if they be not well and fastly bound together, they will, in time, decay: and therefore the foundation being made in such maner as the place affordeth, it is requisite, that the prouident workeman should make ready all the hard stones, and also the bricks, with the rest of the stuffe belonging thereunto, and so should come to lay and ioyne the hard stones and the bricks together, all at one time: and it is requisite, that the hard stones should be set so farre within the wall, that although there were no morter to hold them together, yet they should, of themselues, stand fast in the wall: which doing, the worke will be strong and continue hard. The example hereof is séene in the other side, by the figure A. where it is also shewed, how a man may make places breathigh, without feare. And if you haue Pedestals with Columnes to set vpon them, where hard and soft stones are mixed together, if the hard stones be not well ioyned with the soft, as you sée in the figure B. the worke will not continue long. And if the Columnes be of diuers peces, some of them (that is the least) shall goe déepe into the wall, to hold the other the faster. But if the Columnes bee of one pece, then they would stand, at least, a third part within the wall; but the Bases and Capitals must enter much more into the wall, and aboue all the Corona and other Cornices, which beare farre out from the wall. The innermost part that is vnworoght, must counterwayte that which is without, that it may beare it selfe: but if at the same time a man will make any worke or Facie vpon the stones, then it is requisite, that the workeman, before he begins to lay any worke aboue the ground, should make ready all his stones, together with the other stuffe belonging thereunto: and so laying and knitting the stones with the bricks together, I say, that he shall doe well to set some of the stones so déepe into the wall, that they may hold the other peces together by force, ioyning well in, as you sée it in the figure C. that in time they may not ryue and breake asunder one from the other. But that the wall, made of bricke, should not sinke, and sinking, should breake the thinnest parts, by reason of the waight aboue, it is necessary to haue bricke well burnt, and morter well tempered, & betwéene the stones little morter, & wel layd and ioyned one vpon the other: And aboue all, such worke would not be made by any force, nor waight vpon waight, to be packt in haste, but you must let it rest somewhat from lay to lay: for if a man wil worke in haste, and set great waight vpon it, it is most certayne, the wall will sinke, and the stones being not able to beare the waight, will breake; but if it be made with leyser, then the stuffe will be as it should be: neuertheleſſe, I would alwayes more commend the worke that is wholy bound in the wall, then that which is ioyned together or couered; and specially, in my opinion, men should not make them in walles that stand outward, for that the houses which haue bene made so in former time, by ancient workemen, and were couered ouer with Marble and other fine stones, are now séene all without stones before, and nothing but the wall of bricke, that stood behind them, standeth still: but those buildings, where the hard stones are bound and ioyned into, and with the bricks, are yet standing: neuertheleſſe, if you will make such worke simple, I thinke this the surest way, although some workemen, in diuers places of Italy, haue made some building, with simple walles, leauing places in them for hard stones to be put in, and after, at another time, haue put in such Ornaments: neuertheleſſe, for that such things are not well fastened in the wall, but in a maner hackt, you may in many places sée the peces falne, and euery day more and more decay.

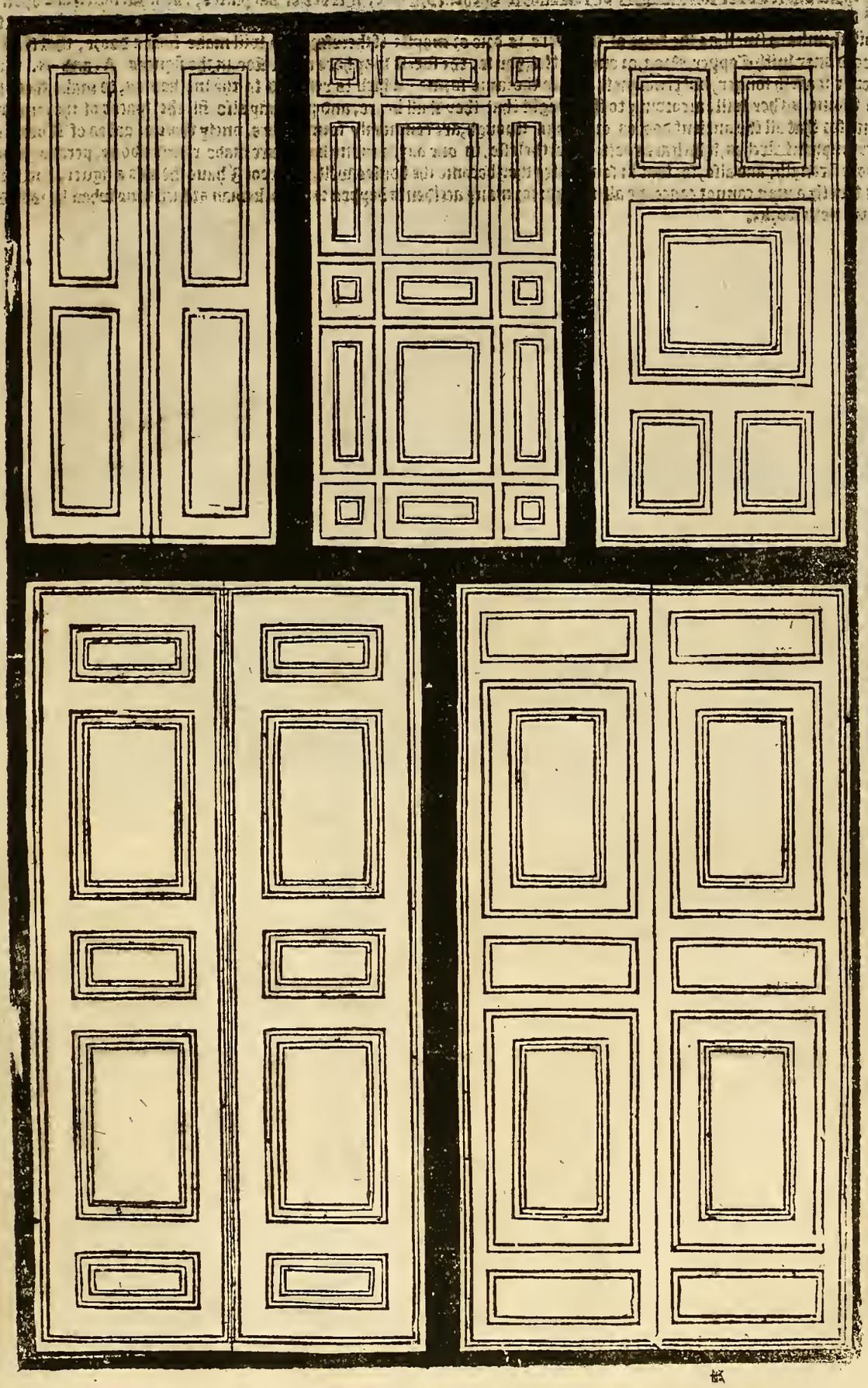

A
B

Of Doores of Wood, and of Metall.

The tenth Chapter.

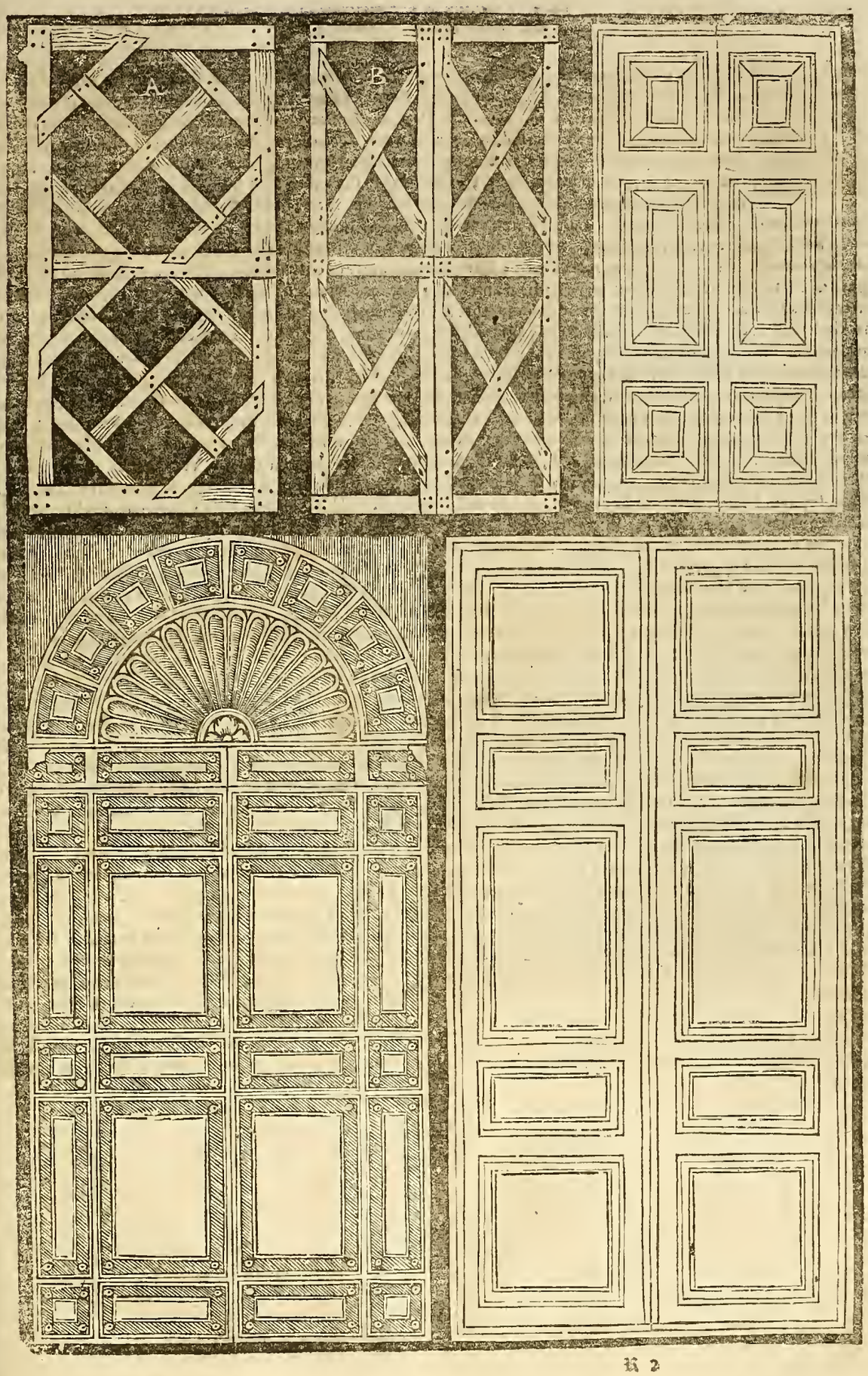
AS I thinke, I haue ſufficiently ſpoken of the Ornaments belonging to building of Stone, now I will ſpeake of Doores that ſhut the houſes: whether they be of Wood or Metall, I will ſet downe ſome Figures thereof: of the hookes I will ſay nothing, for all the world knowes them well enough: neuertheleſſe, thoſe that were vſed in ancient time, as you ſee them in the Figure *A*. were eaſilyer to be opened and ſhut, then thoſe which are now vſed in all Countries, as in the Figure *B*. But whether theſe Doores are of Wood or Metall, their Ornaments ſhalbe made in ſuch maner, that the fayrer the Ornaments of Stone are, the Ornament of the Gate alſo ſhall bee correſpondent, that they may be one like the other; and to the contrary, if the Ornament bee ſlender, then you ſhall make the Doore of Wood or Metall thereafter, which is to be referred to the workeman: and to giue you a ſhew of ſuch Ornaments, you ſhall here ſee fiue maners of Ornaments, which, for the moſt part, are taken out of Antiquities.





Of the Frames of Doores

IF men make Doores, Gates, or Leaues (as we terme them) all of one piece, so that there needeth in that case neyther wood nor yron vnto them, they make the hokes of the same piece or Mettal. But those that are made of wood, and then couered ouer with Copper of reasonable thickenes, which, if it bee of flat plates, you must fasten one vpon the other, and yet, although they be well soyned & pind, or nayled together, neuertheleſſe, the nature of wood is such, that it will shrinke or swell, as the time of the yeere is drie or moyst: if therefore you will make such a doore, that shall be couered ouer with Copper, Yron, or any Mettal, you see the sureſt way here in the side, in the figures A. and B. for wood neuer wareth longer, but remayneth still in the same forme; which is referred to the workeman, to make them thicke or thinne, as hee will, according to the waight that they shall beare, and you may also fill the spaces of the same wood. And for that all the antient doores or goings through, are commonly foursquare, onely those of gates of Townes, or trymphant Arches, which are roofe: neuertheleſſe, in our dayes many doores are made round aboue, peraduenture for more strength, and also, for that in some cases they become the houses well, whereof I haue shewed a figure, and for that, in truth, a man cannot conceaue all things: for many accidents happen to a workeman at such time when he is to deuise some new worke.


A
B

Of Ornaments of Pictures within and without the houses.

The eleuenth Chapter.

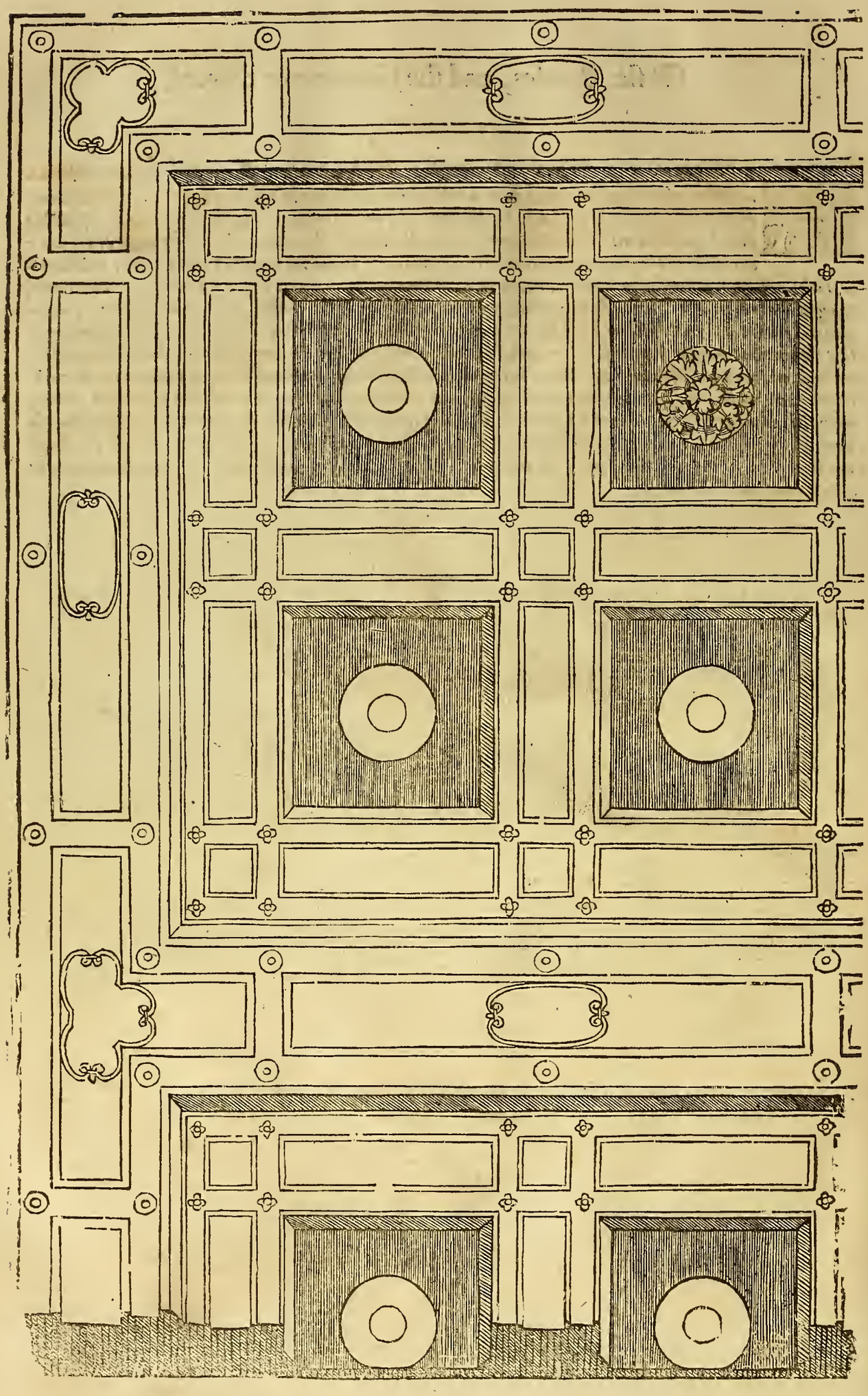
THat I may not leaue out any kinds of Ornaments, whereof I giue not some rule for instruction, as well in Pictures as other things, I say, that the workeman ought not onely to take care of the Ornaments of stone or marble, but also of the Paynters worke, to set out the walles withall: and it is requisite, that he should prescribe an order therein, as Surueyor of all the worke: for this cause, that some Paynters haue beene workemen good inough, touching the handling of their worke, but for the rest, of so little vnderstanding, that desiring to shew their skill in the placing of the colours, haue disgraced, and sometime spoyled a Story of a house, for want of consideration how to place the Pictures in the same. Therefore if they haue a Forefront or Facie of a house to paynt, it is certayne, there is no openneſſe to be left, where ayre or lantshap is to be made, for those breake the building; and of a thing that is massy and close, they transforme it into an open weake forme, like a ruinous and vnperfit building. Also there should be no personages nor beasts coloured, vnlesse it were to trim and decke doores, wherein there are mens personages: but if the owner of the house, or the Paynter, desire colours, that the worke may not be broken nor spoyled, a man may couer a hackled wall ouer with cloth, and therein paynt what he will: and also, after the maner of tryumphs, a man may hang on the wall Garlands, and strings of Leaues, and Fruits, Flowers, &c. and also Shields, Trophees, and such things as are to be stirred: but if you will paynt the walles with firme matter, then you may fayne things of marble or other stones, cutting therein what you will: you may also beautifie some figures in Niches, with metall, and so the worke will remayne firme, & worthy commendation of all those that know good worke from bad. And the Author rehearseth diuers excellent workemen, whome (for breuitie sake) I will omit, that onely vsed to paynt nothing else but white and blacke in houses, and yet so excellently well, that it made men wonder to behold them. A man may also, with good reason, make and set forth certayne openings in walles of lodgings, round about the Courts, and make ayre, lantshaps, houses, figures, beasts, and such like things, as hee will in colours. Also, if a man hath Chambers, Halles, or other places, about the ground within, to paynt and set forth, then a Paynter, in maner of Architecture, may make openings to see through them, as the place is: for aboue the sight a man must make nothing but ayre or skyes, roofes, high hilles, and the vpper part of houses: and if you place figures also aboue the sight, a man must see vnder them, and not the ground whereon they stand. And if the Paynter will make a Hall or any other, or further roome perspectiuely, he may, ouer the going in, with order of Architecture, make it to shew further then in effect it is. And this, *Baltha-zar* (a man excellently well learned in Architecture) did, in beautifying the Hall of *Augustin Guyse*, a Marchant of Rome, where, in that sort he set out some Columnes, and other Architecture to that purpose: so that *Peter Aretin*, a man also skilfull in Paynting and in Poesie, sayd, that there had not beene a perfiter Paynter then he in that house, although there is worke also in it of *Raphaels* owne doing. And when the walles are paynted, and if you will haue the roofe also done, then follow the steps of Antiquitie, making things that are called Grootes, which, for that you may make them as you will, shew well therein, as Leaues, Flowers, Beasts, Birds, and other mixed matter. If a man maketh any clothes or apparell of figures, or which are made fast on them, therein a man may doe as he will. But if a Paynter will make any figures according to the life, in a roofe of a house, then he must be very skilfull, and much exercised in Perspectiue worke, and very iudicious to chuse such things as are fittest for the place, and rather heauenly flying things, then earthly things, with such Arte, that he must shorten the figures so (although they bee monstrous) that when men stand a conuenient distance off from them, they may resemble the life. Which thing is excellently well made in *Lorette Mantua*, and other places in Italy, by diuers workemen: yet skilfull workemen in our time haue shunned such shortening, for that (in truth) it is not so pleasing to the eyes of the common sort of people. Therefore *Raphael Durbin*, whom I will alwayes name Diuine, for that he neuer had his fellow, (I say no more) in this thing, as men iudged of him when he was to paynt the roofe of *Augustin Guyse* his Gallery, shunned shortening as much as he could: for when he came to the highest part of the roofe, and there meant to make the banquet of the gods, heauenly things, and such as serued to the purpose for a roofe, taking away the harshneſſe of shortenings, set forth a cloth of azure colour, made fast to the strings or Garlands, as if it had beene a thing to bee stird, and therein made the banquet so seemely and so workemanlike, that the Gallery was rather esteemed for a preparation to a tryumph, then a playne paynting made vpon a wall. Therefore the workeman, that ought not to be vnskilfull in Perspectiue worke, should not indure, as being Surueyor ouer all the workemen in the building, that any thing should bee made therein, without his counsell and aduice.

Of flat Roofes, and the Ornaments thereof.

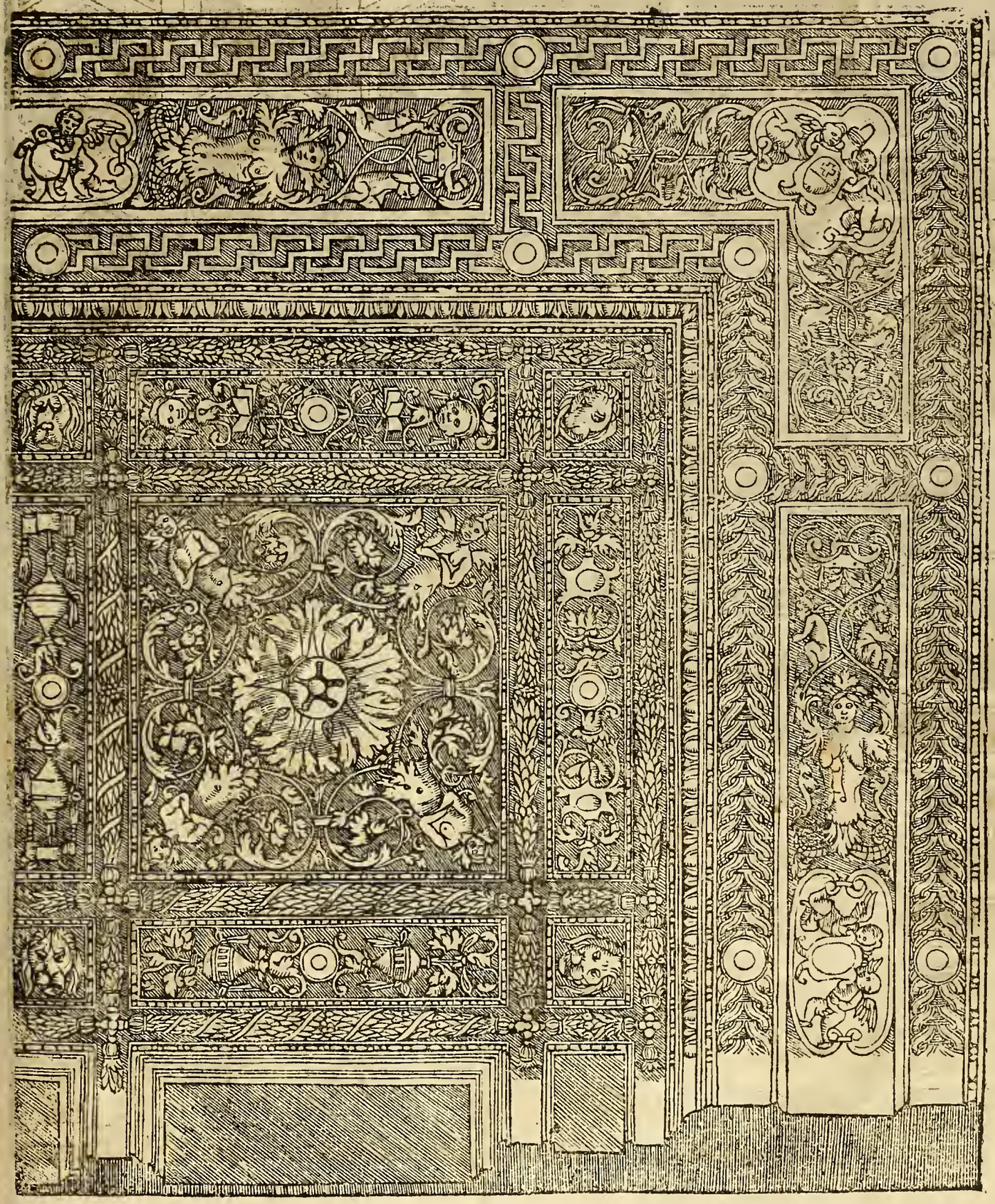
The twelfth Chapter.

