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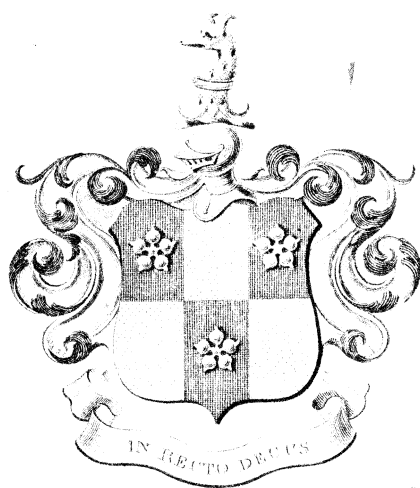
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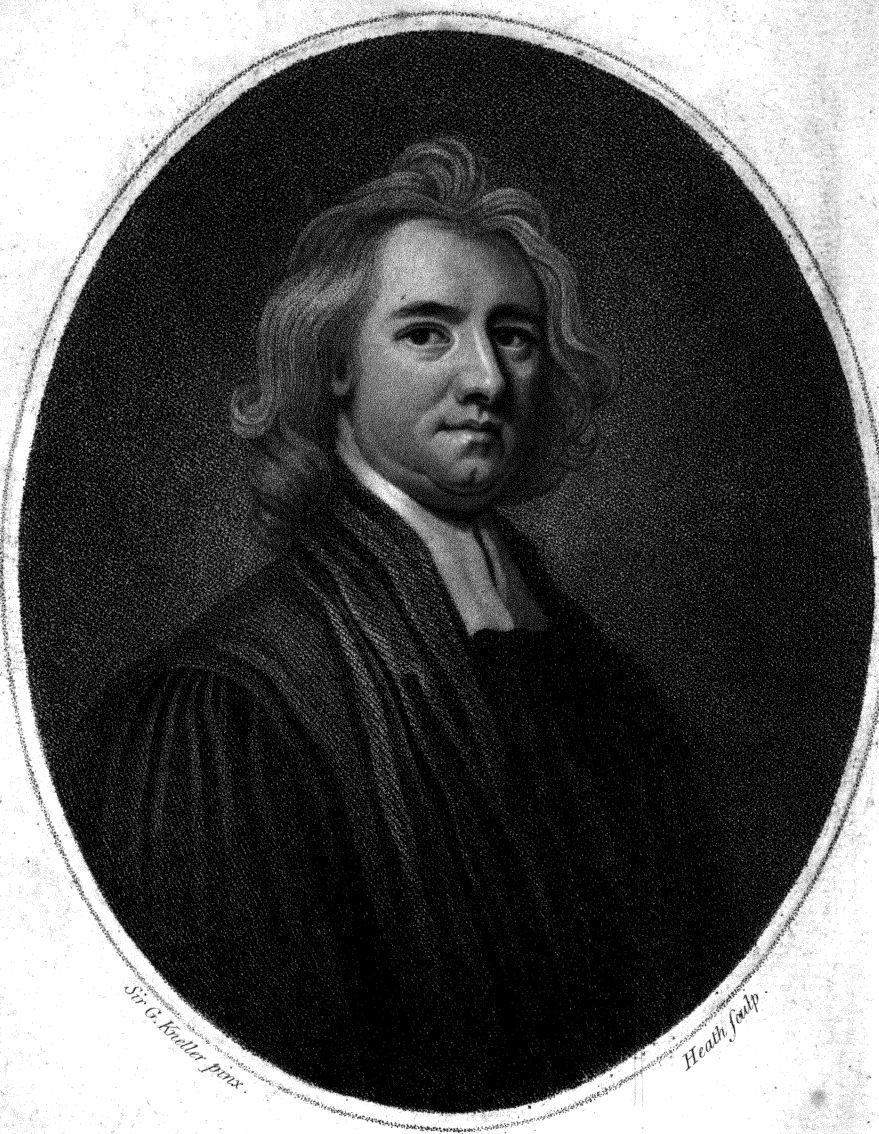
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E L E M E N T O R U M A R C H I T E C T U R Æ.