ALthough in the Netherlands they vse not to decke the Chambers in the Roofes with woodden worke, neuertheles, when a house without is made wholy after the old maner, it were vnfit that the Roofe should not be agreeable, as also the Bedsteeds, Bankes, &c. And which is more, I would say, that each place should be stuffed and suted within, with things fitting to that which it sheweth outward. I say then, If the Roofe be high, then the deuisions to be wide of space, and rising or bearing out well: and if a man will beautifie it with Paynting, it must bee well done, and conformably paynted, according to the greatnesse and distance thereof. It ought also to be made of light and browne colours: and in the middle of the field you must set a gylt Rose: but if a man will colour it, then the field must be blue, as piercing, but the Roses must be bound with some works or branches, that they may not seeme to hang in the ayre: and the Cornices which close vp the foure square or other fields, must bee well gylt, or beautifyed with the same colour: but if so bee the Roofe is not high inough, then you must make the worke thinner and smaller, as also the paynting: and that you may vnderstand it, I haue set two figures to shew you, which, notwithstanding, are all one: the one of bare wood, the other paynted, as I sayd before. And this Order I obserued in the Roofe of the great Librarie in the Palace of Venice, *in the time of the Prince* Andreagriti, *because the Roofe was lower then it should be, in respect of the widenesse and length of the Hall, and I made it of thinne worke, for the reason aforesayd.*

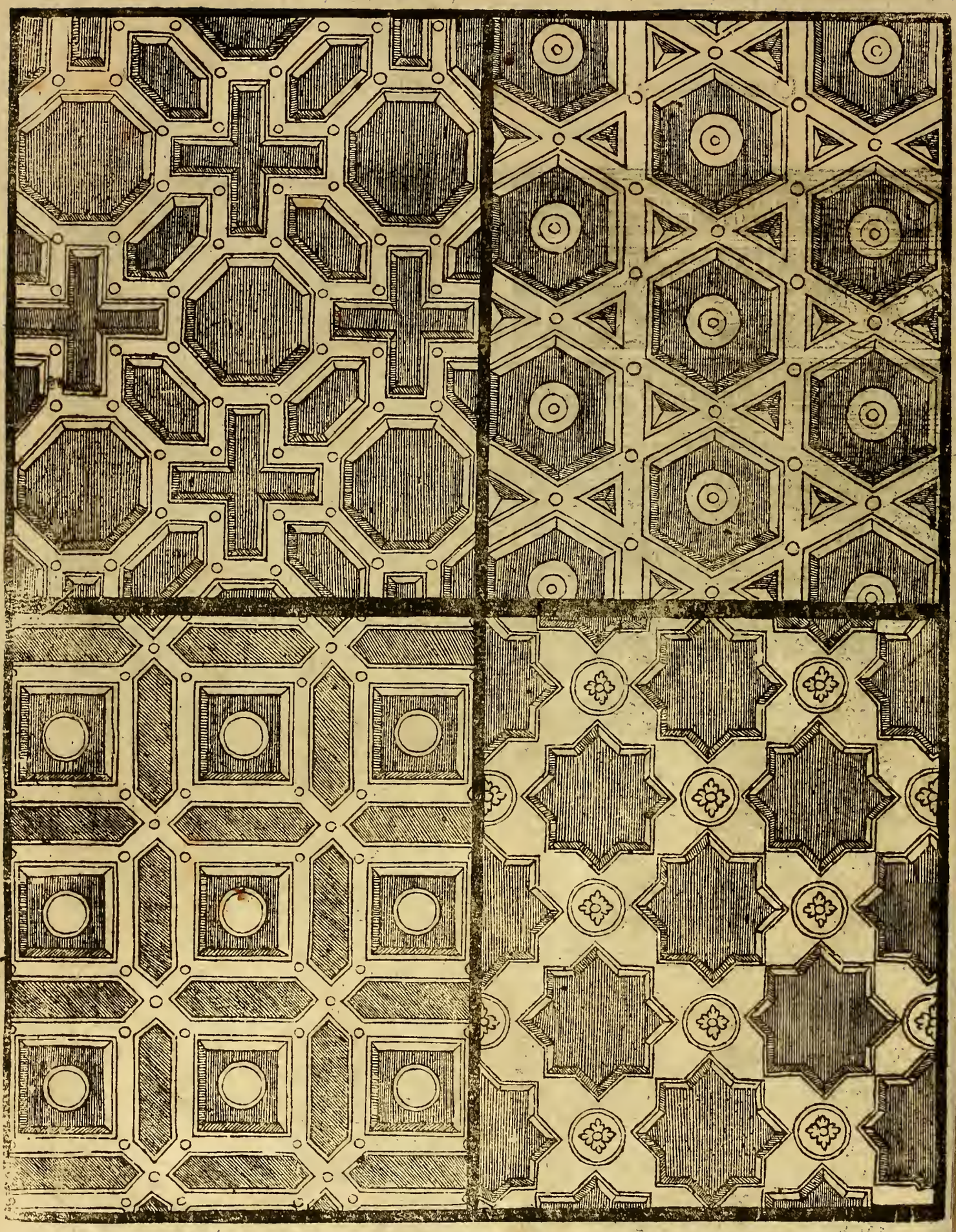
The Timber worke of the ſeeling aforeſayd.

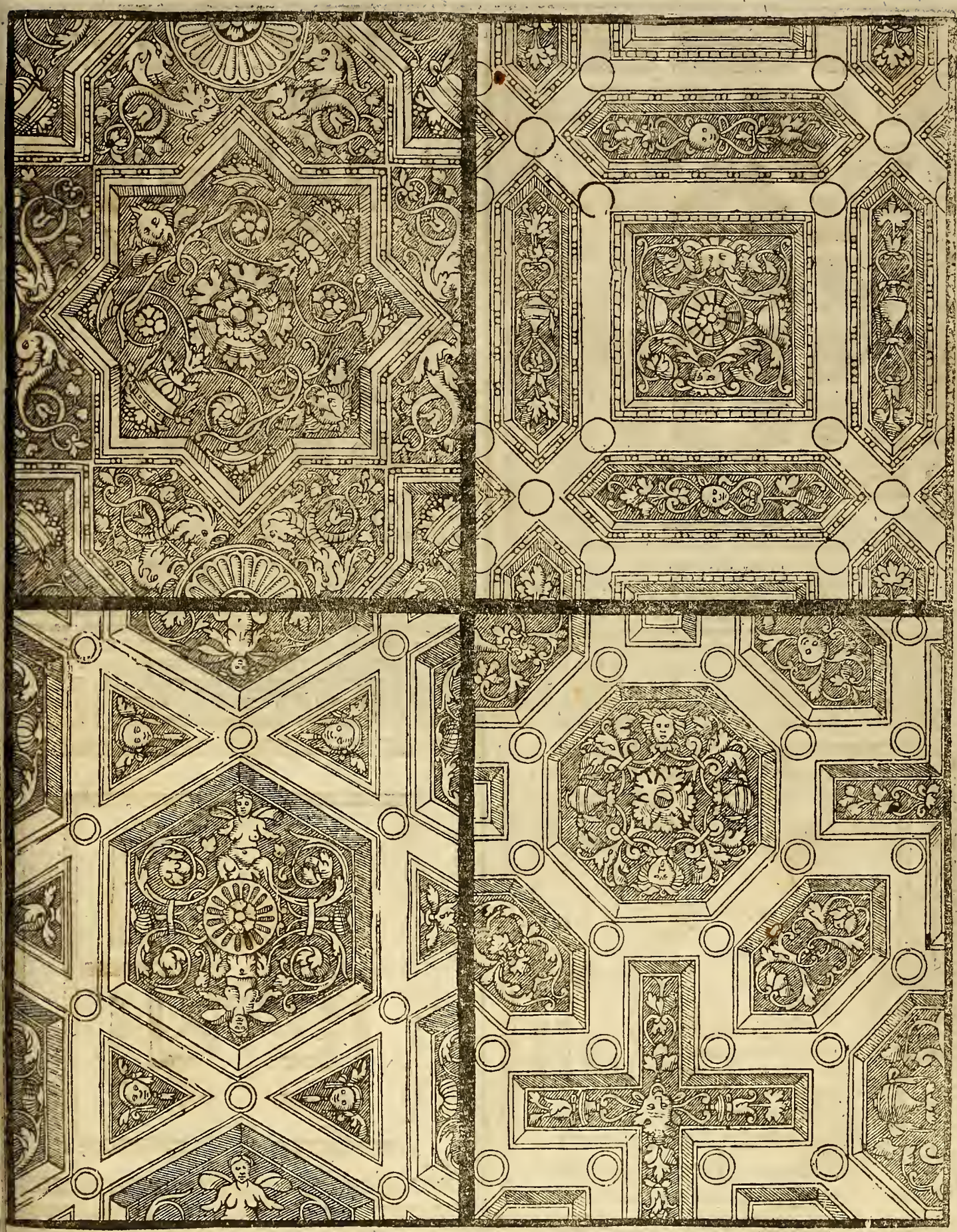


The Ornaments and Garnishing of the same worke.

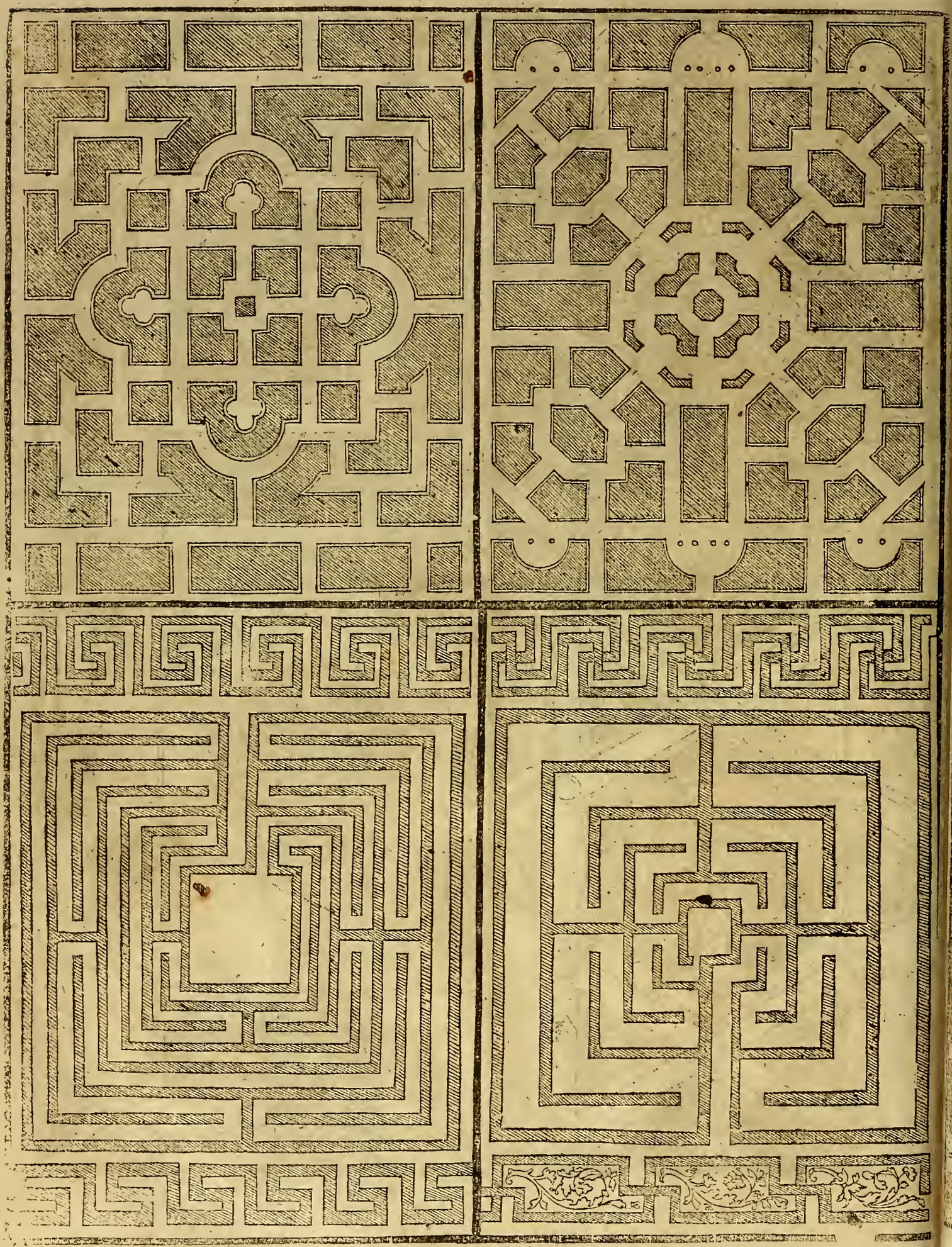


Another maner of Sieling.

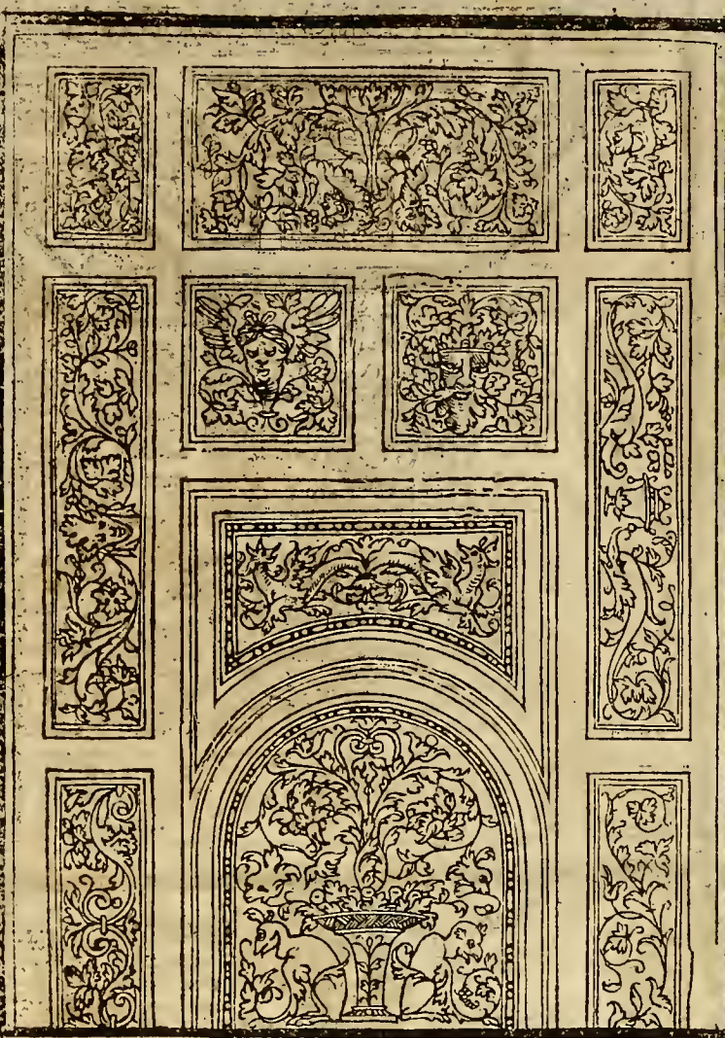


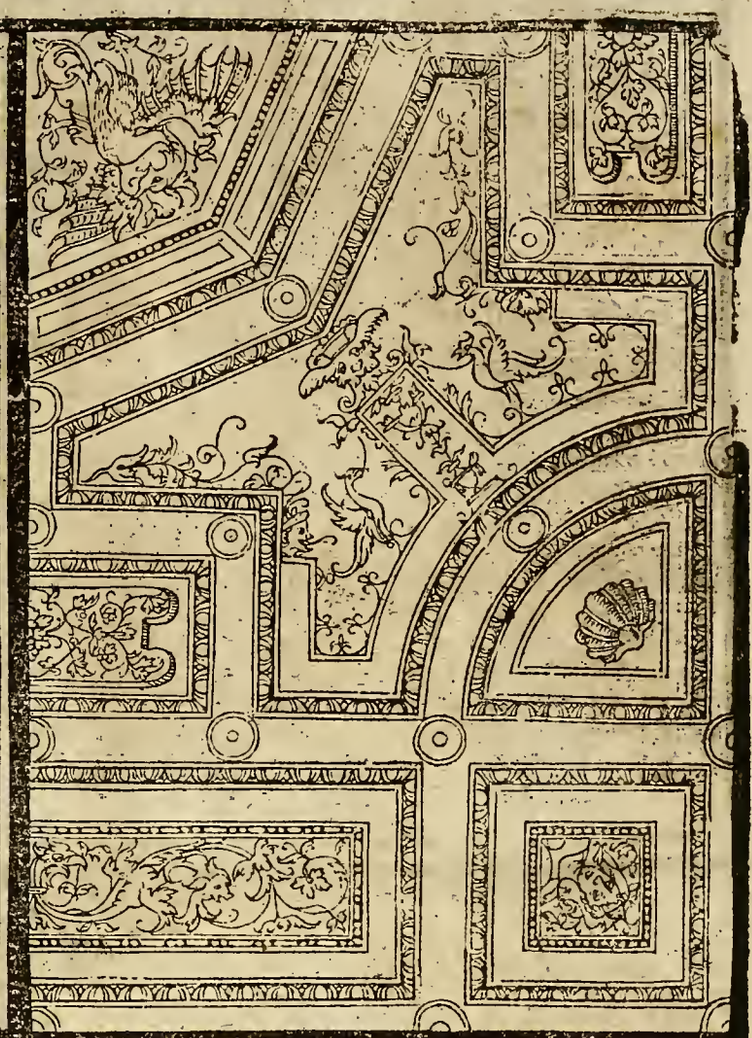


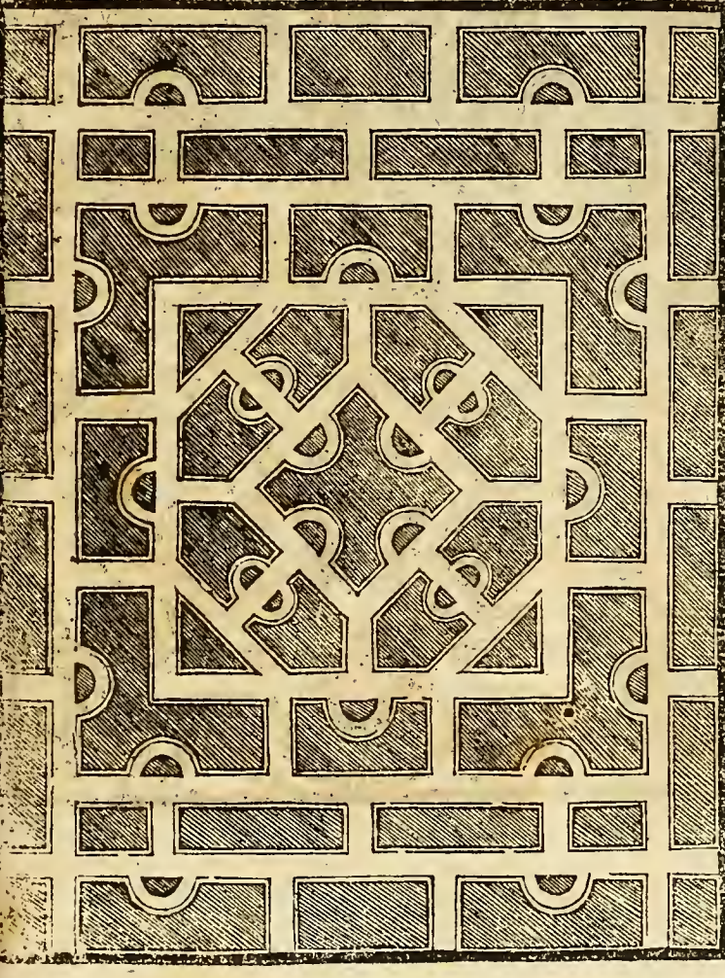
The Garden, being an Ornament to the Building,

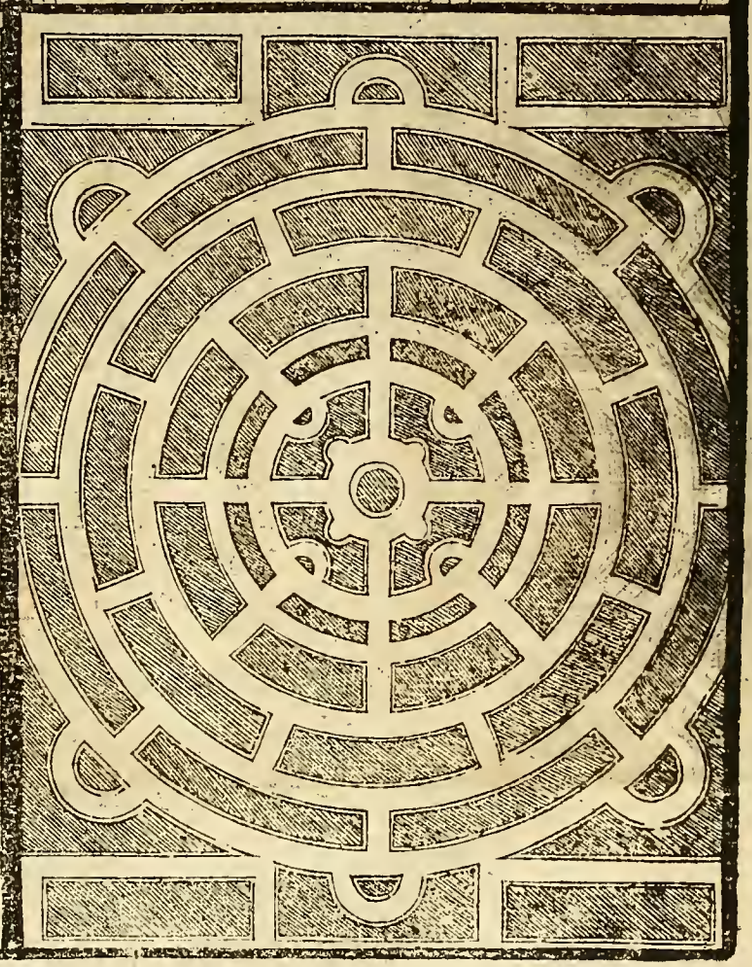


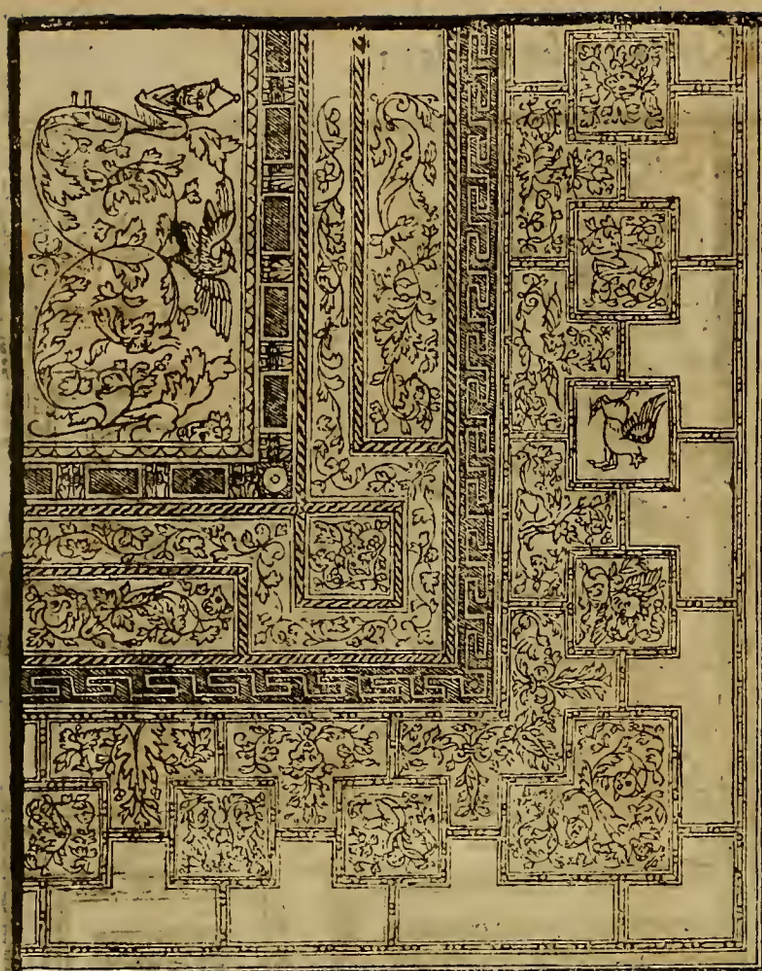
therefore these Mazes and Knots, are set in Figure.