LIBER PRIMUS.

DE ARCHITECTURA CIVILI.

ARCHITECTURA Ἀρχιτεκτονική est Ars bene ædificandi. Architectus, qui hac arte utitur; estque triplex. 1. SUMTUARIUS qui ædificio extruendo sumtum suggerit. 2. INGENIARIUS qui Ideam operis designat. 3. MANUARIUS, Vitruvio OFFICINATOR, qui vel extruit vel exornat.

Architectura duplex est. Altera CIVILIS quæ curat ædificia ut ita dicam pacis et togæ socia, puta Ædes, Tempia, Porticus, &c. Altera MILITARIS quæ Munitiones, Bellique instrumenta. Prior perficit ut belle, posterior ut tuto, utraque ut bene habitemus.

Dux sunt igitur hujus Disciplinæ partes, quas sequentibus libris tradere constitui; et quoad potero breviter et perspicue Architectum Ingeniarium erudire. Quem quidem postulo non (ut Vitruvius) disciplinis omnibus instructum; sed eum volo qui Matheseos et Graphidis sit peritus. Optarim etiam ut ad hæc studia sua sponte et quasi Natura duce feratur. Quippe quæ in omnibus aliis multum valet Naturæ propensitas, in hac præsertim Disciplina tantum potest, ut propemodum inter necessaria numerari debeat.

Talem itaque discipulum me nactum arbitrabor; eique sermonem Architectorum et præcepta probatissima sic exponam, ut vel nostris contentus esse possit, vel a nobis prætermissa marte proprio quam facillime reperire.

A

Ipsum

Ipsum autem opus distribuam in partes duas; utramque tribus libris constantem: Eritque Pars prima de Architectura Civili; secunda vero de Militari. Et liber primus continebit Præcepta Generalia; Secundus aget de Privatis Publicisque Ædificiis; Tertius de Ædificiorum Ornamentis; Quartus de Descriptione Munimentorum; Quintus de Architectura Navali; Sextus de Belli Instrumentis.

LIB. I. CAP. I.

DE APPARATU.

§. 1. **B**ONI Ædificii tres sunt præcipuæ virtutes: Utilitas, Firmitas, Venustas. UTILITAS obtinebitur, si singula ædificii membra apte disponantur, iuxta magnitudine, locis propriis. FIRMITAS, si fundamentis bene jactis normaliter insistant parietes parte ima crassiores. Apertiones vero sibi invicem directe subsint, ut ubique Vacuum Vacuo immineat, et Plenum Pleno. VENUSTAS denique confurgit ex partibus pulchris et necessariis, sibi invicem totique belle respondentibus.

Hisce omnibus ut rite prospiciat Architectus, principio futuri operis specimen in charta delineet. 1. ICHNOGRAPHIAM, quæ est aræe jacentis descriptio. 2. ORTHOGRAPHIAM, quæ est ipsius frontis erectio. 3. SCIAGRAPHIAM sive SCENOGRAPHIAM, quæ est Frontis, et abscedentium laterum adumbratio. Praxis ad Graphidem pertinet; cujus notitiam domo secum asferre Architectum nostrum supponimus.

Horum speciminum beneficio futuri operis molem, partiumque mensuras, situm, ornamenta, adeoque et pretium sic intelliget, ut possit facile judicare quanti sit ædificaturus. Sciatur enim et suæ laudi et firmitati operis multum interesse ne incipiat ædificare, donec materiæ bene præparatæ, operarum, pecuniæ, satis habuerit in promptu, nequid obsit quominus simul et semel ædificet.

§. 2.

§. 2. *Ædificii materia sunt Ligna, Lapides, Arena, Calx, Metallum.*

LIGNA commodissime cæduntur a novo Autumno ad sextum Idus Februarias, decrescente Luna, sereno cælo. *Ægrius* dolantur humentia et nimis sicca. Inepta operi præter repofita et bovino stercore cooperta. Nec asseribus, foribus aut fenestris utilia, nisi ante triennium cæsa.