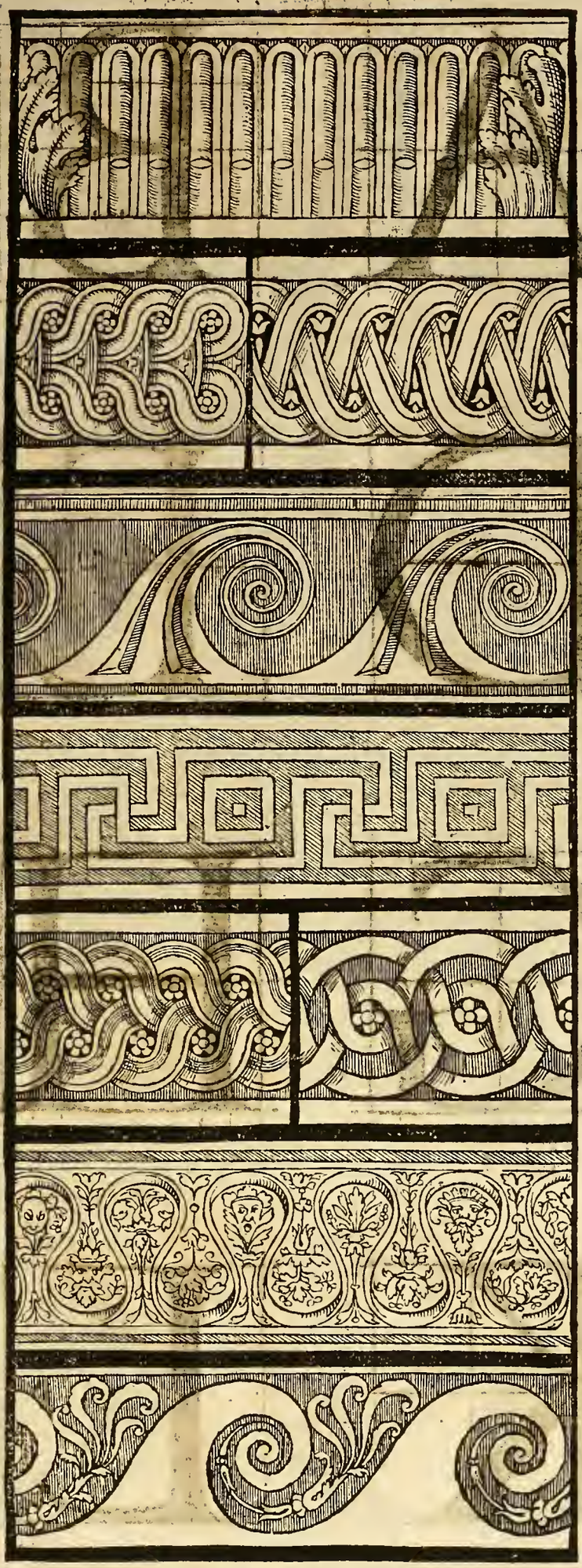




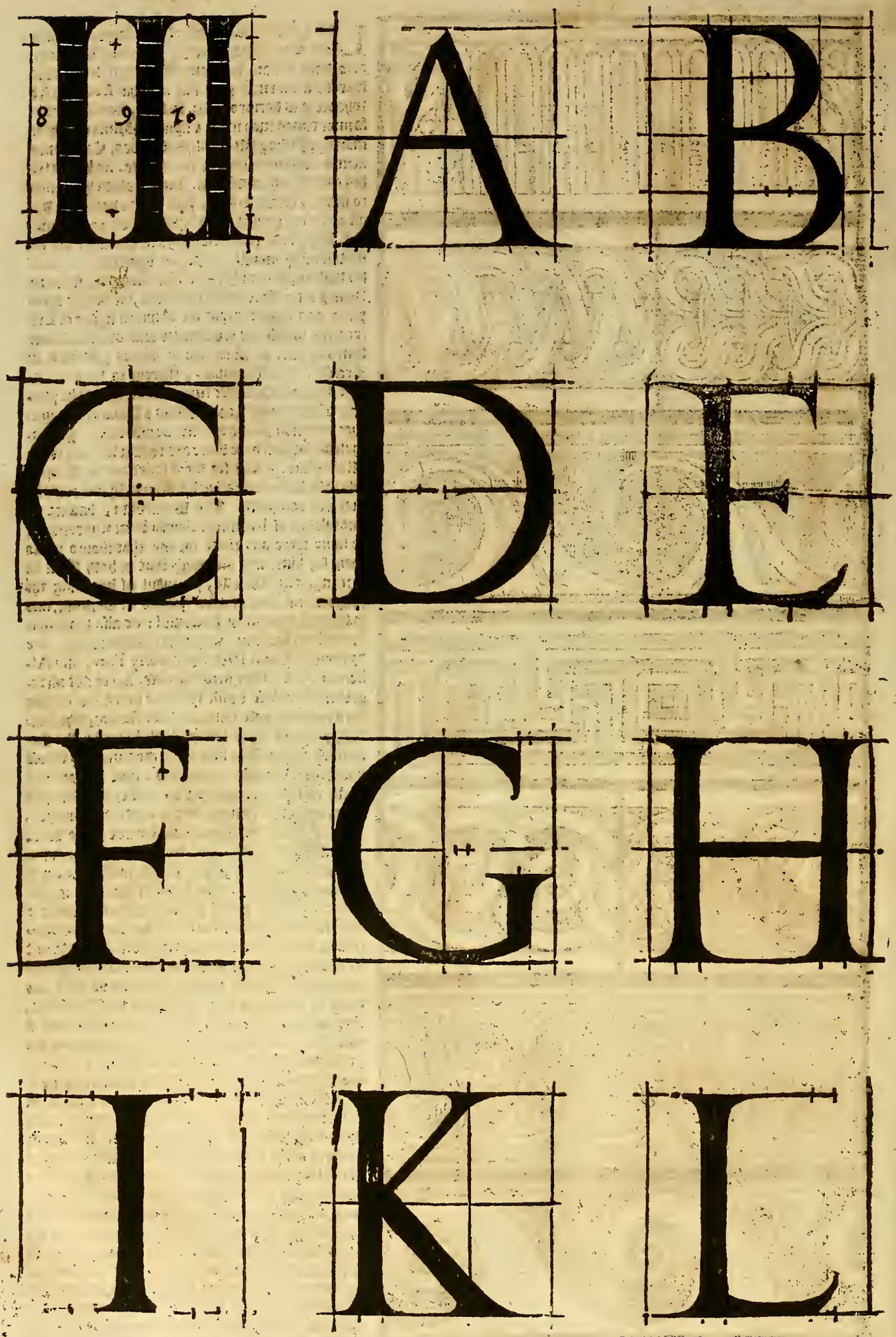




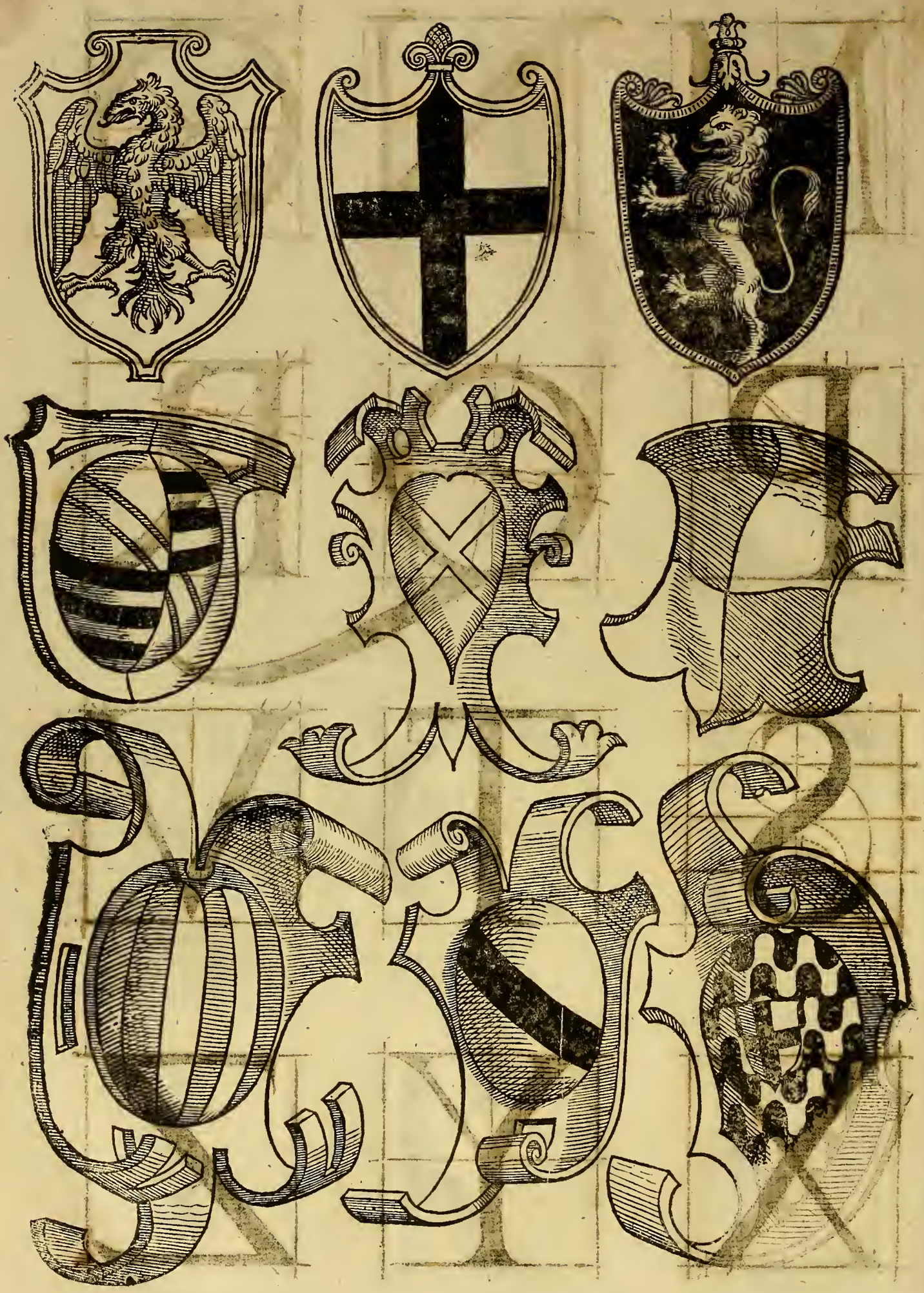




LAstly, our Author speaketh of Armor, to shew how a man shall make, colour, and place them, according to state, workemanship, or nature; that thereby a man may perceyue of what stocke, or frō whence it is deriued: for, saith he, wee see that in former times men made & figured Princes in their maiesty, Bishops in Pontifical Robes, Captaynes armed, and euery man in such habite, as best fitted his calling and condition. And so he will haue men to make & colour armes, that are to be set vp, vpon, or before houses, with beasts, birds &c. gold, siluer, blue, red, greene, and blacke colours; but no metall vpon metall, nor colour vpon colour. But for that workemen here in this Country make no Armes after their owne pleasures, we will let them passe, & in place thereof set downe a figure of Letters, the which the workeman hath occasion many times to cut, or place aboue Gates, Doores, in Freases, and other tables, thereon to set names, titles, deuices, or other superscriptions, at the pleasure of the owners, or to know a Palace, or any other common places of office or otherwise. Nevertheleſſe, for that here there are roſing workes set to fill the place, I will set the Figures of the Armes, which he hath made after ý Letters, that the Booke may bee complete. The workeman, hauing no knowledge of learning, should be much troubled, to seeke farre and neere for one that should write them for him: and although that he hath them in writing, neuertheleſſe, for want of knowing the proportions, they may be spoyled in working, and so bring his worke in contempt; as also those that drew them for him: Therefore, although they are drawne by Lucas Paciolus, Geofry Tory, and Albertus Durer, who, neuertheleſſe, agree not all together, therefore I will set these hereafter downe for a common rule, following our Author, who (letting passe all superstition) hath brought the Columnes & Pedestals into a due measure: by whose authoritie, I should almost say, that a man may make these letters greater or smaller, according to the orders of Columnes; but to write the Simetry, or not, ý I may not digresse too far out of the way, I will follow Vitruuius, where hee sayth, that a Ionica Columne is 9. parts high, and by shewing of diuers Authors, this forme of Letters is also found in Ionica, and so I leaue them of 9. parts: and whether a man would make them by Corinthia or Composita order of 10. parts, it would not be amisse, for as the Corinthians most vsed for the slendernesse, so these Letters, for the most part, are made of 10. parts: by the Dorica and Thuscana, they are made of eyght. By that reason thereof, it were not much to bee contemned, considering the grossenesse of the worke; also, according to Vitruuius writing, a man may alter the Simetries, as it is sufficiently shewed in other places: for vpon some occasions, they are greater & smaller, yea, and shew altogether false to that they are. To learne easily to make these letters, first, you must make a perfect foursquare, and set it in as many parts as you wil giue vnto ý letters: but if they be of 6. 7. 8. 9. or 10. parts, more or lesse, the smallest draught shall be the third part of the thicknesse, and the crosse draught the halfe. The corners shall, at least, haue as much Prouiecture as the thicknesse of the letter taken with the Compasse. But although one letter is within the foursquare, and the other without, you may see in the figure, where you may set the Compasse to draw the round: you may set the O. of the same measure that you set the Q. The tayle of the Q. is a quarter and a halfe of a foursquare, and sticks a halfe foursquare; some make it shorter. I will not vphold these letters to be the best, but euery man take them he liketh best: it is also no need to take so much paynes with euery small letter: but it falleth out oftentimes, that a man is to make them a foot, or fiue, more or lesse, high: which a man shall neuer bring to good passe, without following a sure proportion.


8 9 10
A B
C D E
F G H
I K L


M N O
P Q R
S T V
X Y Z



The end of the fourth Booke.

The fift Booke

of Architecture, made by *Sebastian Serly*, wherein there *are set downe certayne formes of Temples*, according to the Ancient ma*ner; and also seruing for* Christians.

Translated out of Italian into Dutch, and out of Dutch into English.

LONDON.

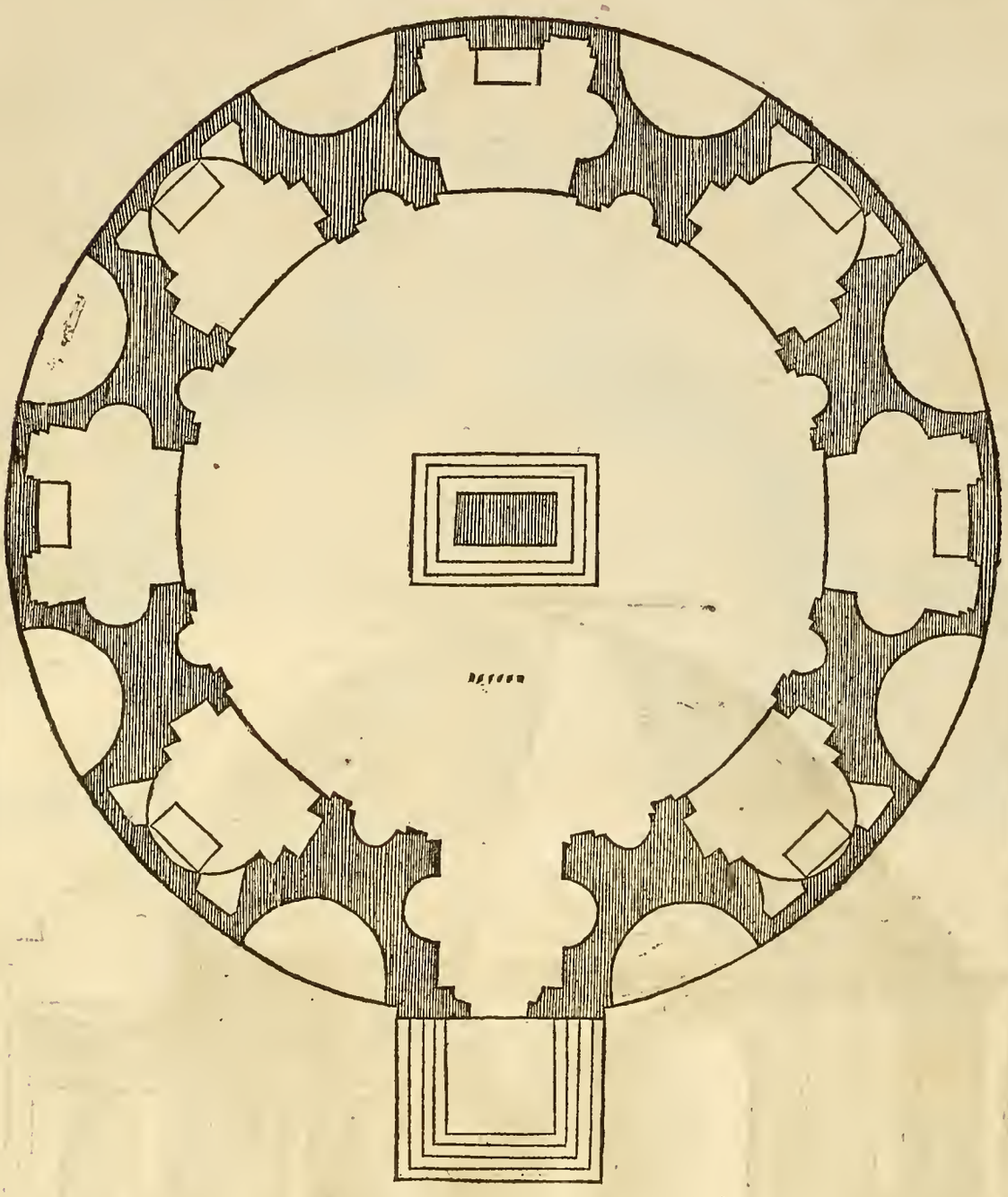
Printed for *Robert Peake*, and are to bee sold at his Shop, neere Holborne Conduit, next to the Sunne Tauerne. 1611.

THE FIFT BOOKE:

Of diuers maners of Temples,

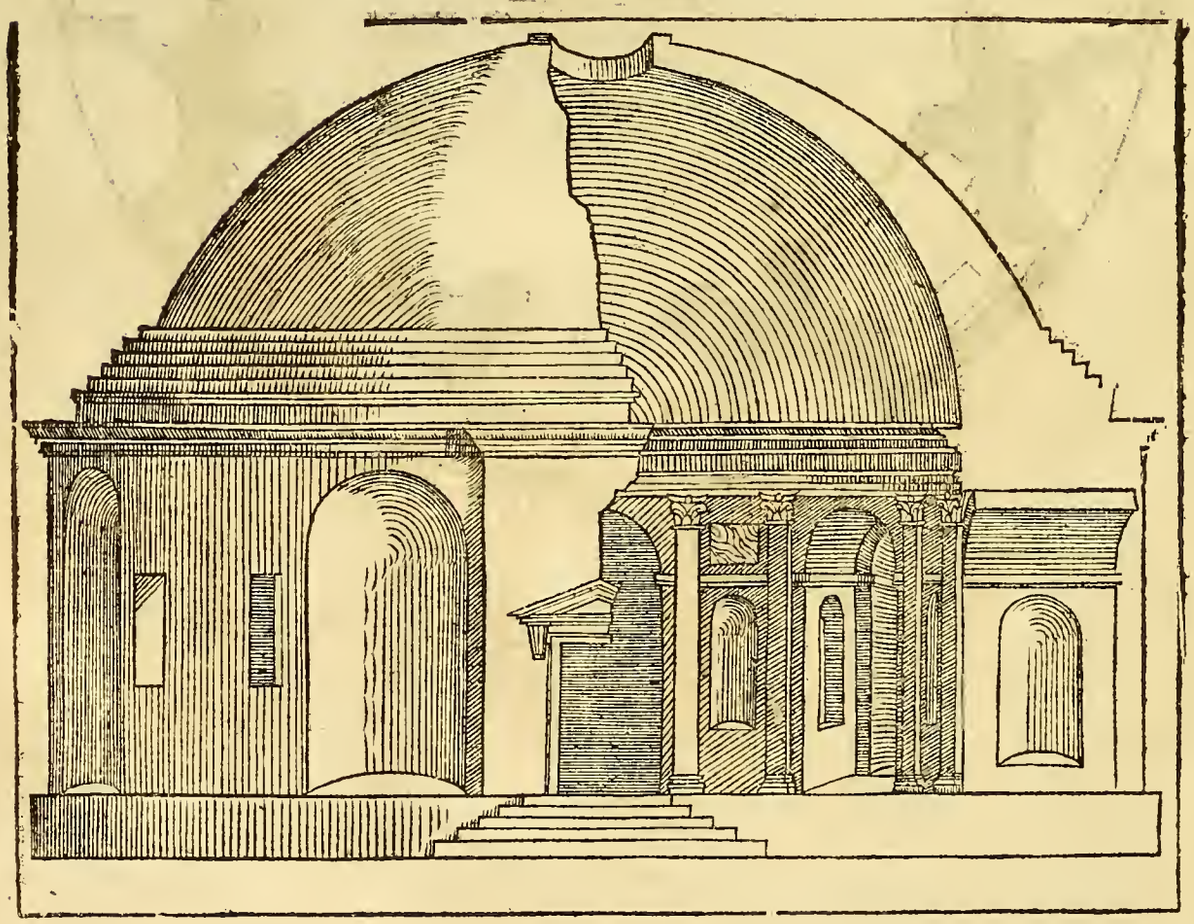
The foureteenth Chapter.