LAPIDES indurat aër. Recentes igitur quia facilius tractantur, continuo cudi præstat. Natura duriores statim operi inferuntur: molliores non ante biennium, tempestatibus domiti.

Lapidibus accensent Lateres. 1. **CRUDOS**, qui ad Solem ficcantur, ut minimum quinquennio. 2. **TESTACEOS**, qui coquuntur igne, sed non ante bimatum. Præstat Autumno duci, e terra cretosa, albicante, domabili; intritam Hieme macerari, Vere fingi.

Laterum mensura apud Græcos, ædificii dignitatem sequebatur. Maximi, operibus publicis, erant **PENTADORI**, h. e. quinque palmorum quoquo versus; Mediocres **TETRADORI**, h. e. quatuor palmorum. Minimi, operibus privatis, Vitruvio **DIDORI**, Plinio rectius **LYDII**, quibus et Romani utebantur, longis sesquipedem, latis pedem.

ARENA est trium generum: Fossitia, Fluviatilis, Marina five Litoralis. Optimum genus **FOSSITIA**; sed in hoc Cana nigricante et rubra deterior: primas tenet **CARBUNCULUS**. Huc refer **PULVEREM PUTEOLANUM**, qui si aquam attigerit, saxum est, **FLUVIATILIS** optima e torrentibus petitur. **LITORALIS** bonitate ultima, sed tectoriis opportuna si salsugo eluatur.

CALX fit plerumque cocto lapide: sed et spongia, concha, calculove fluviatili, ad tectoria. Optima coctio est de saxo albo, præduro, et admodum spisso, quod trientem ponderis coquendo perdit. Coquitur horis sexaginta, non minus. Fit intrita parte una calcis, cum tribus arenæ fossitiæ, vel duabus fluviatilis aut marinæ.

METALLUM multiplex adhibetur. 1. **FERRUM**, clavis,
B 2 cardinibus,

cardinibus, ansis catenis &c. 2. PLUMBUM, ferruminationi, fistulis, et tecto. Pleraque hæc Antiqui 3. CUPRO aut 4. ÆRE faciebant. 5. Cupro, ære et plumbo fit IL BRONZO dictum, imitamen æris Corinthii; columnarum basibus et capitulis, item portis signisque utile. Sed de his satis quæ minus curæ sunt Architecto, præsertim Ingeniario.

LIB. I. CAP. II.

DE FUNDAMENTIS, PARIETIBUS, ET TECTO.

§. I. **A**D locanda Fundamenta primo exploretur Solum; partim indiciis externis, herbarum, aquæ, arborum, saxorum, &c. partim excavationibus crebris. Ab omni arenoso, glareoso, molli, palustri, atque congestio solo cavendum est: a ruinis etiam, nisi probe perspecta firmitate. Ædificia solum postulant, siccum, solidum, firmum, quod obfistit ferro, madefactumque non dissolvitur. Fodienda enim est substructio ad solidum si natura præbeat; atque insuper in solido sextam partem altitudinis ædificii; et si cellæ aliæ hy-pogæa facienda sunt, paulo amplius.

Si natura non præstet firmitatem, muniendum est solum quam creberrimis palis; quibus muri tam ambientes aream, quam dividentes insistant. Palorum longitudo esto pars octava altitudinis mœnium; crassitudo, duodecima propriæ longitudo: adigantur autem crebro magis quam valente ictu.

Fundamentum esto dupla muri crassitudine; majus minusve pro firmitate soli et mole ædificii. Ima fossa complanetur ad libellam. Sternebatur olim lapide Tiburtino; nunc asseribus trabibusve imponitur ordo lapidum, sed siccorum, ne lignum calce corrumpatur.

Fundamenti sicut et muri surgentis crassities paulatim imminuitur, et æqualiter utrinque decrescit, ea lege ut medium insistentis ordinis substructi medio semper insingat ad perpendiculum.