ALthough wee see and find diuers formes of Temples and Churches in Christendome, as well ancient as moderne, yet for that I haue formerly promised to shew some Orders thereof, to accomplish the number of my Bookes, therefore I will intreat of them, and set downe twelue seuerall maner of Temples, with their grounds and measures: and for that the round forme is the perfitest of all others, therefore I will begin with it: but though in our time, whether it be by reason of small deuotion, or cruelty of men, there are no more great Churches begun to be made, and that men finish not them which in former time haue beene begun, therefore I will make mine so small, as they may passe in reasonable maner, for that with small cost, they might in short time be made. The Diameter of this ground shall be as long as high, according to the Figure of the Circle, that is, of 60. foote. The thicknesse of the wall shall be the fourth part of the Diameter, that is, 15. foote, that a man may easily make the Chappels within it: which Chappels shall be 12. foot broad. The Niches betweene the Pillars shall bee foure foote broad: the other in the Entrie, and of the three Chappels, shall be sixe foote and a halfe broad: and to spare charges of stone and lime, the great Niches shall be made without the Chappell: the bredth whereof shall bee 15. foote. This Chappell is eleuated from the earth at least fiue steps; and if it were higher, it were not amisse: for the earth in time riseth, so that men goe downeward into many old Temples and Churches, whereunto, in former time they ascended vpwards: but this Stayre would alwayes be vneuen, according to *Vitruuius* writing, speaking of Temples, where he sayth: that as a man with his right foote begins to clyme vp, he may, with the sayd right foote, step vpon the pauement of the Temple. Touching the foundation, a man cannot fayle, if hee maketh it deepe and broad inough: but the least bredth that a man can lay, is this: that a man should from the Diameter of the thickenesse of the wall, make a perfit foure square, and the Diagonus of this foure square shall be the bredth of the foundation vnder the wall. And so, I thinke, *Vitruuius* writeth, where he speaketh of foundations. But touching the Stofes of foundations, in fast or hard ground, and also in watry ground, I neede not shew it here, because euery man knowes it.

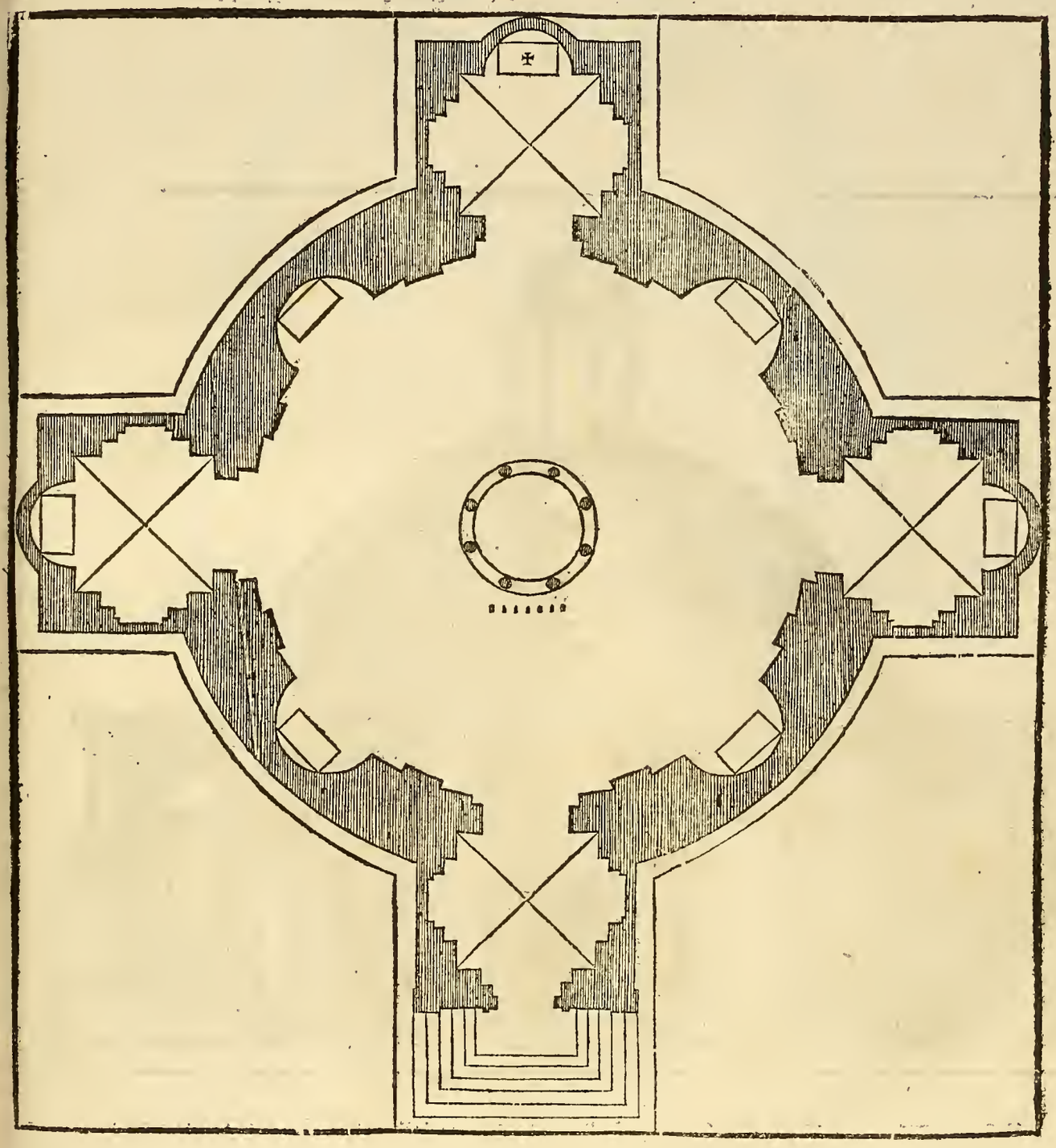


Of diuers formes of Temples

Hauing shewed the ground of this round Temple, this Figure sheweth the body of the Temple, both without and within, for that it is purposely made broken, to see both. The inner part of the Temple is made after the maner of Corinthia. The whole height from the Pauement below, to the Roofe aboue, is 60. foot; whereof 30. foote are for the Rettle or round roofe: the rest netherwards, shall be deuided in 5. parts and an halfe; whereof one part shalbe for Cornice, Frase and Architraue. The foure parts and an halfe resting, shalbe the height of the Columnes, with Bases and Capitals, whereof altogether, you shall finde the particular measures in my fourth Booke, in the Corinthia. The Niches betweene the flat Pillars, shalbe 10. foot high: the other shalbe of 15. foot high. The hole aboue the Roofe, shalbe the seuenth part of the widenesse of the Diameter of the Temple: aboue, vpon that hole, there may bee a Lanthorne made, stopt with glasse, or it may be left open, whereat there will come in light inough to the middle of the Temple, for that the Chappels haue light inough at their windowes: the top of this Temple will best bee couered with Lead: the Cornice without, shall stand like that within, but much greater of members, because it standeth in the weather. Touching the Doores, you find them sufficiently set downe in my fourth Booke.

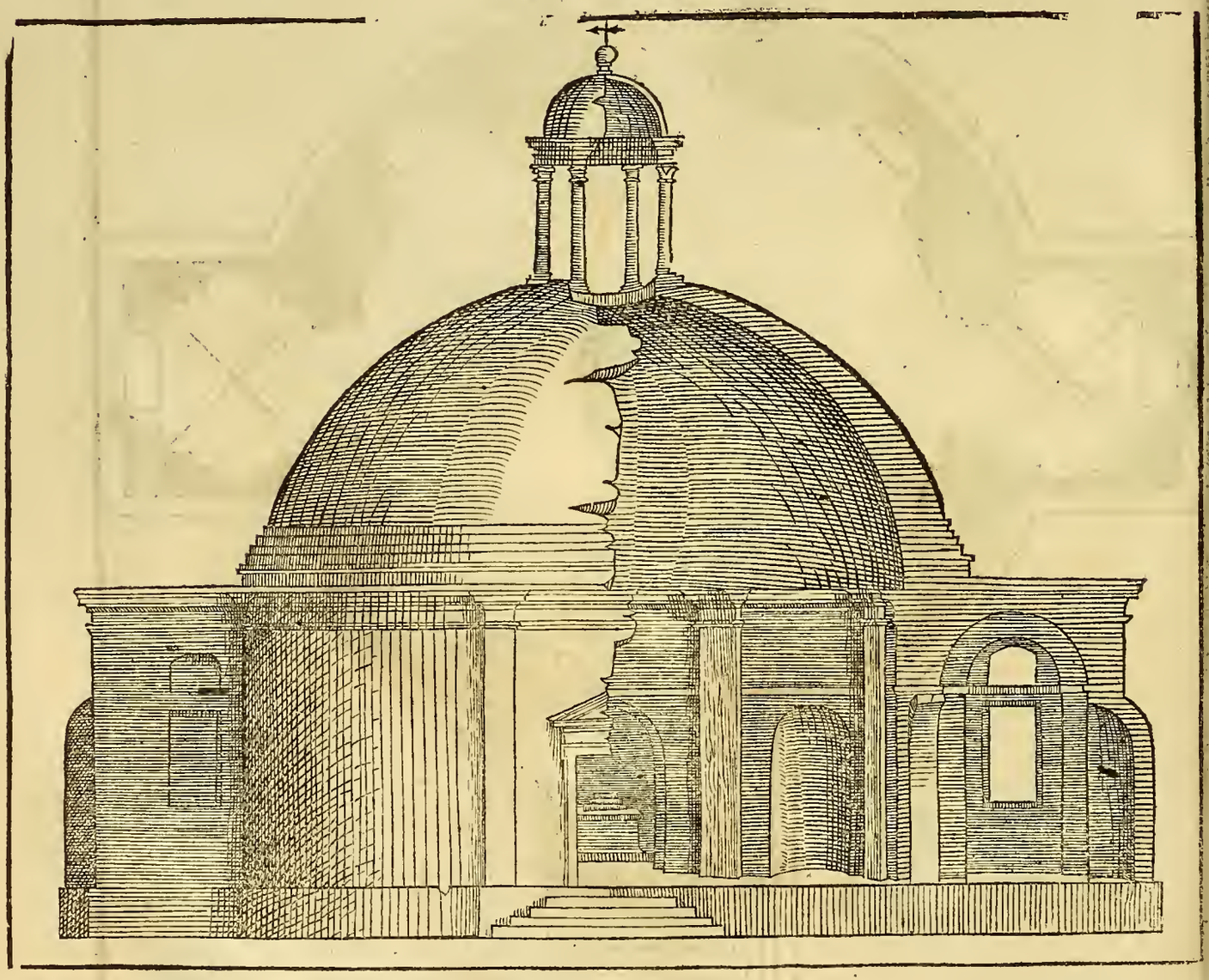


ALthough the ground of this Temple following is round also, yet it hath an alteration by the foure bearings out, which are thrée Chappels, and also the going in of the same fashion. The Diameter of this Temple is 48. foot: the thicknesse of the wall is a seuenth part of the Diameter. The Chappels are 14. foot in foureſquare, without the Niches. The other 4. Niches or small Chappels shalbe 9. foot broad: the foureſquare Chappels haue their light on the sides; but the light of the Temple aboue in the Roofe, shall be wide the fift part of the Diameter, with a Lanthorne vpon it, as it is sayd of the other: you shall goe vp to this Temple also with fiue stayres, and for that the corners without the Temple lye allwayes foule, I thinke it were not amisse to make a foureſquare wall about it, as high as the going vp, that people may not so easily come to it.



Of diuers formes of Temples

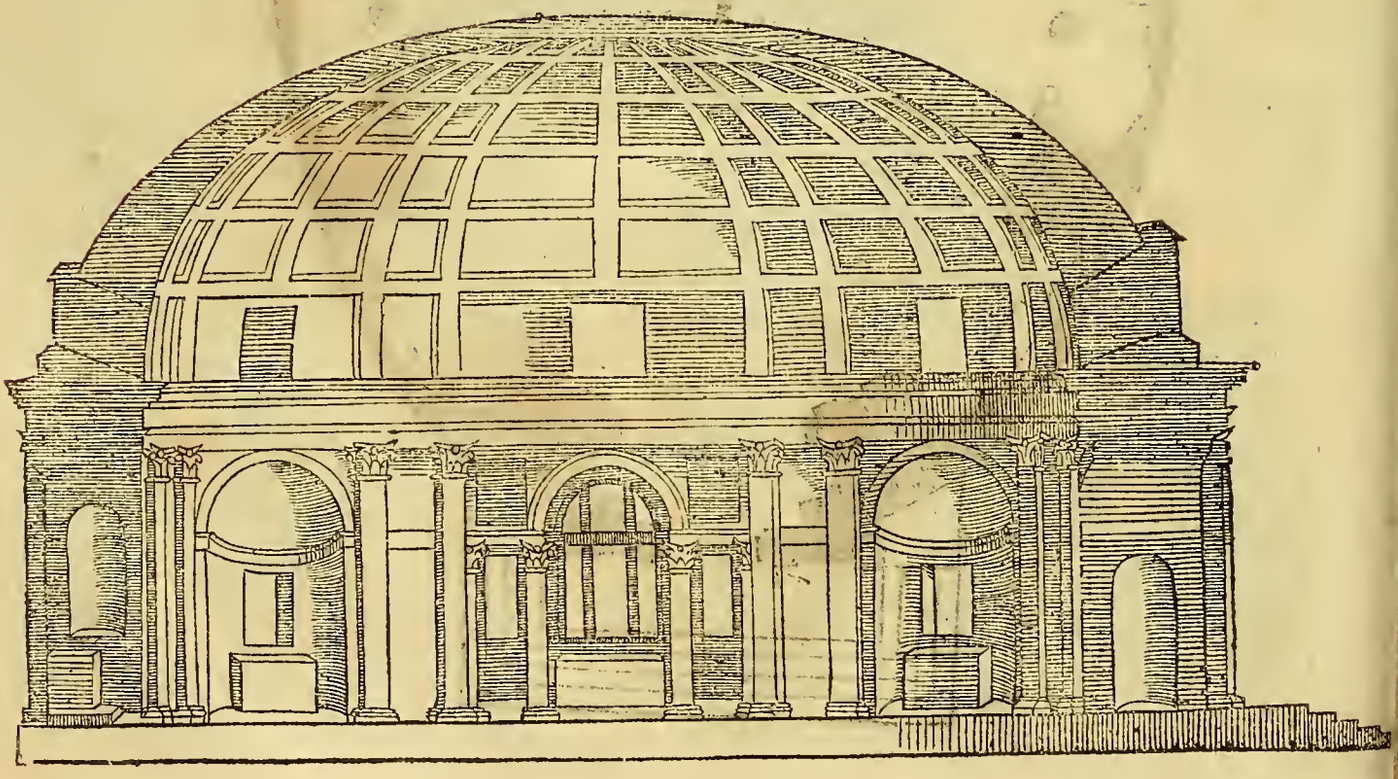
HEre you sée the Chappel standing vpright (whereof the ground is on the other side) which sheweth as well within as without, because it sémeth as if it were broken. The height within, is like the Diameter, that is, 48. foot. The halfe shall be for the halfe round roofe, and the hole aboue for the light, as I layd before, shalbe wide the fift part of the Diameter; whereon there shall be a Lanthorne, made with glasse, as the Figure sheweth, and the Roofs without, couered with Lead, or other stuffe. From the Roofe netherwards, the Cornicement shall bee made of two foot and an halfe high, formed like Impost of the Arch of the Theater of Marcellus, in the fourth Booke and the seuenth Chapter, Folio 37. and shall serue for Capitals, vnlesse it be the Plinthus with the Cimatie, which shall serue for Corona. The Pilasters are broad 4. foot an halfe. The great Chappels are 21. foot high. The smalest Chappels shalbe 13. foot and an halfe high, halfe round aboue. Aboue those 3. foursquare Chappels, and ouer the going in, there may be flat couers, somewhat falling downe, to voyd the water: a man may also make steps within the thickenesse of the wall, to goe vp, and an vpon or stone rayle, to rest or leans vpon. The Temple may bee conered with such stuffe, as may best be prouided: but Lead would be the surest.



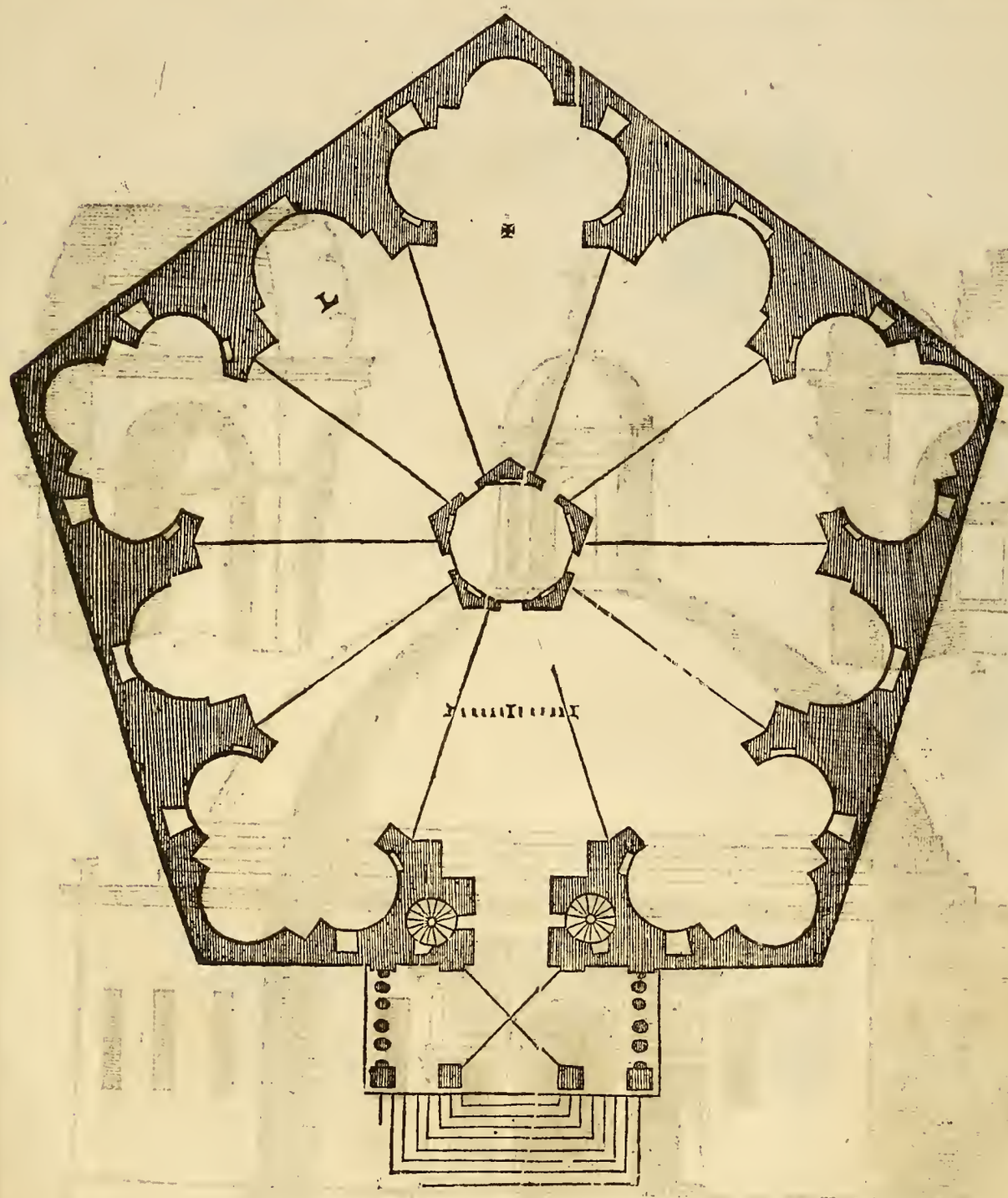
AFter the round Figure, which is the perfectest, the best are the Ouale, that is, like an Egge; therefore I haue made a Temple of that fashion: which Temple shalbe 46. foot broad, and 66. foot long. The thickenesse of the wall shall be 8. foot, & within it the Chappels shall stand: and although they be not to large, yet a man needs not cut them off. The widenes of the 2. greatest Chappels, holds 20. foet and an halfe; within the which are two Niches, each 4. foot broad. The Columnes shall bee a foote and an halfe thicke, and the halfe Columnes accordingly. The spaces betweene the middlemost Columnes shall be 7. foot and an halfe: the other shall contayne 4. foot and one fourth part. These two Chappels shall each of them haue 3. windowes: the middlemost shalbe 6. foot wyde, and the other on the sides each three foot. The Chappell with the high Altar, shalbe 10. fot broad, and 6. fot farre in the wall, with Niches, like the great, and a window aboue the Altar, of 6. foot wide. The 4. other Chappels shalbe a halfe Circle, 10. foot wyde, hauing the like Niches also, and a window of 4. foot wyde, aboue the Altar. And for that this Chappell hath light inough of it selfe, it might suffice for the whole Temple: but to make it lighter, there may be windowes made aboue the Chappels. This Temple shall also go vp fine steps: the doore shalbe fire foot wyde, and shalbe beautified with 4. Pillars, after the Corinthia maner: the going in shalbe like the Chappell with the high Altar.

Of diuers formes of Temples.

This Figure ensuing, sheweth the Quale Temple within, which from the Pauement to the Roofe, shall bee as high as broad, that is, of 36. foot: from the Pauement, till you come aboue the Cornice, it shalbe 23. foot: which height deuided in fiue, one part shalbe for Architraue, Frése and Cornice: the other 4. parts shall bee for the height of the Pillars, which separate the Chappels. The particular measures hereof you finde in my fourth Booke, in the order of Corinthia; for that this Temple is made of such worke. The height of the round Columnes shalbe 12. foot. The Architraue, that holdeth vp the Arch, is 2. foot. The Gate (as it is sayd in the ground) shalbe beautified with foure flat Pillars, of such forme and measure, as those that stand within the Temple; and also with such Cornicements: the Gate or Doore shall haue an Arch standing vpon two Pillars, betwéene the flat Pillars: the Roofe of this Temple may be beautified, as you sée it in the Figure; and richlyer also, making the Windowes aboue the Cornice, hanging downewards, as you sée, and couer the Temple with Lead, which is best: and so the windowes shall bee preserued well ynough.