Parcendo sumtui Fundamenta fiunt non continua, sed
fornicibus

fornicibus distincta, maxime in solo palustri: et in mœnibus majorum operum COLUMNARIA. Inventum frugi et utile si in iis COCLIDIA collocentur.

T A B. I.

§. 2. Parietum structuræ multa sunt genera. Unum quod Vitruvio INCERTUM nescio an INSERTUM dicatur, poterit enim utroque modo. Nam INCERTUM opus (ut Palladio DI PIETRE INCERTE) recte dicitur in quo lapides ut nati sunt ita struuntur, h. e. magnitudine et figura incerta. Tale est in Schemate primo A A. Recte etiam (ut Perotto) INSERTUM, in quo lapides certæ magnitudinis certo ordine inferuntur; ut in opere v. g. lateritio. In hoc alternas coagmentationes fieri, ut commissuras antecedentium medii lapides obtineant necessarium est; in medio quoque pariete, si res patitur: sin minus, utique a lateribus.

Græci e lapide duro, aut filice, *ÆQUATO* (h. e. tantundem alto quantum est latus, sive fronte quadrata) construebant veluti lateritios parietes. Cum ita fecissent, *Ἰσόδομον* vocabant genus structuræ. Tale est B B. At cum inæquali crassitudine ut C C structa essent, *Ψευδισόδομον*. Tertium erat *Ἐμπλεκτον* D D, tantummodo frontibus politis, reliqua fortuito collocabant. Medios parietes farcire fractis cæmentis *DIAMICTON* *Διὰ μικτῶν* vocabant E E. Et si parietes sint *Isodomi*, ferroque ad se invicem colligati, Perotto *REVINC-TUM*, *CRAMPONNEE*, recte dicitur. Tale est F F. *Δικτυόδεςτον* five *RETICULATA STRUCTURA* G G qua Romæ frequentissime struebatur, venusta est habita, sed erat rimis opportuna: unde (teste Palladio) nullum ejus exemplar antiquum exstat. Hæc ad mentem Vitruvii.

T A B. II.

§. 3. Nunc Palladii doctrina secundo Schemate exponatur. Primum genus quod minus probat est *RETICULATUM OPUS* A A, ad cujus firmitatem erigit in angulis *Orthostatas lateritios*

lateritios BB : item in longum choros laterum, in imo sex CC, in medio tres DD quoties reticulum ad sesquipedem surrexit.

Secundum est opus LATERITIUM; quod in mœnibus præfertim Urbium et majorum operum velut DIAMICTON extruitur : nam apparent lateres EE ; latet in medio farctura cæmentorum FF. Struuntur autem in imo grandiorum laterum chori tres ; tum minores ad trium pedum altitudinem ; tum rursus parietes tribus choris grandiorum laterum alligantur. Hujusmodi opus in Pantheo et Thermis Diocletiani etiamnum durat.

Tertium genus sunt CÆMENTA II lapillis rudibus e rupe aut flumine petitis ; interdum concha, ut in mœnibus Augustæ Taurinorum. Cæmentitium altitudine bipedali tribus laterum choris vinciendum est, ut KK.

Quartum est INCERTUM LL quod Præneste durat. Quintum quadrato lapide PSEUDISODOMUM MM, Romæ in templo Augusti. In sexto genere quod est Sirmii ad Benacum lacum, quasi parietes lignei NN quæ vocantur FORMÆ, faxo et intrita temere farciuntur. Sublatis asseribus conspicitur paries OO et FORMACEUS dicitur.

Vel huc referri vel septimum genus dici potest quod Neapoli visitur in antiquis mœnibus. Duo sunt muri PP quadrato faxo, crassi pedes quatuor. Distant pedibus sex. Colligantur transversis parietibus QQ eodem intervallo. Ita relinquitur Cavum RR fenis pedibus in quadrum, quod lapidibus et terra farcitur.