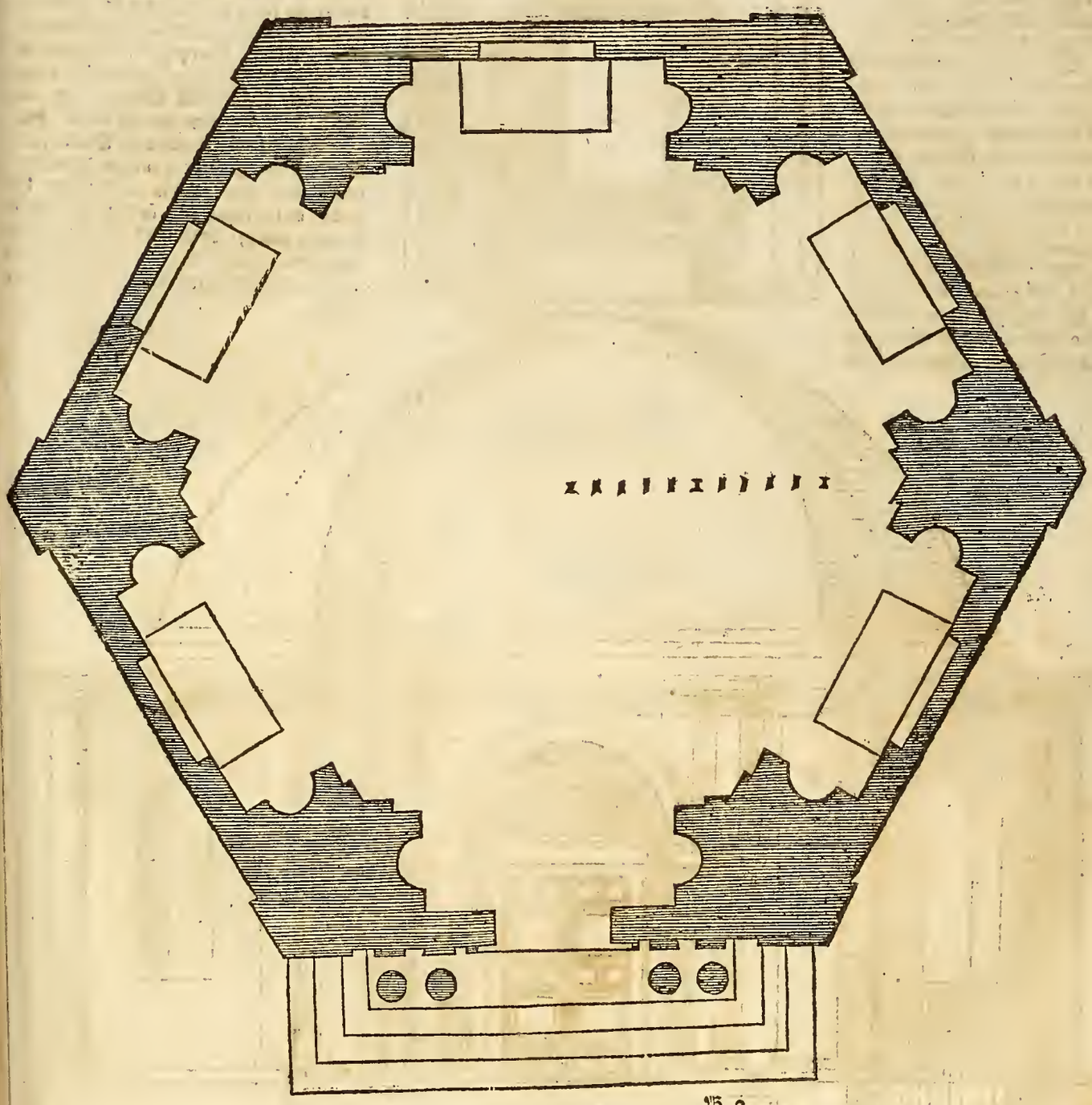


ALthough this forme is fiue cornered, which in Building is not so handsome, therefore within I haue made it of ten corners. The Diameter of this Temple is 62. foot long: the Diameter of the Lanthorne is 12. foot: the fiue great Chappels are 15. foot in foursquare, without the three Niches, which are ten foote wide. The small Chappels are 15. foot broad, and goe 4. foot into the wall, to the halfe Circle, which is, 13. foot wide. The great Chappels shall haue two windowes, and the small one: the widenesse of the doores is 7. foot and an halfe. The Gallery without, shalbe 10. foot broad, and 24. foot long. The 4. Pillars thereof, shalbe 2. foot foursquare. The middlemost space betweene the Pillars, shall be 10. foot, and the other 2. spaces shalbe 4. foot. The sides of the Gallery shall haue a leaning place made with Balusters: In the sides of the Gates, there shall stand 2. payre of winding stayres, to goe vp vpon the Portall, and also round about the Temple. This Temple is 9. foot elevated from the ground, and it may be made hollow vnderneath.

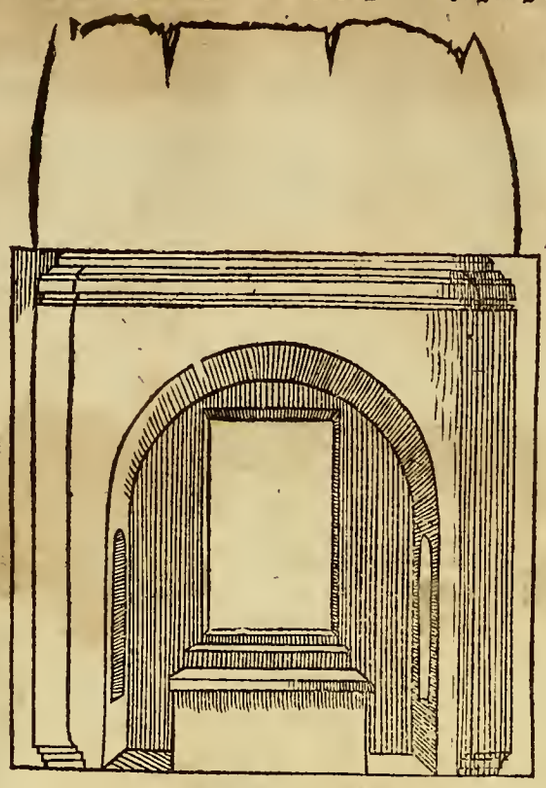


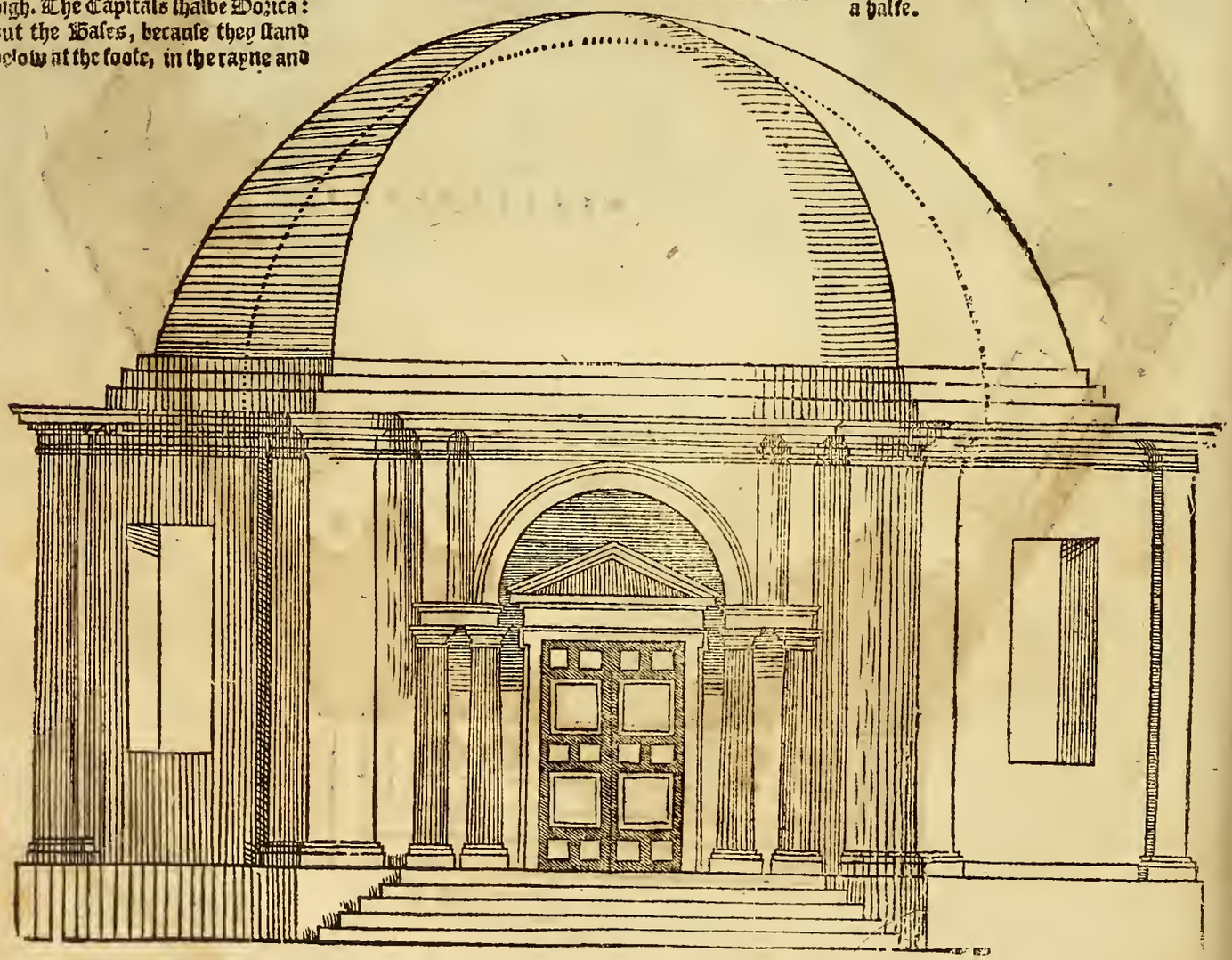
ALthough this Temple is shut, yet I will shew the measure within; it is as high as broad within, that is, 62. foot. The Lanthorne is also as high as broad to the Cornice: the Roofe is of halfe a Circle. The roofe of the Temple is also halfe a Circle, high 31. foot, the rest netherwards. The Cornice shall haue two foot and an halfe, formed like the Impost of the Theater of Marcellus, in the fourth Booke, in the order of Ionica, marked T. Folio 37. This Cornice shall be set without, like the innermost, but greater. The foure square Pillars of the Portall, are 14. foot high, with Bases and Capitall, Dorica. The Architraue is halfe the thickenesse of the height of the Pillar: aboue the Arch, the Cornice is the fourth part lesse then the great, but of the same forme, and shall serue for Capitall vpon the Pillars. Aboue this Cornice, there shalbe a place breast-high, made with Iron Balusters. The two pieces aboue this Temple, shew the Chappels within: and that with the crosse, sheweth the greatest Chappell, whereof the light is 25. foot. The other piece marked L. sheweth the lesse Chappell, which is also 25. foot high: the Pilasters that separate the Chappels, are three foot broad: the height is 19. foot: and there shall be a Cornice made, which shall goe round about the Temple, seruing for Capitals vpon the sayd Pilasters; which forme shalbe made after the Dorica Temple, but a little altered: the Cornicement, vpon the Lanthorne, may be made with Architraue, Freese and Cornice.

The ground of the Temple following shalbe sixe cornered, being in Diameter 25. foote: and the wall 5. foote thicke. The widenesse of the Chappels are 10. foote, and stand 4. foote within the wall. The widenesse of the Niches is 2. foote. The Dore of the Temple is 5. foote wide, adorned with double Pillars, which are a foote and a quarter thicke. The going vp is 5. steps, or more if you will; yet vneuen. Each Chappell hath a Window, of foure foote and a halfe broad, which will bring in light inough, although there be no Lanthorne. On the 6. corners without the Temple, there shalbe flat Pillars made, of 2. foote and a quarter broad, comming out a little. And if you would make the Temple greater, and for want of stones you could make it no thicker Columnes: then you might make it Corinthia, or Ionica, or Dorica, if you will: and then you may helpe your selfe with Pedestals.

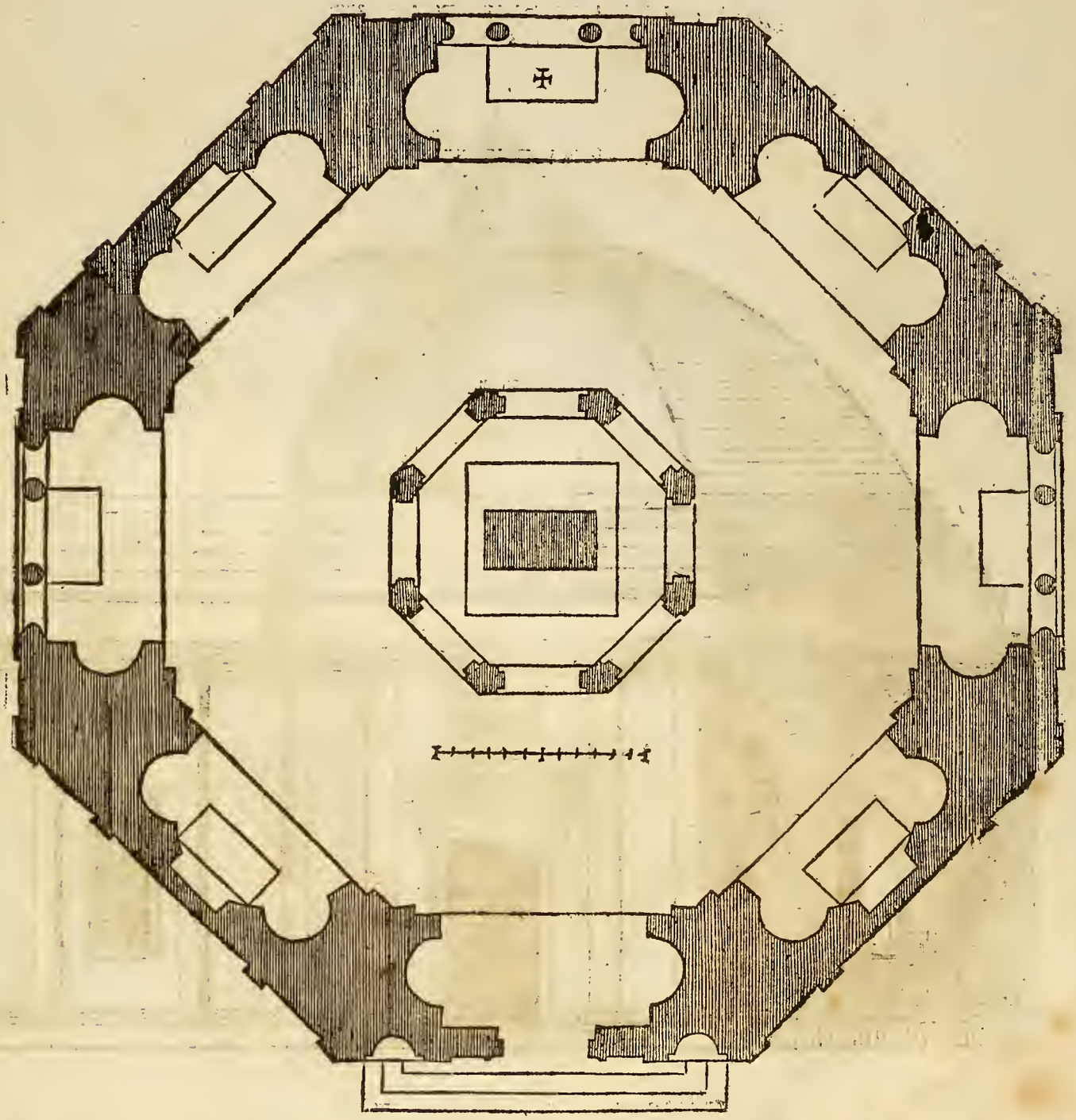


NOw I haue shewed the ground of the 6. cornered Temple, I must shew it standing vpright, and also describe it, as well within as without: for although the Temple be wholy closed vp, yet I haue set a Chappell aboue ouer it, to see it within, for that they are all fiue of one forme; and the going in also is of the same forme. But touching the outermost part, I say, that the height from the pauement below, till you come aboue the Cornice, shalbe 18. foote. The Cornice round about the Temple, shall be made of a foote and a halfe: but the members of the sayd Cornice shalbe made according to the Chapter of Dorica, for that it shall also serue for Capitall vpon the Pilasters, at the 6. corners. Touching the Plinthus with the Cimatie, for that it shall serue for a Corona, it shall go but right through aboue the Pilasters, as you may see in the Figure. The Portall before shall bee beautifyed with round Columnes, & with flat Counterpillars: whereof the middlemost Intercolumnes (or spaces betweene the Columnes) shalbe 7. foote and a halfe. The Columnes shall bee a foote and a halfe thicke: but the space betweene each 2. Columnes, and Pillars, shall be halfe a foote: these sayd Columnes shalbe 8. foot and three fourth parts high. The Capitals shalbe Dorica: but the Bases, because they stand below at the foote, in the rayne and the wind, and also for that they should bee the Bases for the flat Pillars, and the great Pilasters, going about the Temple on all sides, therefore they shalbe made Tuscana. The height of the Architraue shall bee a foote, whereon the Arch shall stand: and the Doore shalbe adorned as you see it in the Figure. The going in shalbe 5. steps at the least. The Roofe shall be couered with a thing, which in those Countreyes lasteth long, and is easy to bee had, otherwise it were best to be of Lead: and this is touching the worke without. To speake of the inward part, it is sayd, that 1. Chappell seruetb for all: the breadth of these Chappels hold each of them 10. foot: and in height 13. foot and a halfe, and enter 4. foot into the wall: on each side they haue a Niche, which is 2. foot broad: aboue the Altar there is a window, which is 4. foot and a halfe broad: and 7. foote high. The Cornice within the Temple shall stand of the same height that the outermost doth, and shall also bee of the same figures: for the Plinthus with the Cimatie, shal also go right through, round about the Temple, without bearing out aboue the Pilasters: otherwise a man may make them much slenderer then they that stand in the rayne and the wind. You may also make the Bases after Dorica: and although all the other Temples shewed before, haue their heights within, like the breadth or the Diameter, so shall this, neuertheless, though it be so small, be halfe a Diameter more higher, that is a Diameter and a halfe, which is seuen and thirty foote and a halfe.





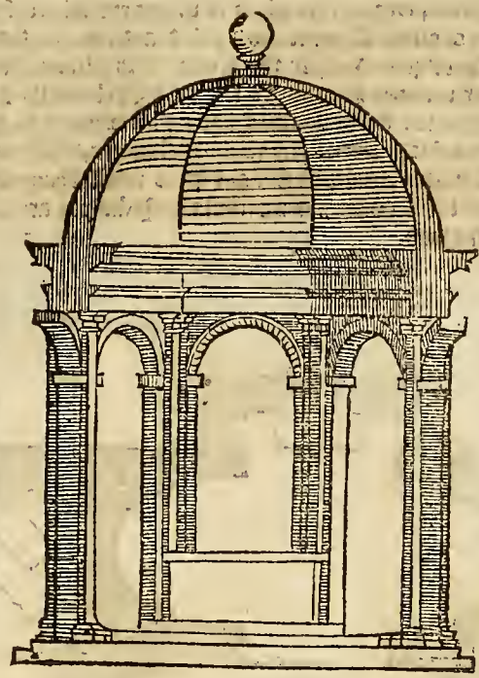
ALthough those aforesayd, and some Temples following, haue no Steple for Bels to hang in, as the Christians vse to haue; nor any Vestries, nor other places for men to withdraw themselues in: yet they must, neuertheles, be handsomely made without, but so, that men may go through the Temple into them: all which subiects and inuentions shall not want in my other Booke. The ground of this Temple is 8. square: whereof the Diameter within shalbe 43. foote: and the wall 8. foote. The Chappels are 12. foote wide, and stand 6. foote within the wall. Three Chappels are of halfe a Circle, and the other 3. with the going in are 4. squars. Each Chappell hath 2. Niches, which are 4. foote broad. The 3. windowes in the halfe Circles are 4. foote broad: the other 3. with the Columnes are 11. foote wide. The Doore is 5. foote wide. In the middle of the Temple a man may set an Altar, couered with a Tribune, vpon 8. Pilasters. The Diameter hereof shalbe 12. foote long: and if you will make this Temple greater, you may make it more feete.

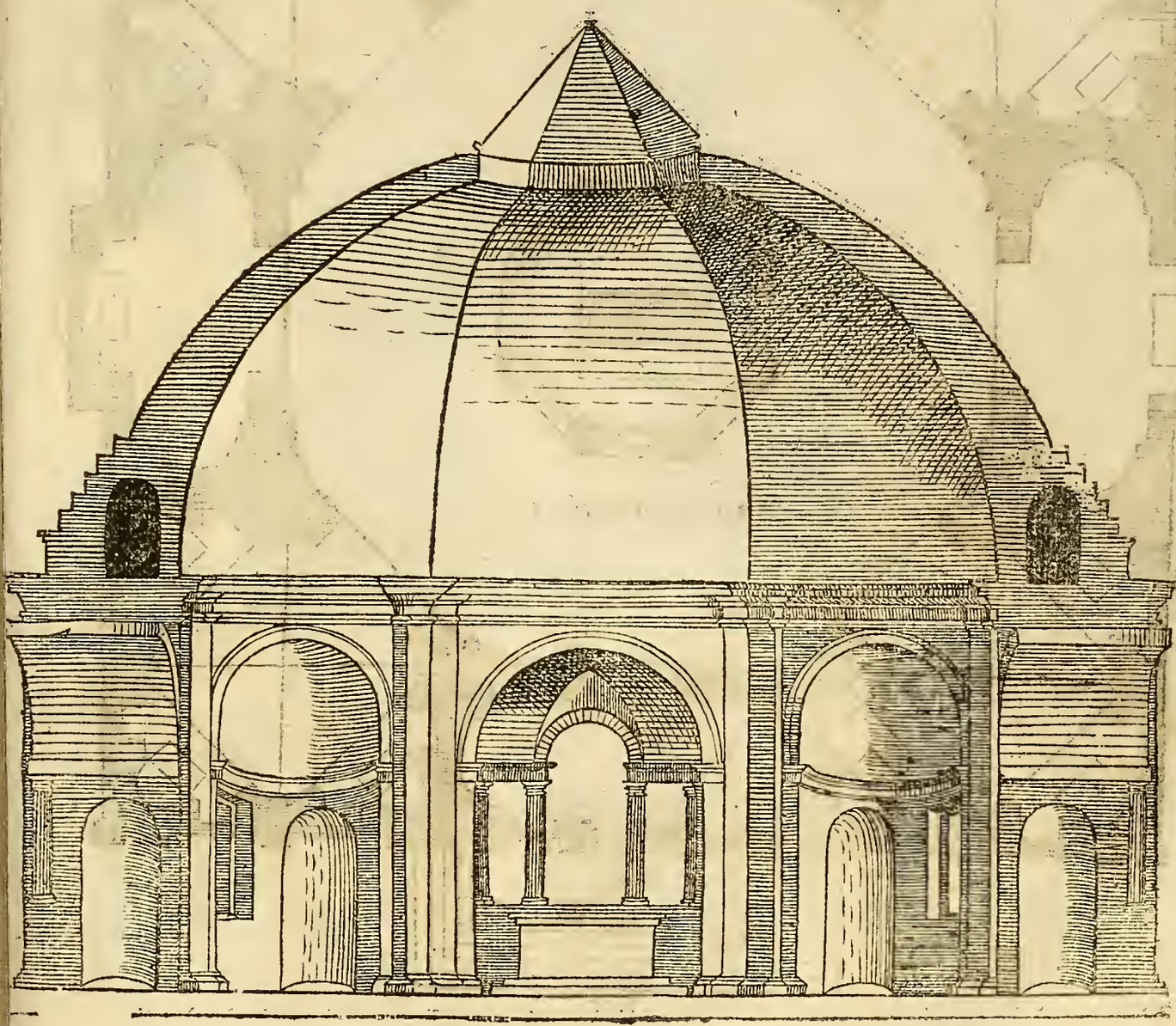


Of diuers formes of Temples.