Commiffuras lapidum multa arte curaque faciendas censet Palladius ; id Venustatem operis, Firmitatemque, juxta postulare. Consecutos Veteres ut pene visum effugerent, conspicuas marmorum facies struendo rudes, poliendo extructas. Crassitiem muri surgentis imminui optat, quasi gradatæ Pyramidis exemplo ; patitur tamen interius rectum fieri. Crassum est illi PODIUM, sive pars ima, Fundamenti semis ; huic semilaterium demit in parte media sive PROCINCTURA ; et huic

huic tantundem pro suprema, quam CORONAM vocant. Diminutionem, ne sit exterius conspicua, prominente scalptura occulit.

Super omnia, cavere Angulis jubet; eosque lapidibus duris longisque, ad libellam et normam positis quam firmissime vincire; et ab angulis Apertiones remove, ut minimum quanta est earum latitudo.

§. 4. Structis parietibus imponitur TECTUM, quod initio planum erat; et in calidis regionibus etiamnum est: in temperatis frigidisque usus docuit proclinatis tectis stillicidia deducere, et in tecto Colliquias facere, quæ defluentem e stillicidio aquam colligerent, et per tubulos foras in Impluvium ejicerent.

Proclinata tecta sunt vel DISPLUVIATA seu PECTINATA quæ in duas partes sunt devexa, vel TESTUDINATA quæ in quatuor. Amborum Culmen seu fastigium tanto altius attollitur, quanto in regione crebriores densioresque cadunt nives.

In Italia itaque Palladius ad duas nonas latitudinis ædificii. Angli plerumque ad dodrantem, Germani altius attollunt.

T A B. III. FIG. I, II.

Ligna Tecti quorum meminit Vitruvius IV. 2. hæc sunt. A G, COLUMEN. B B, TRANSTRA. C C, CAPREOLI. D D, CANTHERII. E E, TEMPLA super Cantherios transversa. F F, ASSERES. Hodie plura adhibemus, quæ Latina (opinor) nomina non habent; et hæc ipsa paulo aliter quam olim collocamus. Sed materiaturæ dispositio Offinatori curæ erit: Architecto nostro sufficiet quod monere satis habuit Palladius: nempe quam facillimam fore, modo medianos fecerit parietes; qui in partem oneris opportune venient, multa secum præterea Tecto commoda allaturi.

Tecta primo arundinibus et fronde, vel fronde et luto tangebantur; tum arundinibus et stramentis, vel subacta cum paleis terra; duratque etiamnum mos, in pauperibus tectis.

SCANDULIS,

SCANDULIS, nempe affulis ligneis scetilibus (unde nonnulli SCINDULAS dici malunt) contactam fuisse Romam ad Pyrrhi usque bellum tradit Plinius: tegulas coctiles invenisse Cinyram: Plumbo, ære, et cupro quis primus fecerit nescimus. Latastros lapideos Byzas Naxius reperit: lapidem quem vocamus ardofium, nobis adeo familiarem, (quod mireris) Veteres ignorabant.

Nostri metallo rarius, præterquam plumbo, nec ex eo tegulis, sed laminis utuntur: sæpe ardofio lapide; sed plerumque tegulis coctilibus, iisque vel PLANIS, vel HAMATIS. Ad utrasque collocandas, asseribus transversim imponunt ambrices, quibus tegulas squamatim adnectunt; hamatas vero cum imbricibus ita collocant, ut in duabus hamatis singuli imbrices inveniuntur: cumque se existiment hoc opere pavonum caudas imitari tegulata tecta PAVONINA vocant vel PAVONACEA.

Tegularum figuræ quinque sunt in Tab. 3. descriptæ; quarum *a* est Imbrex, *b* tegula hamata, reliquæ tres planæ.

LIB. I. CAP. III.

QUID SIT ORDO? QUÆQUE EJUS MEMBRA? ET MEMBRORUM PARTES ET PARTICULÆ?

§. I. **J**AM de Parietum Ornamentis, et primo de Columnis dicam.

Columna vel adhæret parieti quasi parte aliqua inserta; vel absistit a pariete sic ut aëre circumcingatur. Illam igitur INSERTAM dicere nihil vetat; hæc vocatur INSULATA; nam et INSULAS appellant Domos quas ab aliis sejunctas ambit aër sicut Insulas salum.

TAB. III. FIG. IV.

Columnæ partes sunt tres; BASIS, BC. SCAPUS, CD. CAPITULUM, DE. Cætera quæ vides in Tabula sunt COLUMNÆ ADJUNCTA. In profundum, infra STYLOBATA AB; supra, EPISTYLIUM EF cum ZOPHORO FG et CORONICE GH, quæ

quæ tria vocantur uno nomine TRABEATIO EH; Columna cum Stylobata, COLUMNATIO AE: ad Columnæ latera, in arcuato opere INCUMBÆ II, Intercolumnii fornicem sustinentes. Figura M cuneiformis repræsentat Lapidem in fornice medium qui vocatur MENSULA.

Columnæ proprie dictæ scapus circularis est: fronte plana est PARASTATA, quod est unicum ejus a Columna discrimen: cætera omnia plane eadem quæ Columnæ, et iisdem legibus constituta. Amat inferi, sed est sæpe insulata.

ORDO est venusta quædam Columnæ cum suis adjunctis symmetria, certis rationibus conclusa. Vocatam arbitror hoc nomine, quod struendo Columnarum ordini sit idonea: a Vitruvio aliisque RATIO et GENUS appellatur.

Ad Symmetriam certo designandam, secatur Columnæ Semidiameter in partes 30, et vocatur MODULUS; partes vero, UNCIÆ vel MINUTA: quæque ex his constant mensuræ omnes exprimuntur ut in computo Astronomico. v. g. 1. 20'. significat 1 Mod. 20 Min. 3. 15'. 3 Mod. 15 Min. 4:00'. quatuor Modulos, 0. 06'. sex Minuta, et sic de cæteris. Poterit itaque Columna, adeoque Modulus, major minorve statui pro arbitrio Architecti; constituta vero Moduli magnitudine, tota totius Ordinis symmetria determinatur, prout suo loco docebimus.

T A B. IV.

§. 2. Ordinis MEMBRA five partes majores sunt Nobis COLUMNATIO et TRABEATIO; aliis interdum Membra, quæ Nobis Membrorum partes, quasque supra retulimus. In PARTIBUS, scalpendo distinguuntur PARTICULÆ; Quarum

Aliæ sunt fronte plana; ut 1. PLINTHUS A. Parallelepipedon, quod lateris seu potius tegulæ nomen et figuram præfert. In Columnæ Capitulo positus appellatur ABACUS, estque cavis interdum lateribus ut B. 2°. FASCIA C. quæ est quasi Plinthus oblongior. Ab hac REGULA D, et TÆNIA E sola parvitate differunt. Regula in Coronice posita appellatur

B

CORONA

CORONA, quæ propendet semper, et fundum ejus dicitur MENTUM. Tænia circularis vocatur ANNULUS; Regula secta, sublatis partibus alternis, DENTICULUS F. Æque secatur interdum; sed plerumque quod relinquitur majus est.

Aliæ fronte pulvinata, sive curva turgente; ut I. TORUS G qui est instar tori, sive tumoris carnosî; vel (ut alii) quia torus funis est. Torus minor ut H. vocatur TORULUS; et hoc minor I ASTRAGALUS; qui sæpissime baccis scalpitur ut K. 2°. ECHINUS L quasi grandioris Tori semissis. Scalptus ut M OVICULATUS dicitur, quia scalpturam putant artifices ovicula et anchoras imitari: sed castaneam referunt, ECHINO (i. e. tegmine ejus spinoso) dehiscente ut in maturis solet: atque inde nomen.