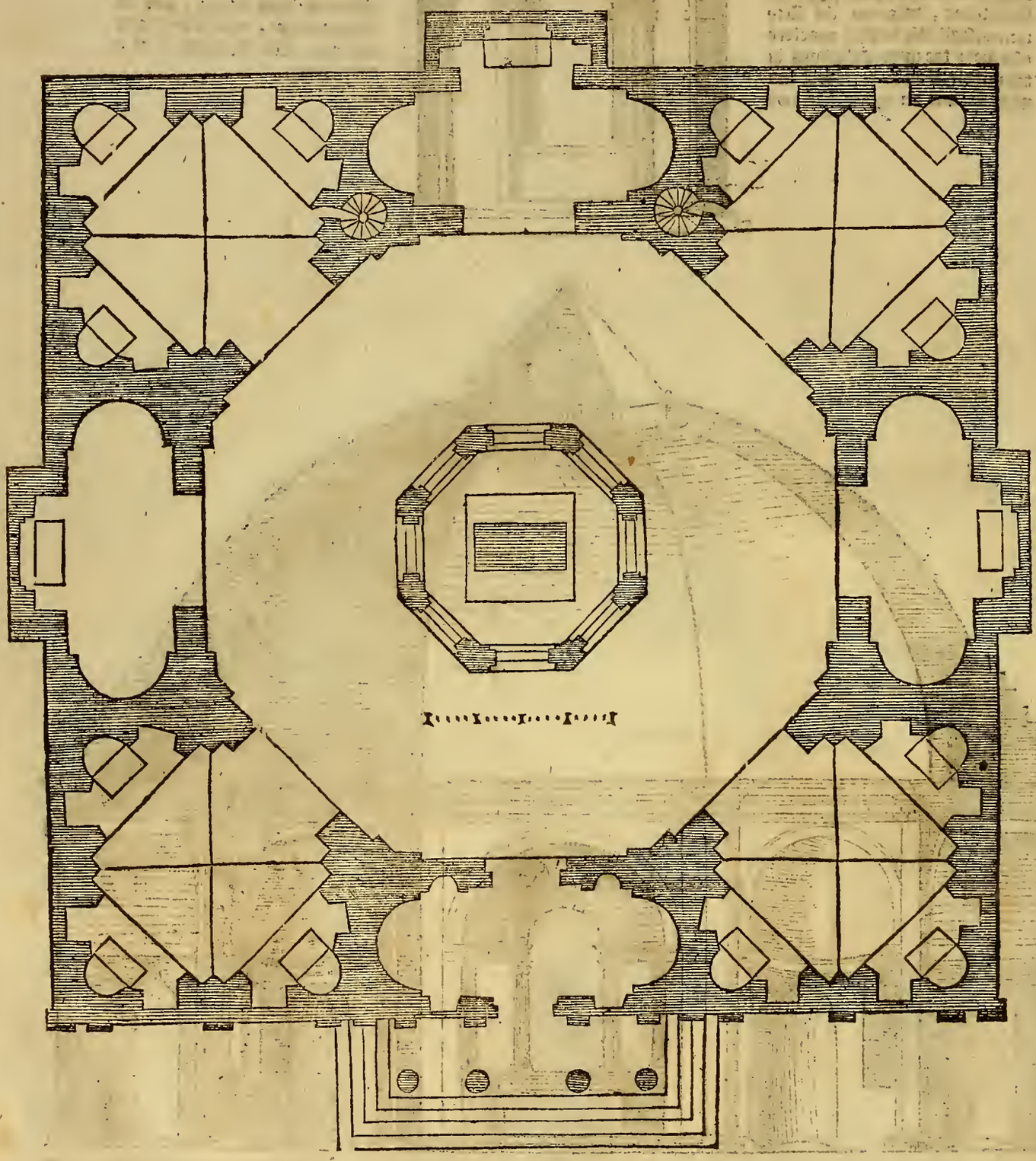
The Figure hereunder seruetb for the 8. square ground, afore set downe, and is the sayd Temple as it is without. From the highest step to the vppermost part of the Cornice, it is 21. foote and a halfe, which is the halfe of the innermost height. The Cornice shall containe 2. foote, deuided as in the Chapter Dorica; and shall also beare out euer the Pilasters, without the Plinthus, as in the Figure. You shall also set a simple Base vnderneath thre fourth parts of a foote high. The breadth of the Pilasters at the corners, shalbe of 3. foote: and those that stand inwards shalbe but 2. foote broad. The Doore is 5. foote wide, and shalbe 13. foote and a halfe high. The Ornaments of this Doore you find in the fourth Booke, by the Ionica, Folio 38. The maner of the widenesse is sufficiently séene in the Figure: if you will haue more light in the Temple, then you may make a hole aboue, and that to bee couered with glasse, poynt-wise, agaynst the rayne.

ACcording to this innermost Orthographie, the Cornices and Pillars are of forme & height like the innermost: from the Cornices vpwards, the roofe is a halfe Circle: the 3. greatest Chappels are roofst with Arches, and are 18. foot high. The round Columnes shalbe thrée quarters of a foot thick, and the halfe accordingly, and shall be fiue foot and an halfe high: the Architraue, whereon the Arch comes, shall also be thrée quarters of a foot: the inter-Columnes in the middle, shall be foure foot and an halfe, and on eyther side two foot and an halfe. The Chappels of halfe a Circle, shall also be 18. foot high: the Niches of all the Chappels shalbe ten foot high: the Tribune that should stand in the middle with the Altar, is figured aboue: and from the ground to aboue the Cornice, it is 18. foote high: the Comicement thereof is thrée foot: the rest is for the Pillars, where, on the sides, you may make Pilasters with Arches, and all Dorica worke, as well within as without. The Tribune is of a halfe Circle.





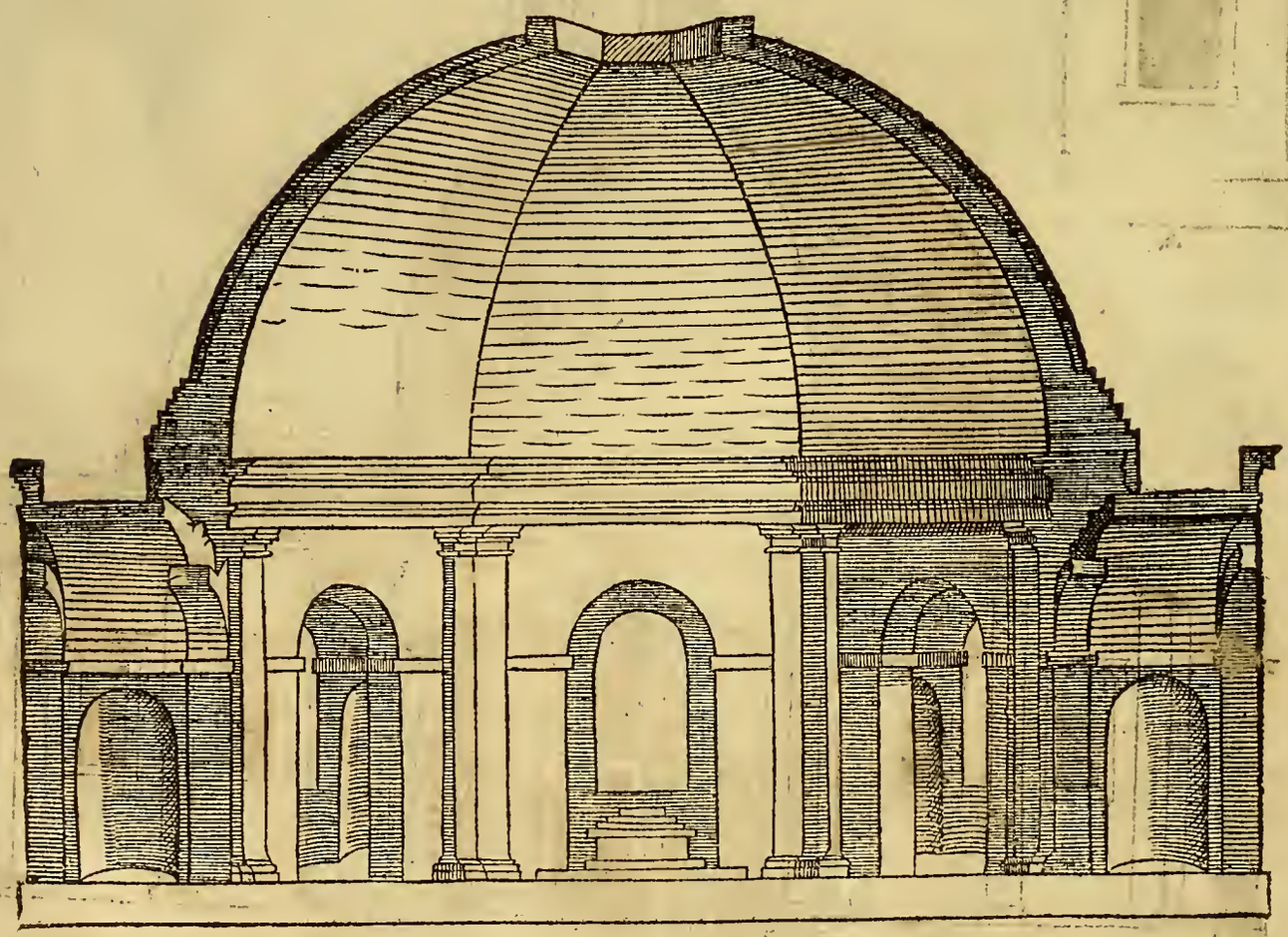
ALthough this ground without is foureſquare, yet within it is 8. cornered, whereof the Diameter within is 65. foot, and the wall 16. foot. The going in of all the Chappels, is 12. foot, and the wall there, is 3. foot and an halfe thicke. The corner Chappels ſhalbe 16. foot foureſquare within: the Niches with Altars, ſhalbe 12. foot broad: the 4. open, and two blind windowes, ſhalbe 3. foot and an halfe: the two leſſer Chappels ſhalbe 22. foot long within, without the Niches. The Niches ſhalbe 10. foot broad: the windowes ſhalbe 6. foot wide: the Portall without, is 27. foot long, and fiue foot wide: right euer againſt the flat Pillars ſtand round Columnes, which are one foot and 3. quarters thicke. The doore is 6. foot wide: the Portall within, is almoſt like one of the ſmall Chappels. You may alſo ſet a high Altar in the middle, with a Tribune, whereof the Diameter is 20. foot: the Pilaſters are three foot and an halfe thicke: the flat Pillars at the corners are three foot broad.



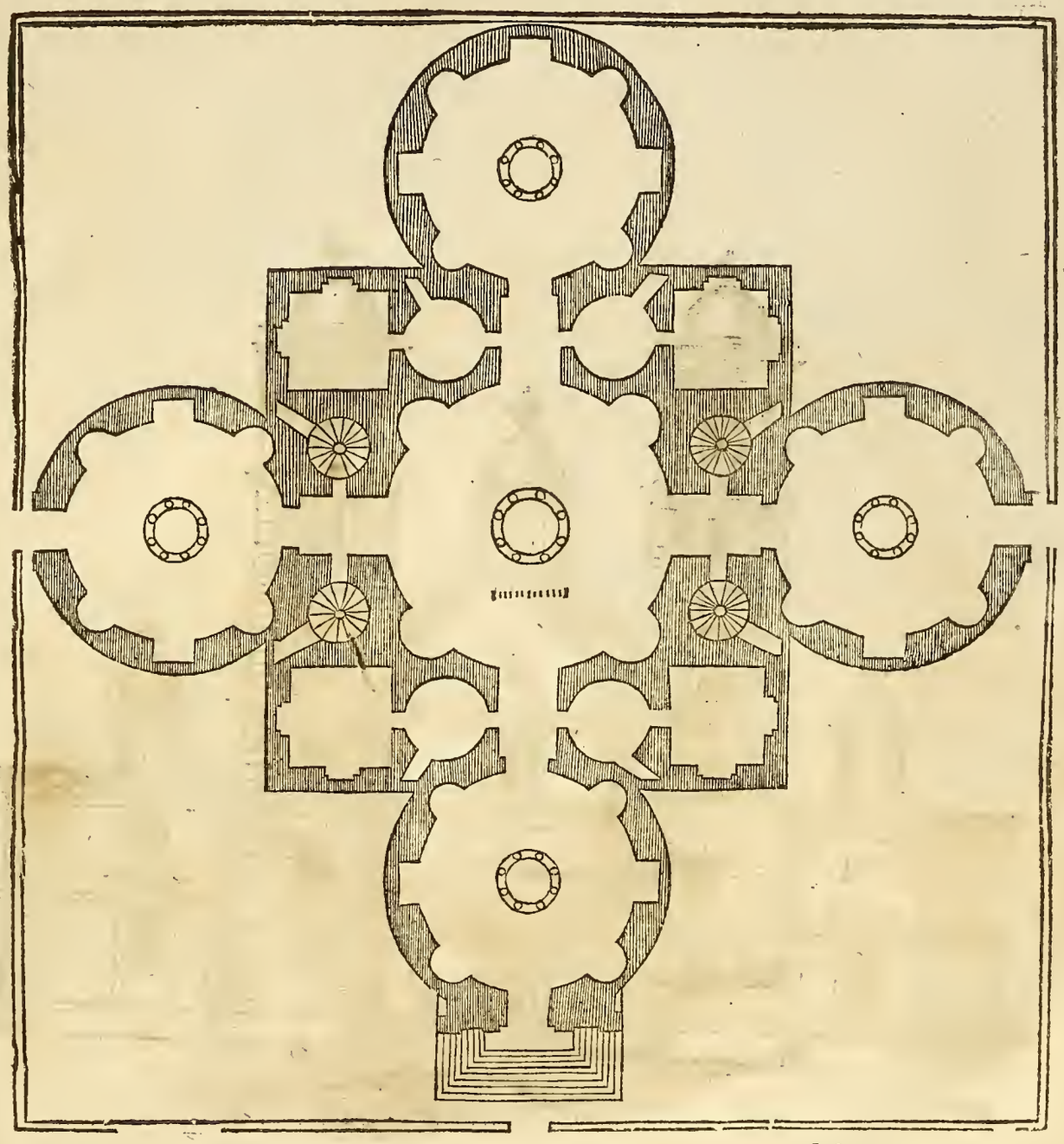
THis is the Orthographie of the aforesayd ground, of the eyght cornerd and foursquare Temple, which is the Figure as it is without, whereof I will describe the height: and first, from the Pauement, to the highest part of the Cornice, it is 22. foot and an halfe: the height thereof deuided in fire parts, one shall be for the Architraue, Frieze and Cornice, the other fiue parts are for the Pillars, which being two foot and an halfe broad, yet they are not too long, because they stand two together, and little rayled vp. The measure of all together, you may find in the order of Ionica, in the fourth Booke. Aboue this Cornice standeth the Tribune, whereon there shall stand a Lanthorne, to giue light into the middle of the Temple, whereof you may easily finde the measure, with the small foot that standeth in the ground. The round Columnes before the Portall, shalbe 13. foot high: the Architraue is a foot: aboue the Arch, the Cornice shalbe the thickenesse of a Columne below, deuided as in the Capitall of Dorica. The Frontispicie riseth to the Architraue of the Temple: the going vp is of fiue steps: the small figure marked with A. is one of the Chappels without, which comes three foot out of the wall: the windowe whereof is 10. foot high, beside the light aboue the Cornice, and aboue it is halfe round, couered as you see.

Of diuers formes of Temples.

NOw I haue shewed the ground and Orthography without of the Temple in foursquare, I will also describe the 8. cornered Temple within, & set it here beneath in Figure. And here you sée how men going vp the Stayres which are figured in the entry of the ground, go vp to ỳ fayre walke. The height of this Temple within is almost like all the Temples before set downe, and also which are found in Antiquities, that is, as high as broad, which forme is taken out of the Circle. The round Roofe, as for the halfe Circle, occupieth the one halfe, and of the other halfe downewards there shalbe 6. parts made, whereof one part shall be for the Architraue, Frése and Cornice, which shalbe made after the Dorica: the other 5. parts are for the wall with the Pillars, which also are 2. foote and a halfe broad, like the outermost, but for Capitall and Base, like the Dorica. The measures both of Capitals, Bases, Architraue, Frése and Cornice, you shall also find in the aforesayd fourth Booke, in the Order of Dorica. The breath of the going in of all the Chappels is 12. foote: but the height of the sayd Chappels is 24. foote. The 4. greatest Chappels which stand in the corners are 14. foote within, foursquare, with their Pilasters, with Arches vpon them. The height of all the Niches, as well of those that are 10. foote broad, as those of 12. foote, shall all be 15. foote high. The Lanthorne shall hold 13. foote in Diameter: and the rest the Architector shall easily find with the small foote.



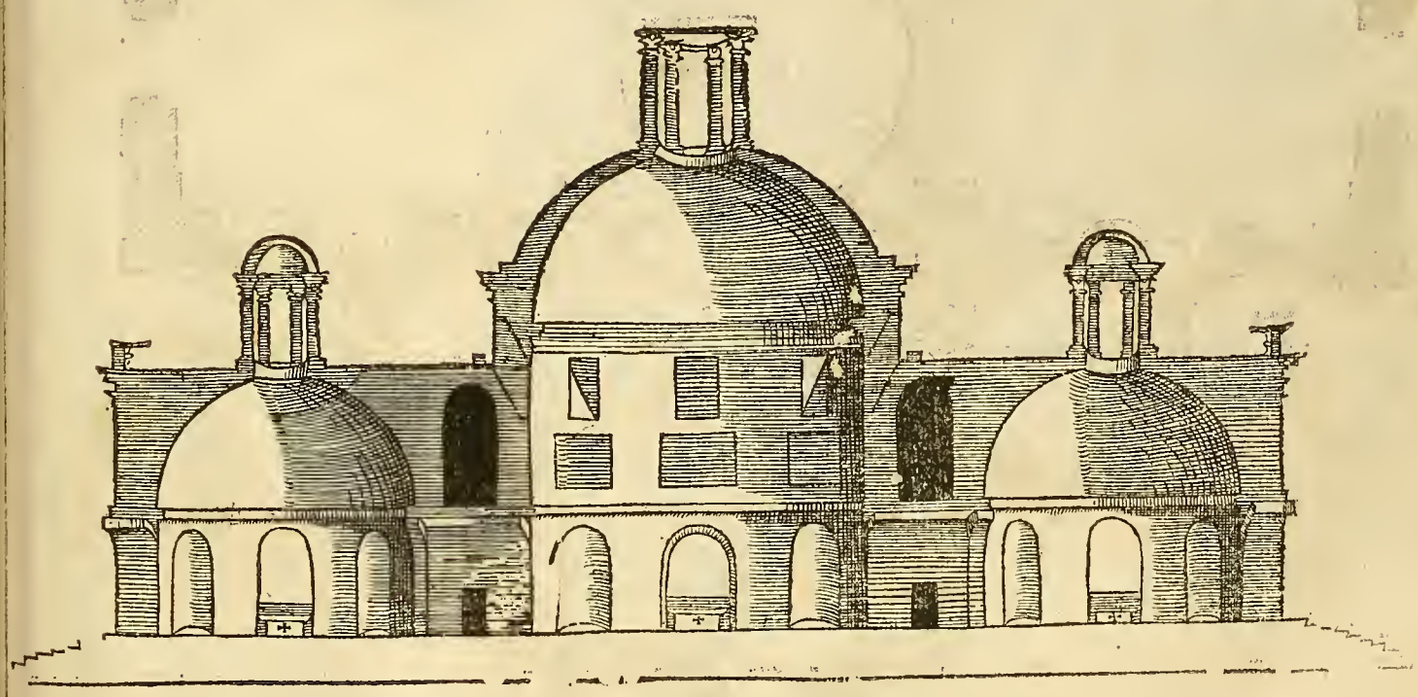
THis ground standing hereunder may be named crosse-wise, whereof the principall place in the middle containeth 48. foot in Diameter. The 4. Niches, with the 4. goings through, are each 10. foot broad; but the goings through are 15. foote long. The foure small Temples hold in Diameter 36. foote; and their Niches, and Windowes, (wherein you may place Altars) and the Doores are each five foot wyde. The 4. places within the 4. corners, may be dwellings for Priests, & other Church Officers, and are 16. foot foursquare: above them, you may place foure Towers, and go vp into them through the Stayres. The foure round formes may be Vestries, and other places for men to withdraw themselues. This whole foursquare, without inclosing the innermost round Temple, containeth on all sides 88. foot. The principall going in shall haue 9. steps, and the Doore may also bee greater then the other two in the sides.



Of diuers formes of Temples

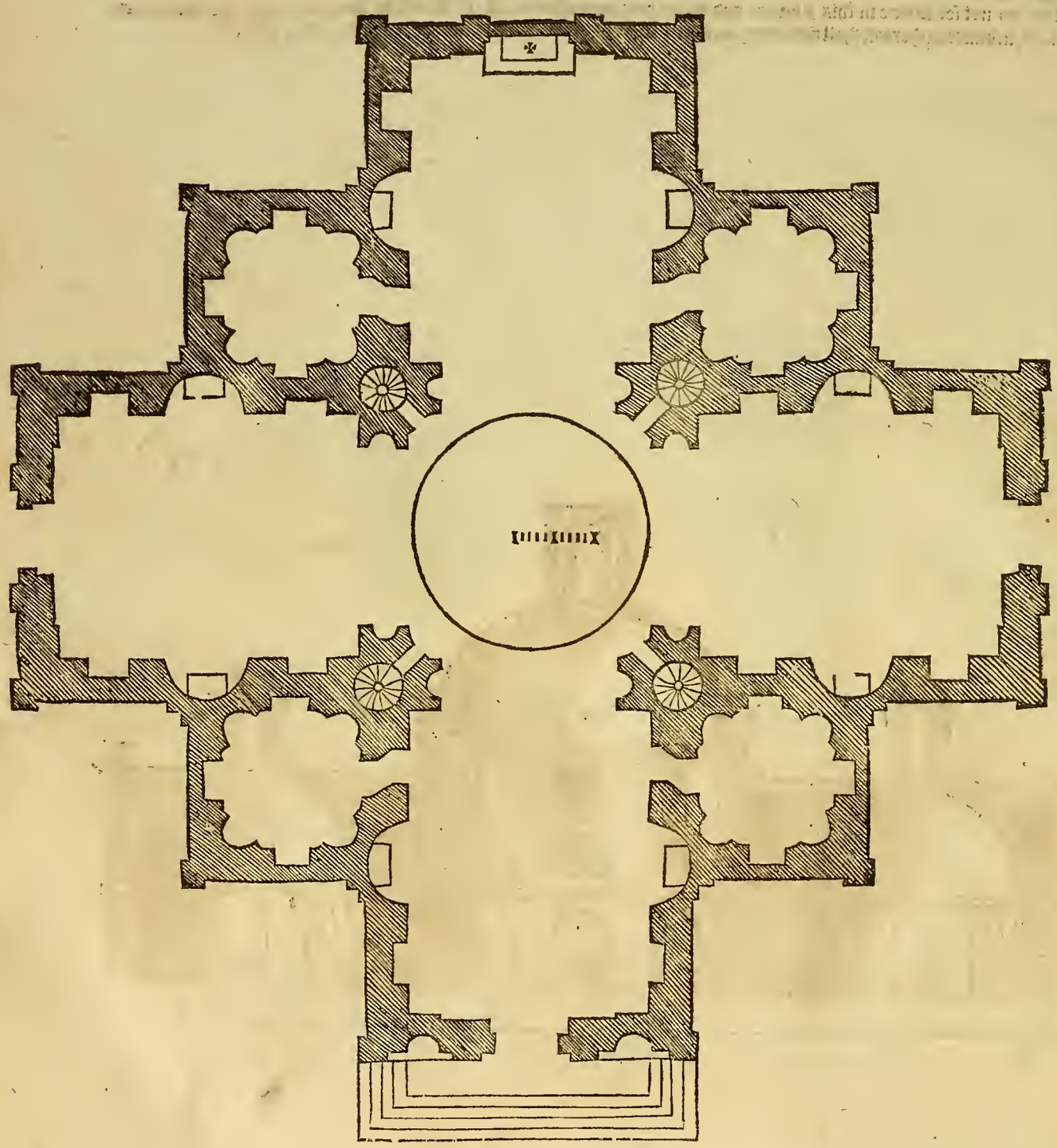
FRom the ground before shewed, here standeth the Orthography of the sayd Temple with one of the sides that is before, although a man should set them out all foure, at least thrée, in this maner. The height of the first Story, beginning at the highest step of the going vp to the vppermost part of the Cornice, shalbe 38. foote; which height, deuided in 6. parts, one shalbe for the Architraue, Frée and Cornice, and this shall inclose the whole Temple round about. From this first Cornice, to the second of the middle Temple, it shalbe 13. foote: of this height you shall make 5. parts: whereof one shall be for the Frée, Cornice, and Architraue. The same great part of the Cornices shall also serue for the Lanthornes of the 4. least Chappels: which Lanthornes within shall contayne 8. foote in Diameter. The 3. Order agaynst the 4. Towers shall haue but a flat Facie, right like the foote of the greatest Lanthorne which standeth vpon the round roofe. The sayd Lanthorne within shall hold 10. foote in Diameter; and the height without the Kettle stone shalbe 16. foote: this height deuided in 5. the one part shalbe for the Cornicement of this Lanthorne, and the other shalbe Corinthian Pillars. The fourth Order of the Towers shall also be of the same height, and beautified with the same Cornicement: and although that from this Cornicement netherwards, the Order of the Towers stands not very handsomely, because they are forced to yéld to the Cornicement of the Temple; yet according to Antiquity, it is a fault to be borne withall. The vppermost parts, which in no sort are tyed to any thing, shalbe as high as the thickenesse of the sayd Towers. The 5. part of that height shalbe for the Cornicement, and the rest, for the Columnes, made after the Ionica. Aboue the Cornice the leaning place shalbe made, with the round roofes, as you see.