Aliæ fronte cava; quarum commune nomen SCOTIA ἀπὸ τῆς σκοτίας. Est autem Scotia I. JACENS (in Coronæ Mento) ut N. 2°. RECTA ut O. 3°. INVERSA ut P. 4° COMPOSITA (ex inversa scil. et recta) ut Q. trochleæ cavum refert; et vocatur Græco nomine TROCHILUS. Pariter et 5°. APOPHYGIS R, rectius ἀποφυγή, quæ est Scotia super annulum inversa, a qua incipit Columnæ scapus. 6°. APOTHESIS S, sive Scotia sub annulo recta, in quam definit.

N. B. Quod Apothesis semper minor est Apophyge; unde Scapus sensim diminuitur: neque vero (quod nonnulli volunt) quasi Coni frustum est; sed in exemplis melioribus aliquantillum subturget. Dicitur Columnæ ENTASIS; et describitur commodissime eodem fere instrumento quo Conchoïdem descripsit Nicomedes.

Sunt et hujus classis Canaliculi in Columnæ scapo, quæ STRIÆ, STRIGES, vel (ut aliis placet a figura) STRIGILES appellantur. Distinctionis gratia, nos vocabimus STRIAS quæ in crenam coeunt acutam, ut T. suntque certo numero viginti: STRIGES quæ in obtusam ut V. semper viginti quatuor.

tuor. Est et his Entafis columnari respondens; itemque diminutio. Aliquando scapus strigatus quasi virgula oppletur ut in exemplo X ad trientem altitudinis. *Πάρεδωσεν* vocat Aristoteles: quare Nos hujusmodi scapum appellabimus VIRGATUM.

Aliæ fronte undulata h. e. e turgente et cava composita; ut *Ἐπιπίθις*, *Λύσις*, *Κυμάτιον*, SIMA, recta et inversa, item UNDA, CYMA, CYMATIUM, DORICUM LESBIUMQUE: quæ vocabula mirifice confundunt Scriptores. Nobis, ut certi aliquid teneamus, dicetur Undulatum majus a figura SIMA vel CYMA; minus a parvitate CYMATIUM. Utriusque figura quadruplex. 1. RECTA quæ superius et extrorsum cava est ut Y. 2. INVERSA quæ inferius et introrsum ut Z. 3. CONVERSA quæ inferius et extrorsum ut Γ. 4. PERVERSA quæ superius et introrsum, ut Δ.

Undulatis particulis accensendi sunt MODILIONES; quorum plerumque frontes ut Ω in Canone pinguntur; latera vero sima sunt ut Θ; aliquando inversa ut Λ; semper autem foliis scalpta et sustentata. Sunt qui MUTULOS appellent; sed Nobis erunt MUTULI ea solum Parallelepipedà quæ ita proprie vocantur, suntque vel Mutuli SIMPLICES fronte Ξ, latere Φ vel DUPLICES, fronte Π, latere Ψ. Certus hisce omnibus locus est in Coronice, statim sub Corona. Modilionum pariter et Mutulorum intervalla appellantur CAPSÆ; in quibus ROSÆ h. e. Flores cujuscunque demum generis scalpuntur ut in Σ.

T A B. V.

§. 3. Dicendum etiam de figuris quibus ipsæ scalpuntur Particulæ: in his autem quia Nostri nimis luxuriant, ea tantum descripsimus exempla quæ Antiqui maxime frequentabant. Petimus ut iis liceat nova nomina imponere, quando manentibus rebus antiqua perire; nisi forte K sit Virgilio Plinioque VITIS, Vitruvio, OPUS CORONARIUM; et eidem ENCARPUS L, quem FESTONEM Itali appellant.

Ex iis vero quæ nominibus carent, Scalptura A quæ est

B 2

Gallice

Gallice POSTES, erit Nobis Latine VEREDARIA: B, I, M, sunt FOLIATÆ; foliis *bb* LACINIOSIS, *ββ*, AQUATICIS, *ii*, PORTULACEIS, *mm*, QUERNIS. Scalpuntur et Laurus, Apii, aliarumque plantarum folia quæ conspecta facile dignoscuntur. Scalptura C dici poterit SCUTATA, quando SCUTULATA laxius significat. D vocetur CANALICULATA, N SQUAMATA.