HEereunder followeth the Orthographie of the aforesayd Temple within, that is, the halfe of the 3. Temples. And for that the middlemost Temple should receiue more light then from the Lanthorne, as the other also doe by the windowes below, it is requisite to make the Cornice without higher then the innermost, that a man may, almost, receiue the light perpendicular-wise, as you may consider it in the Figure. From the Pauement, to the highest part of the Cornice, it shalbe 44. foot. The Cornice (because there are neyther Columnes nor Pillars about) a man may make bastard, and at his pleasure, so it hane not much bearing out, that it may not take away the sight of the roofe. The Cornice shalbe a foote and a halfe high, and may bee made according to the Capitall of Dorica. The height of all the Niches are all 15. foote: aboue the Niches, there shall a Facie goe round about the whole part of the Temple, as well the small Temples as the great. Aboue the Facie the halfe round roofes of the 4. Chappels shall stand. Aboue these 4. Chappels there shalbe a playne, made a little hanging, to cut off the water, with a place breesthigh round about, where, by the Stayres, a man may go through to the Towers: and if that this Temple standeth in any open place, then there will be a faire walke aboue it; you must be carefull that you let no snow lye vpon it, for it soketh in and hurteth the roofe. The Doores on the sides haue also 9. steps, although they stand not marked in the ground: and as these and the like houses stand so high, or not so high, from the earth, a man may well make them places of deuotion, or otherwise. We see commonly, that round about the Churches all corners lye full, which is vncuill for sanctified places: therefore I would thinke good, that it should be walled round about as high as the steps, that it might not be so ready for people to goe in, and that it were hallowed for a Church-yard. The Towers that should stand behind in this halfe, because they stand not vpon this Diameter, and also for lesse cumber, for that men may conceiue how they are placed: therefore they are not set downe in this Figure: and what there wanteth more, it is referred to the discretion of the workeman, who, in building thereof, shall find many accidents which a man cannot write nor remember all at once.



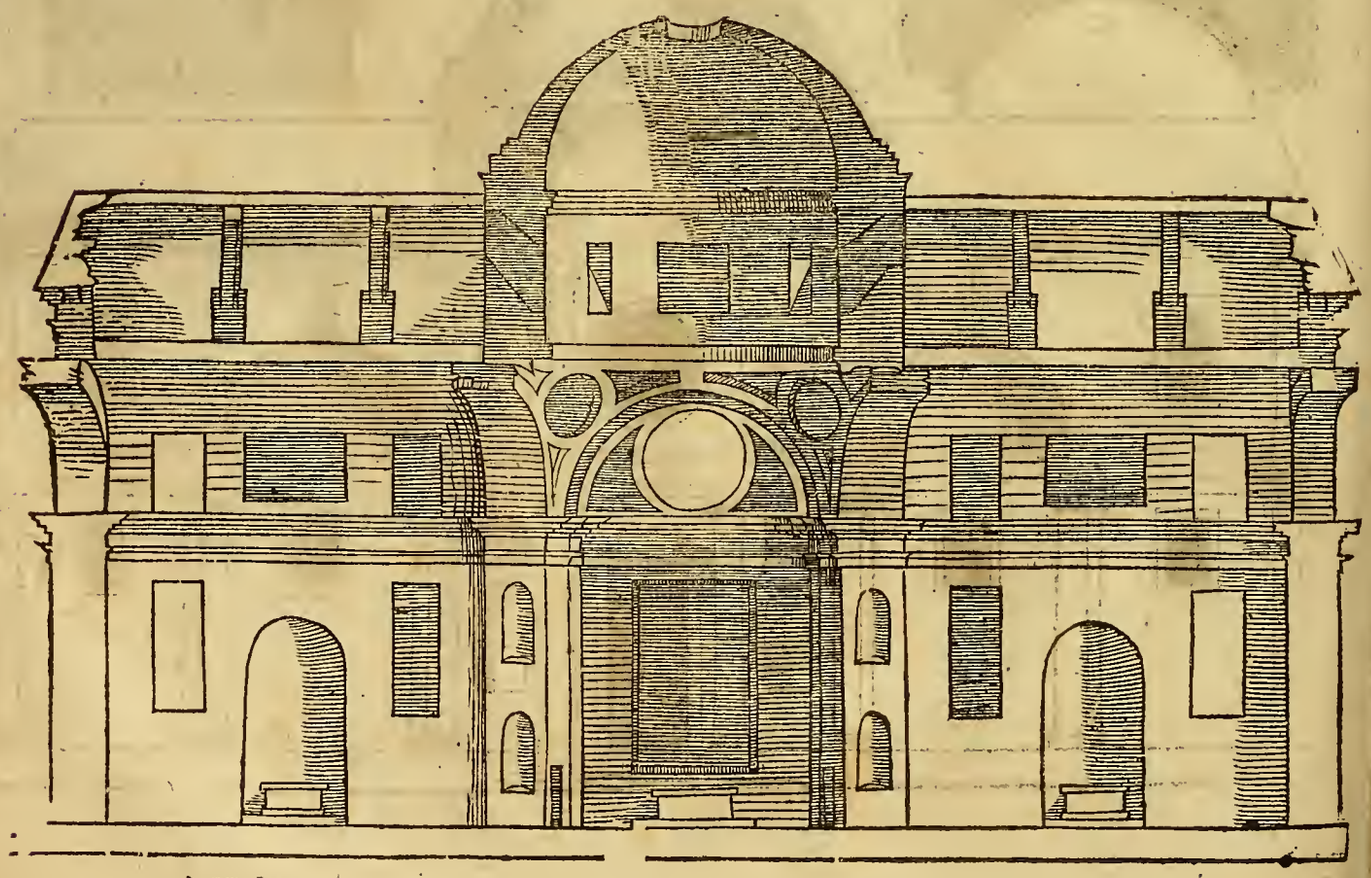
Of diuers formes of Temples.

Although the aforesayd Temple is shewed to bee crosse-wise, neuertheleſſe, this that is heere set downe is much liker: and firſt, I will speake of the firſt going in, which shall serue for all the reſt, for that they are all of one forme. The widenesse is 30. foot, and the length 37. foot. The wall is seuen foot thicke: in the middle, on eyther ſide, there are two Niches, which shall each of them be tenne foot broad. The Doore is eyght foot wyde: the going through, to goe into the Circle, is 22. foot wyde. The Pilasters there, are seuen foot thicke: the Niches, foure foote. Within the Pilasters the stayres shall stand to goe vp, and that the Pilasters should bee the faster to beare the Tribune, in the foure corners, behind against the Pilasters, you shall make these eyght cornered Chappels, of 18. foot in Diameter, and the wall is foure foot thicke. The Niches, Doores, Windowes and blind windowes, shall be fiue foot wide. The corners of the Temple without, haue their flat Pillars of three foot broad: the going vp is of fiue steps.

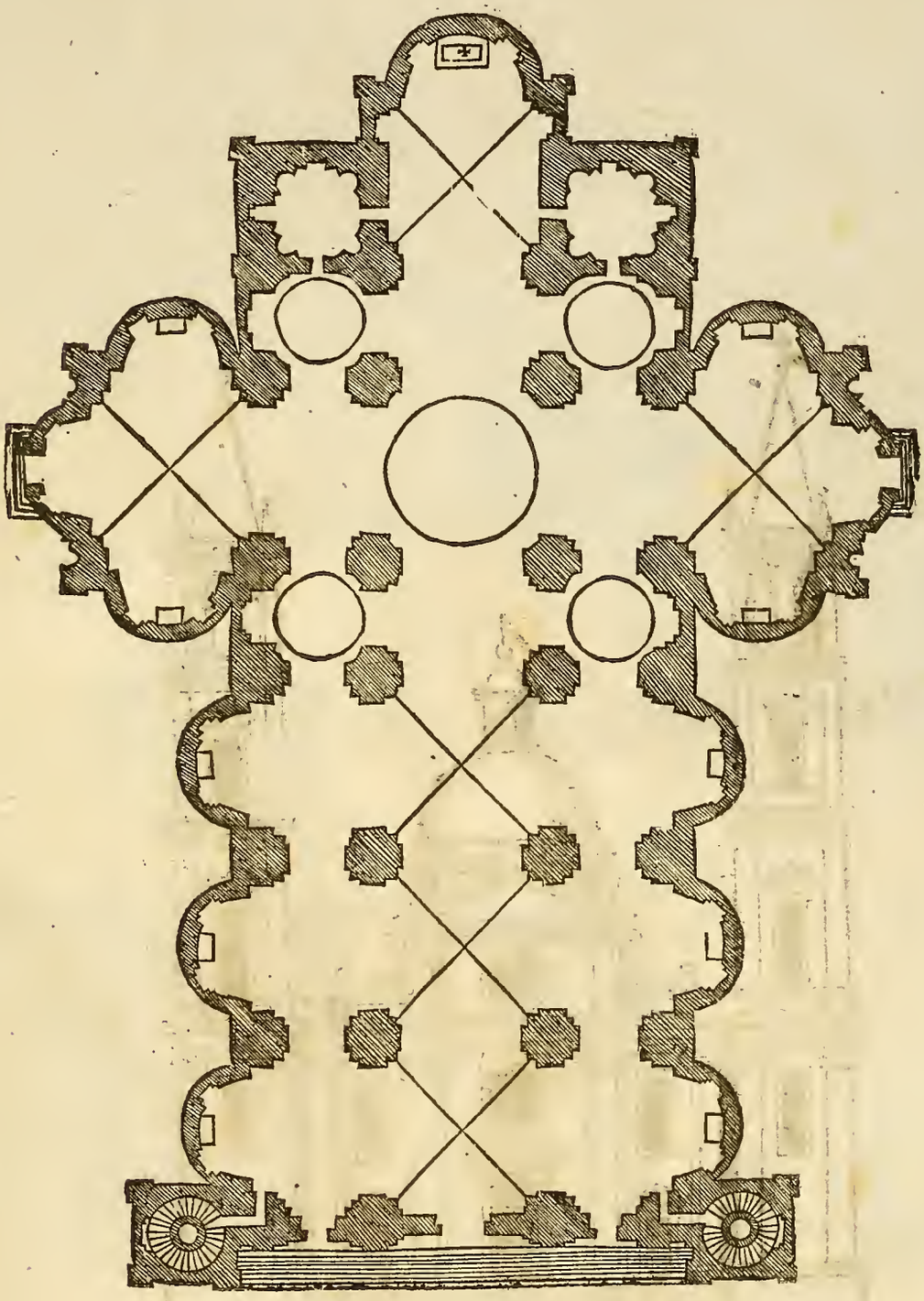


The Orthographie without of the foure cornerd crosse Temple, is hereunder set downe, and is 44. foot broad at the going in; and the height from the ground to the Cornice is 30. foot: the Cornicement is fiue foot: the rest reketh for the Pillars, which should be Ionica. The second story is 22. foot high: which height shall bee deuided in fire parts, one shalbe for the Cornicement, and the other fiue for the Corinthia Columnes. These two stories the Temple shall haue, whereof you shall haue the measure in the fourth Booke. The roofe shalbe 10. foot high, but here in the Land where it bloweth, rayneth, and snoweth much, it may stand much higher. Aboue the vpper part of this Frontispicie or Roofe, there shall be a Cornice of two foot, whereon the Kettle or the round Roofe shall stand, hauing a Lanthorne vpon it, which is 10. foot high, without his couer. The part marked C. sheweth the couer or roofe within, and the other marked L. sheweth one of the 4. cornerd Chappels: and although these 5. steps, for a going vp, stand onely to this Doore, they should also be made to the other two doores on the sides: and the ornament of the doores, you shall find in the aforesayd Booke, in the order of Ionica.

HAuing shewed this foursquare crosse Temple without, now here followeth the part within, as if it were Diameter like, cut euen in 2. parts. And first, speaking of the middle whereon the Tribune standeth, there is from one of the Corners of the Pilasters, to the other, 30. foot. From the pauement below, to the highest part of the Cornice, it is also 30. foote. The height of this Freese, Architraue, and Cornice, is 5. foote, and this shall goe round about the Temple within. Vpon this Cornice the Arches rest which beare vp the Tribune. Aboue the Arches there is a great Facie; and from thence vpwards it is 15. foote high. The Cornice shalbe 2. foote: but shall not beare much ouer or out, not to let the roofe. From this Cornice netherwards, to the Facie, there shalbe 8. drawing windowes made, of 7. foote, foursquare, as you see it in the Figure. The Lanthorne shalbe 5. foote wide. From the pauement, to the hole of the Lanthorne, it shalbe 77. foote high. The place where the high Altar standeth, is right ouer agaynst the principall going in. In the great foursquare there may be an Altar Table set: and aboue it there shall bee a great round window; as also aboue all the 4. Doores. I nede not write any thing of the second side: for by the ground and this Figure you may easily conceaue it. And although I say nothing here of Towers, yet there may 2. at the least, bee set aboue the Chappels in the corners: also, as in many other places it is shewed, the workeman, vpon good occasion, may alter some things: for although that in Italy, and here in these Countryes (where the sunne shineth much) men desire small windowes for coldnesse: neuertheless, those that dwell Northward, where it is rumatike, and many times close weather, may, according to the situation, make the windowes great, and giue more light to the Temples, without breaking Order, as it is sayd in the fourth Booke of the Venetian houses.



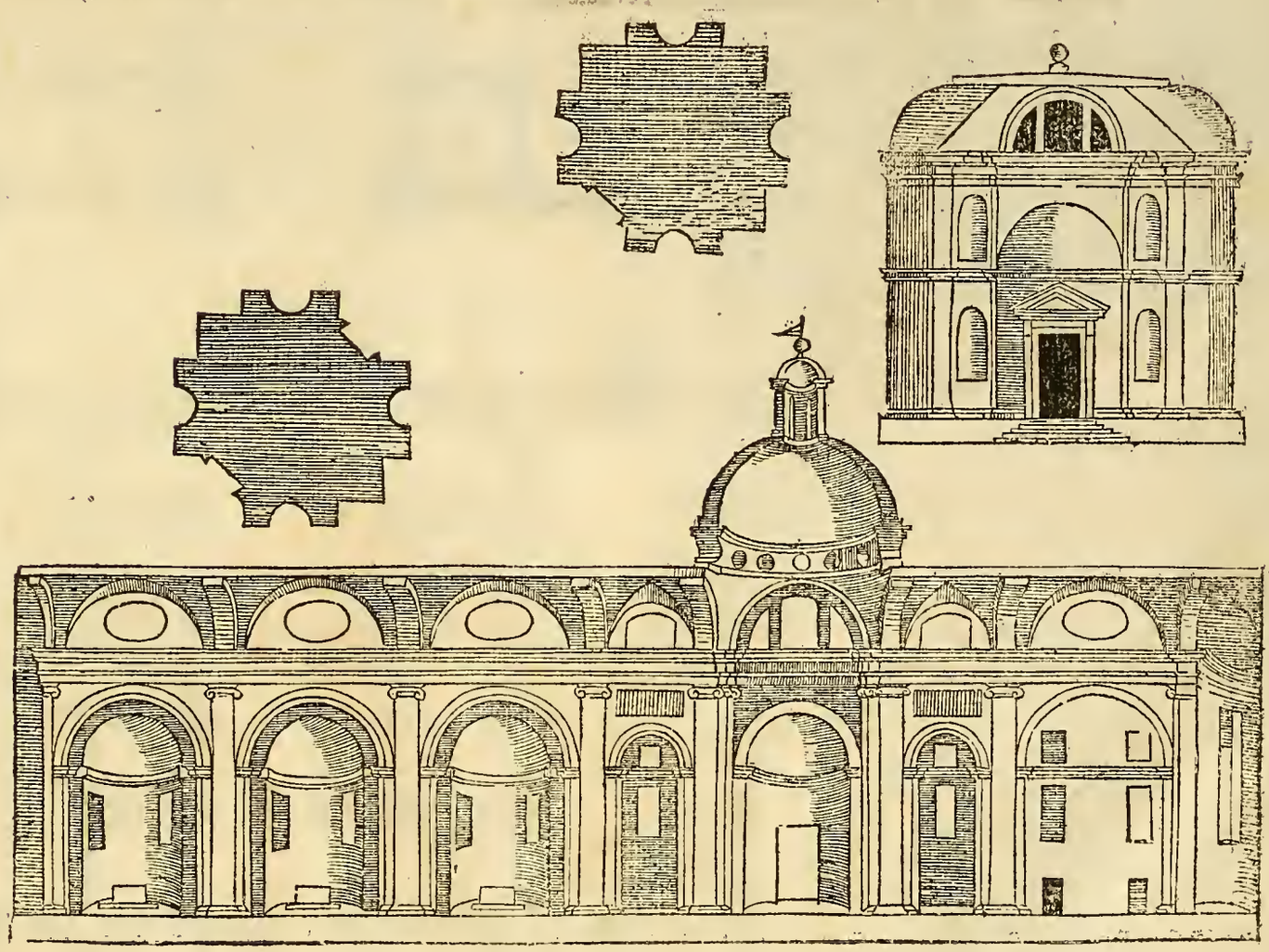
As I promised in my fourth Booke, so I haue shewed diuers fashions of Temples, viz. round, Ouale, or Egge wise, foursquare, fiue cornerd, six cornerd, eyght cornerd, and crosse-wise, not onely after the maner of the Ancients, but also seruing for Christians, in such formes as are at this day made in Italy, and elsewhere, whereby I thought I had sufficently performed my promise: but for that Temples or Churches are made here in these countries crosse-wise also, like Raphaels ground (of S. Peters Church in Rome) in my third Booke, therefore I will set two or three more of that forme here, therein following the maner of the Ancients. The greatest going through, or walke in the middle of the Church, is 30. foot wide: the three Chappels of halfe Circles, besides the 2. smallest walkes, are 25. foot wide, and shall stand somewhat without the wall. The Diameter of the Tribune is 36. foot: the foure small Tribunes, or round Roofes, are in Diameter 21. foot, but they shall not come out of the roofe. The crosse-worke hath a dore on eyther side, and the 3. halfe Circles are each of them 25. foot wide. The hindermost halfe Circle, where the high Altar standeth, is 31. foot wyde. Besides the Quier, there are two eyght-cornerd Vestries, being 21. foot in Diameter. Before, at the greatest going into the Temple, is the middlemost dore, 12. foote wyde, and the 2. small dores 6. foot. On the sides, the Towers are 27. foot wyde: within the stayres, there stands a wyde gate to draw vp the Bels. And although this Temple hath many steps or stayres, you may make lesse.



D

THis is the Orthographie of the ground aforesayd, whereof the first Cornice standeth 62. foot high: which height deuided in fire parts, one part shalbe for Cornice, Frése, and Architraue, and the rest shall bee for the flat Pillars, which shalbe fiue foot broad, and of Dorica worke. The middlemost doore is 24. foot high: the two smaller on the sides shalbe 12. foot high. The great and the small doores also shalbe beautified with some workes, as you sée in this Figure, taking the particular measures out of the Dorica order, in my fourth Booke. The elevation or rysing vp in the middle, shall to the vpper part of the Cornice be 25. foot; and the Cornice thereof shall be the fourth part lesse then the other Cornice vnder it, made after the forme of the Dorica Chapter. The Frontispicie is fifteene foot high, aboue it stands the couer or the Kettle, with this Lanthorne vpon it, the measure whereof, a man may take out of that before. Below, vpon the first Cornice, besides the middlemost bearing vp, you shall make a Basement of fiue foot high; aboue that Basement, you must place the two Towers, which are 42. foot and an halfe high, making the Cornice the fourth part lesse then the other, formed after the Dorica Chapter. The third order shall be the fourth part lesse then the second, and the Cornice thereafter: the fourth order shall also be a fourth part lesse then the third, and the Cornice thereafter. The places brest-high, aboue these Cornices, shalbe foure foot high: and from the Lift, to the point of the Piramides, there are 36. foot. You may double the windowes out of my fourth Booke.

The Figure following sheweth the aforesayd Temple within, whereof the length and breeth is set downe in the ground: but here I will speake of the height. The Cornice shall stand high, & be as great as the vttermost, that is, the first part of 52. foot, but shalbe made after the Ionica maner. The flat Pillars shal also be Ionica: the Impost which beareth the Arches, shal also be Ionica; whose forme, touching the measures, you shal find them all together orderly in my fourth Booke: all the Chappels shall haue their light of themselues, as you see. Aboue the Chappels, the Roofe shalbe broken like a Mone, therein to make an onall round hole, that it may yeld more light: and that the Tribune may haue more light then from the Lanthorne, you shall, from the couer vpwards, make a Freele with a List, and therein also make round holes for light. This small closed figure, standing alone, aboue the Temple, sheweth one of the side doores of the Temple, in the crosse-worke, whereof the doore is 10. foot wyde, and 20. high. The Architraue, Freese and Cornice, vnder the couer or Roofe, although the Pillars are broken after another maner, with the List of the Portall, shall neuertheleslle agree with the Cornicement that goeth round about the Temple. And although it is not here shewed how the wydest space of the walke betweene the Pilasters and the rofe is, and how that the smallest walke is not so high cooled, nor the forme of the small Kettles and Vesseries are not shewed, yet the workeman may imagine it by the ground: for he that vndertaketh such a piece of worke, must not be vnskilfull.

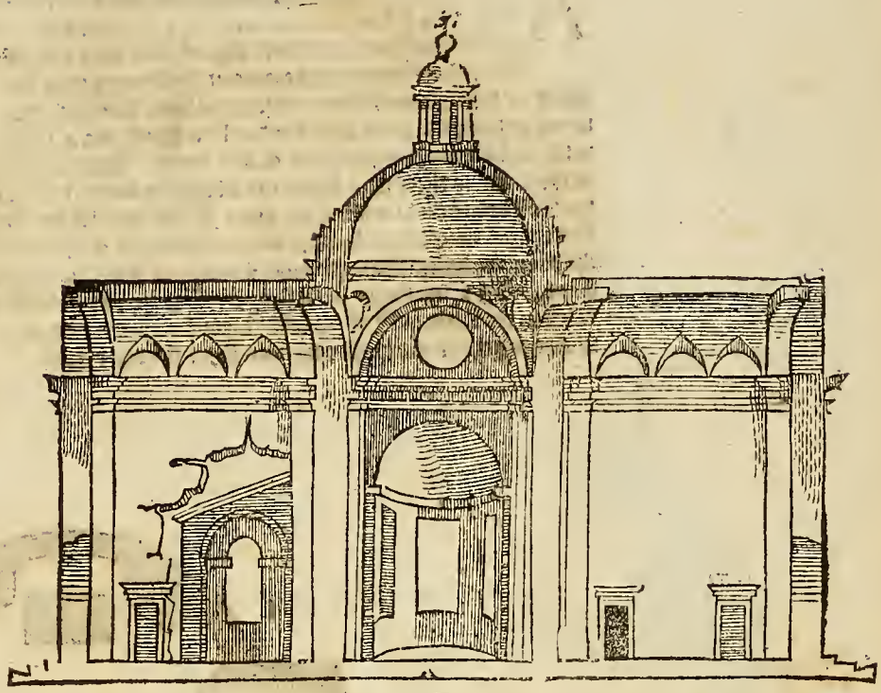


THis Temple following is 30. foote wide in the middle. The crosse worke, and also the Tribune, together with the high Quier, shall each of them contayne 30. foot. The Arches which beare the Tribune, shalbe 24. foote wide. The Pillars on the sides, where the Niches stand, shalbe 5. foote broad. Each side of the Crosse worke is 38. foot long, and shall each of them haue a Door. The part before the high Quier, towards the Altar, is 4. square. The Pilasters with the Niches, before the halfe Circle of the high Altar, are 5. foote broad, and stand from other 24. foot. The Niche or halfe Circle is 23. foote wide. In the 2. corners on the sides of the high Quier, there are 2. Vestries, which shalbe 17. foote wide in 4. square. From the Tribune to the principall going in, there shall stand 5. Chappels on eyther side, which shalbe 15. foote within 4. square. The walles betweene both shall bee 4. foote thicke. The windowes shalbe 6. foote wide, and there Altars shall stand. The wall at the Doores shall bee 4. foote thicke, and on the sides where the Niches stand, 5. foot. Here before there shall come a Gallery of 14. foote broad, and of 68. foote long. The Niches shalbe 8. foote broad. On the sides of this Portall the Towers shall stand, and shall stand as broad out at the sides, as the crosse worke. The Diameter within the Towers is 18. foote: and although they be 8. square, they may also be made 4. square. The winding Stayres stand in the thickenesse of the wall.

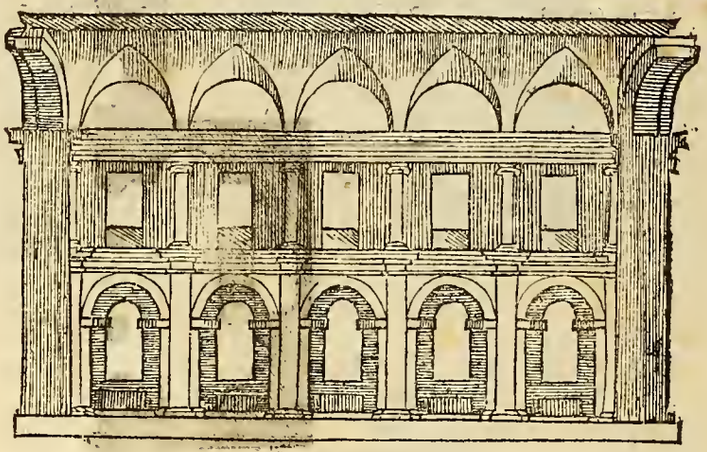
Touching the rayling vpright of the sayd Temple, first I will speake of the Portall, which with the helpe of the fourth Booke, and through the ground, you may find the particular measure of this Order. The Portall aboue shalbe flat without roofe, to take no light away in the Temple. From the Pauement, to the top of the Cornice which goeth round about the Temple, it shalbe 47. foote high. The Architraue, Frése and Cornice, are 5. foote. The 2. Order contayneth 37. foote: and their Cornicements shall bee a fourth part lesse then the other: the same heights and Cornices shall also serue for the second Order of the Towers, and shalbe a fourth part lesse then the second Order; and the Cornice shall also lessen the fourth part: aboue there shall stand a small rising or elevation, whereon the Kettle shall rest.

The Figure aboue the closed Temple, marked with A. sheweth the inner part of the 5. Chappels. The height from the pauement to the vpper part of the Cornice is 27. foote: the Cornice shalbe 4. foote thereof, made like a Capitall Dorica. The other vppermost Cornices shalbe as high as the outtermost; and betwéene this first and the second Cornices, there shall Ionica flat Pillars stand; betwéene them the windowes shall bee made. The other figure aboue that aforesayd, marked B. sheweth the Tribune, the Quier and the sides of the crosse worke, with the open and the blynd Doores. Through the one side (which was purposely broken) you may sée the Vestryes within. The Cornice vnder the Arches, which beare the Kettle, is like the other Cornice which goeth round about the Temple. The Cornice which is aboue the Arch, and comes vnder the Kettle, shalbe bastard. The Lanthorne must bee made according to the other Lanthornes afore shewed. The other part marked C. is one of the Doores on the sides, and is in that maner couered round. The Doore is 9. foote wide, and 18. foote high.

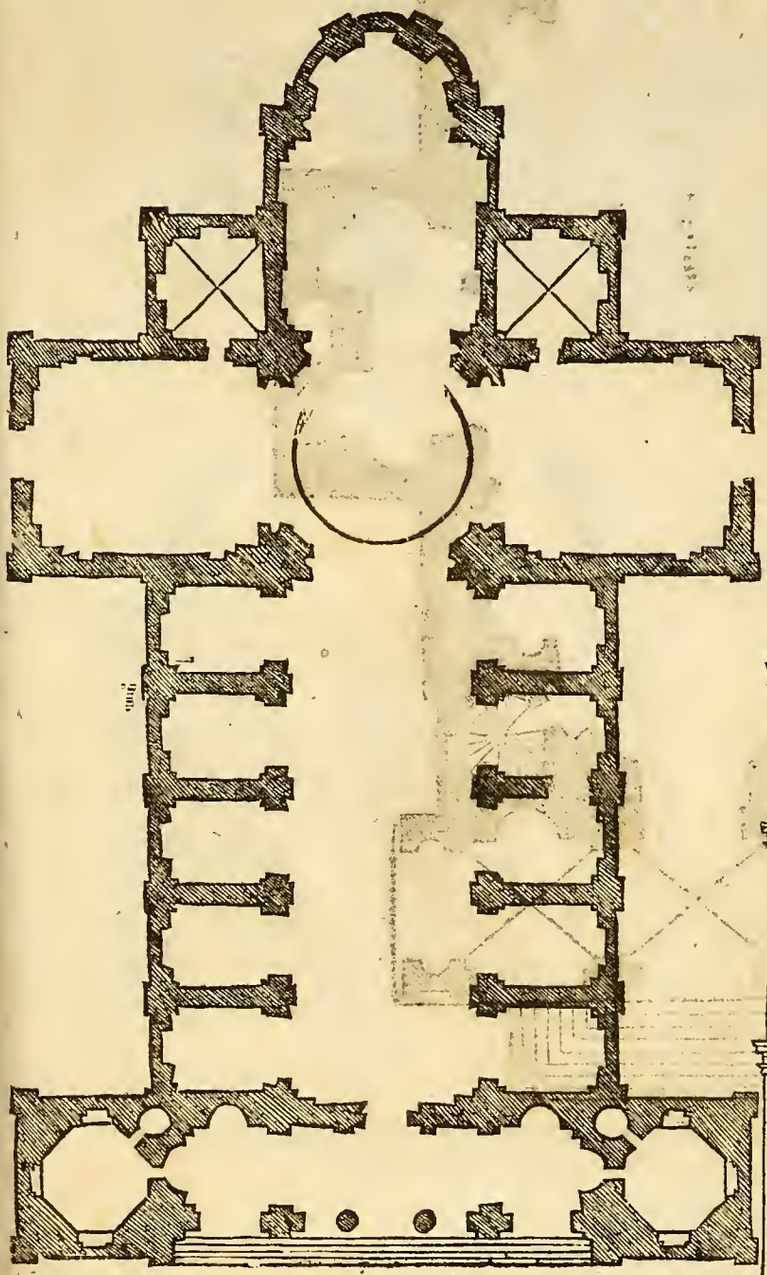
C

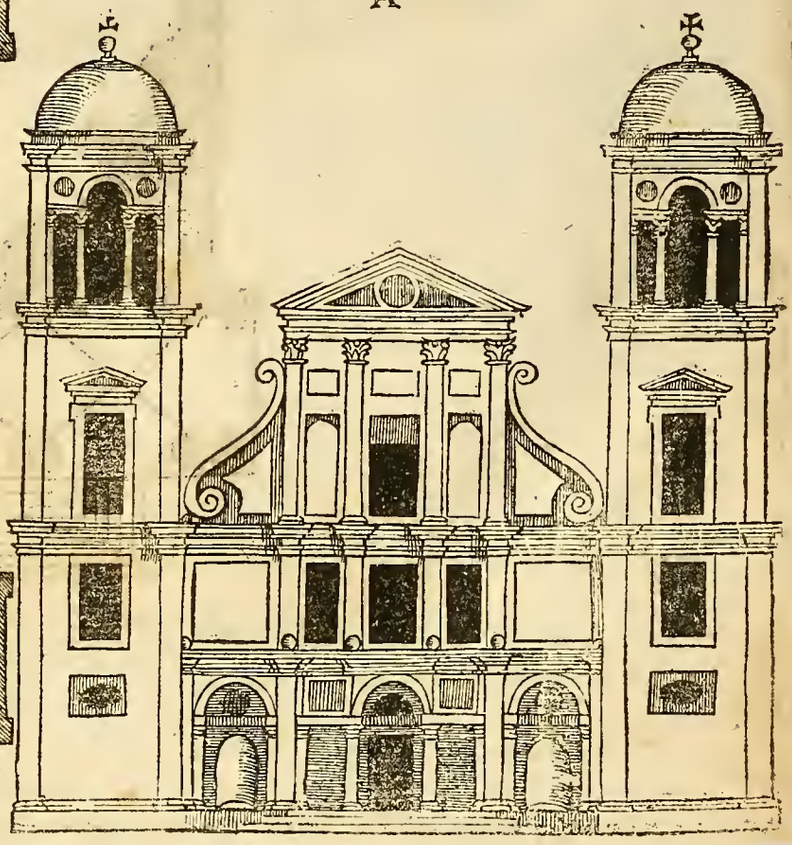


B

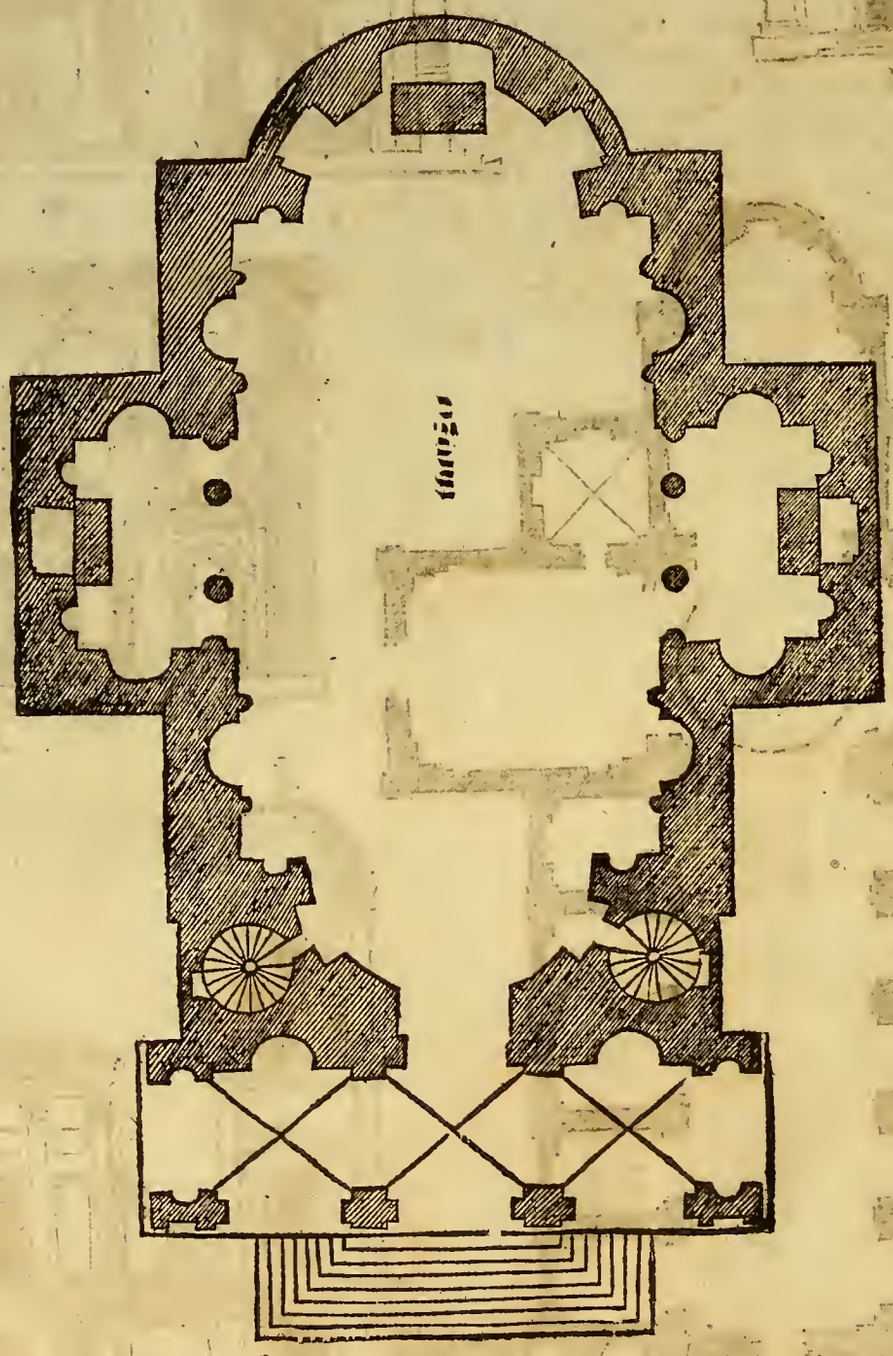


A

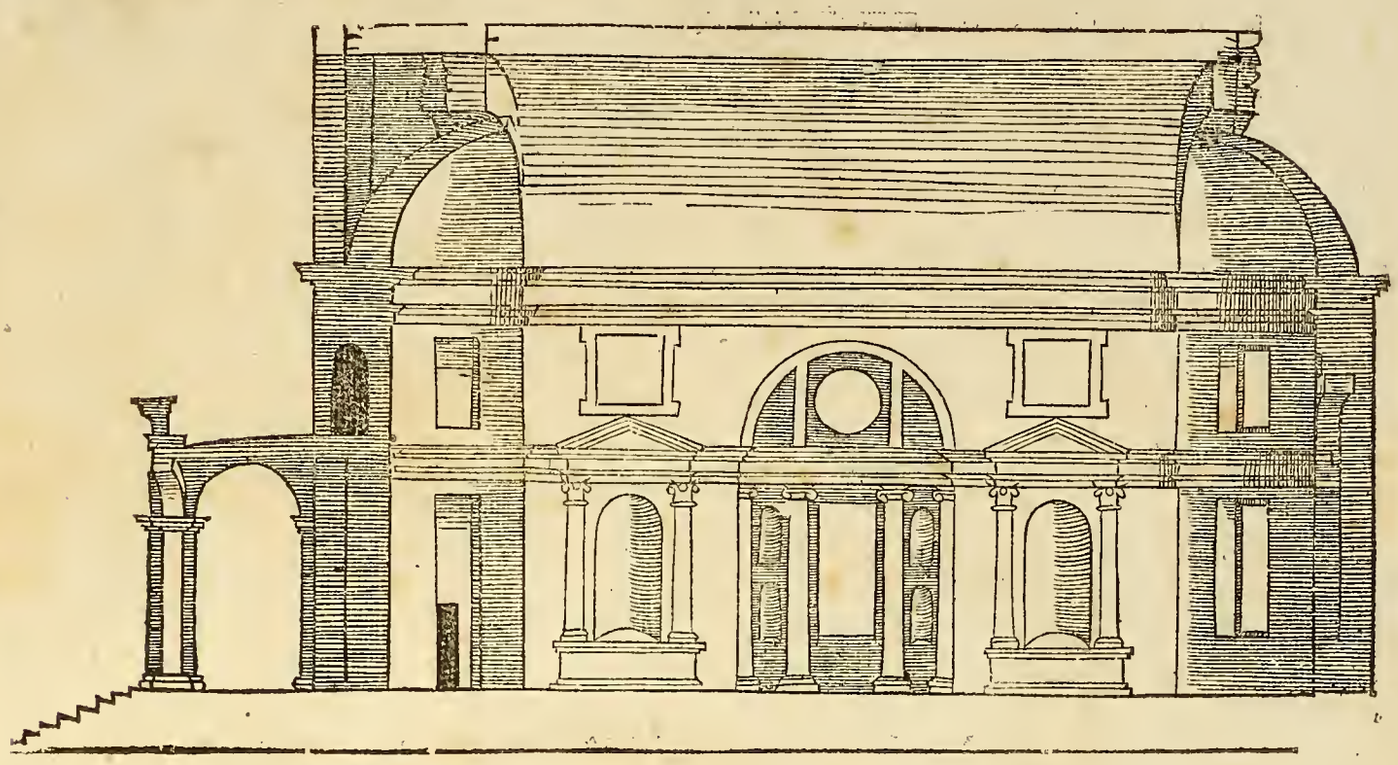


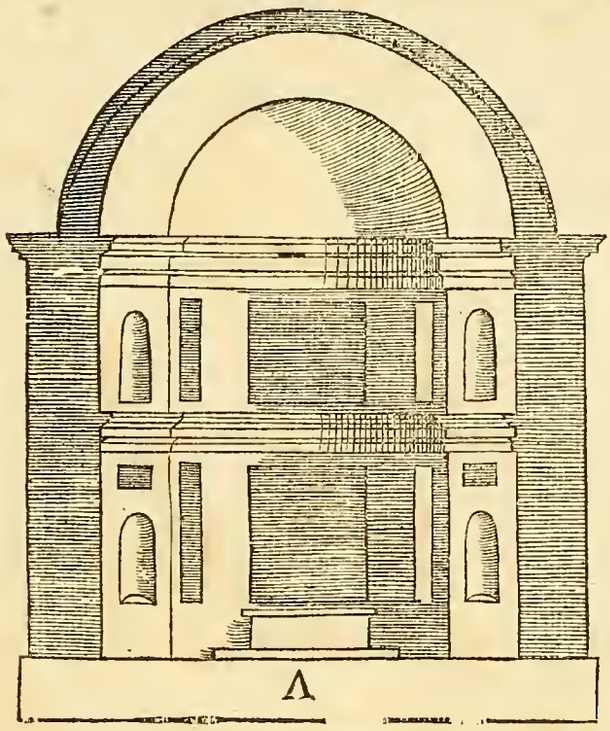


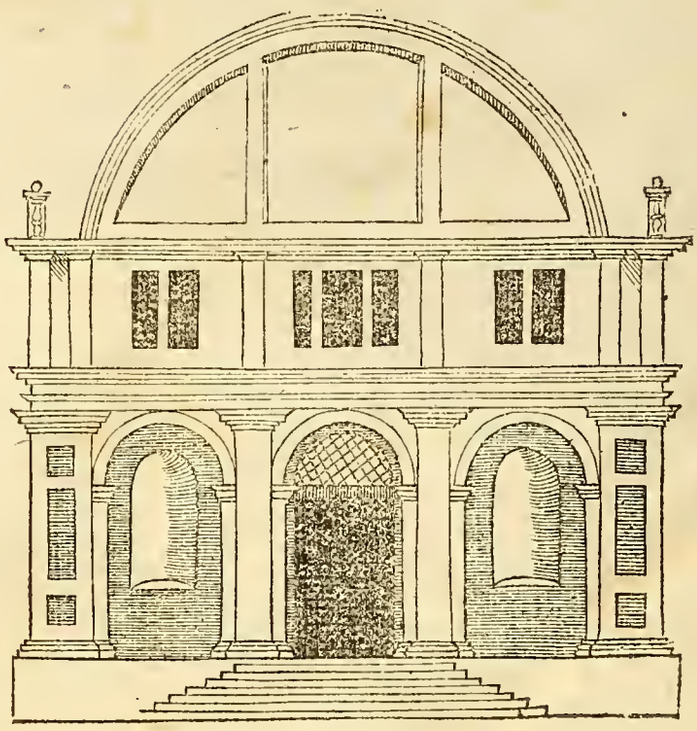
ALthough that in the Netherlands there are very fayre Temples made, as the maner in these dayes is, not onely with three Iles or walkes in the body, but also fiue: my meaning is not to write of such great Temples, for that each Towne hath her chiefe Church: but these are onely to make such Churches in places, where, by chance, the Churches are decayed, because in these dayes, men could hardly make them vp againe in great forme; and to this end I set this last figure here, which is playner then the other. It shalbe 36. foot wyde, and 54. foot long. At each end before and behind, there shall stand halfe a Circle of 24. foot in Diameter. This halfe Circle where the high Altar standeth, hath two windowes, each 6. foot wyde. The doore to enter into the Temple, shalbe 8. foot wyde. In the crosse of the Temple there shall stand two Chappels, being 18. foot long, and 12. foot broad. The windowes behind the Altar shall be fire foot wyde: all the great Niches are also fire foot wyde, and the small three foot. The Columnes are two foot thicke: the inter-Columnes in the middle, are 6. foot, and the other on the sides are 3. foot. The 4. Niches within the body, are beautified with round Columnes standing in the wall. Without the Temple there is a Portall of 10. foot broad, and 52. foot long. The high Pilasters shalbe 6. foot broad, as counterforts; and the other shalbe three foot broad. Within the thickenesse of the wall there shall stand two payre of winding stayres: and although this Church hath no Towers, yet you may make them on it, as the other were.



THis Figure within is good to vnderstand, and from the Pauement to the first Cornice, it is 21. foot high, whereof the Cornicement is a sixt part: the other is for the Ionica Columnes. The Pedestall of the Niches shalbe the fift part, whereon there stand Columnes of Corinthia. The Frontispieces are three foot aboue the Cornice: the blind windowes aboue may also be opened. The walkes, with the place breast-high aboue the Portall, must bee made leaning forward for the water. The Chappels of the high Altar, marked A. haue small Niches of 7. foot and an halfe high. The foursquare aboue the Altar, is for a table, broad 10. foot, and high 12. foot. The Temple without hath a Dorical Cornice, as high as the innermost. The part of the second order hath Pillars, and Cornices vpon them of two foot, which Cornices shal be made according to the Impost of the Theater of Marcellus, in the fourth Booke: and for that aboue on the side, in the roofe or couer, there is 3. foot of roome to spare, there may be a leaning place made, both for an ornament, and also for ease: the couer may be couered ouer with Lead.







Here endeth the fift Booke: And this also is the end of the whole worke of Sebastian Serlius; Translated out of Italian into Dutch, and out of Dutch into English, at the charges of Robert Peake.

Printed at LONDON, by *Simon Stafford*. 1611.

B. W.