E est Astragalus minor spiræ implicatus, et vocetur SCYTALE: F, quasi spira manens sublato astragalo, et vocetur CLAVICULUS: G et H, sunt Astragali baccati; sed distinctionis gratia G MONILE, H ROSARIUM appelletur. Quatuor figuras O recte dixeris LABYRINTHOS; qui multis præterea modis a Veteribus describuntur; servata tamen in omnibus hac lege, ut nusquam nisi ad angulos rectos inflectantur.

§. 4. Particulis pluribus, five puris, five scalptis, five utrifque diversimode compositis instruuntur Partes. V. g. Basis quæ vocatur ATTICA, (cujus figuram habes Tab. 6.) Plintho, Toro, Trochilo cum duabus Tæniis, et Torulo; estque semper altitudine unius moduli. Nomen habet a COLUMNA ATTICA inferius memoranda; huic enim proprie convenit, quamvis a plerisque omnibus adsciscatur.

Membrorum Partiumque surgentium hæc est series. Primo, Stylobatæ Basis, Truncus, Capitellum: Tum Columnæ, Basis, Scapus, Capitulum; estque hæcenus Columnatio: Postremo, Epistylum, Zophorus, Coronix, quibus constat Trabeatio.

Intercolumnia fiunt quinque modis. Primus modus ARÆOSTYLOS Intercolumnium habet 8:00'. Secundus DIASTYLOS 5:15'. Tertius EUSTYLOS 4:15'. Quartus SYSTYLOS 4:00'. Quintus PYNOSTYLOS 3:00'. Sed hæc intellige de Intercolumniis rectis; columnarum enim in opere arcuato multo majora sunt intervalla, nec nominibus propriis insignita.

Hæc eadem intellige de infimo ordine columnarum ubi plures sunt, Nam in hoc casu Intercolumnia superiorum ordinum oportet esse infimis æqualia, quamvis aliunde Canon non adversa,

L I B. I.

LIB. I. CAP. IV.

DE TRIBUS ORDINIBUS.

§. I. **I**N communi Architectorum sermone Genus Ordini tantumdem valet : et quinque numerantur Ordines; ETRUSCUS, DORICUS, IONICUS, CORINTHIUS, ITALICUS sive COMPOSITUS. Quoniam vero præstat inter Ordinem et Genus distinguere, Nobis non dicentur ORDINES præter antiquissimos tres, nempe Doricum, Ionicum, Corinthium, a Græcis inventos ; reliqua appellabimus GENERA.

TAB. VI.

§. 2. ORDO DORICUS a Dorienfibus inventus specie est robusta et virili : quare in operibus antiquis Columna basi caret ; quia Viri esse arbitrabantur nudis pedibus incedere. Postmodum adjecta est Basis Attica quæ profecto magnam Ordini venustatem conciliat.

Stylobatæ altitudo 4:20'. Truncus fronte quadrata. Columna insulata alta est 16:00'. Inferta, 17:10'. Scapus potest esse striatus. In Capitulo prægrandis annulus vocatur HYPOTRACHELIUM. Intercolumnia sunt Diastyla. Trabeatio plerumque alta est quadrantem Scapi, aut circiter.

In Zophoro scalpuntur TRIGLYPHI, ornamentum hujus Ordinis proprium. Constat tribus FEMORIBUS E. F. G, et totidem CANALICULIS A. B. C + D. nam pro tertio habentur duo semicanaliculi angulares. Sub Triglypho scalpuntur GUTTÆ sex in Epistyllo ; et supra in Coronæ mento octodecim, tribus ordinibus. Neceffe est medium Triglyphi, Columnæ medio insistere ; et quadratum esse Triglyphorum intervallum quod vocatur METOPA.

In hoc et in Cæteris Canonibus X est vestigium Coronæ ; Y Capituli ; Z Figura Incumbarum.

TAB. VII, VIII.

§. 3. ORDO IONICUS interdum Fœmininus dicitur ; quippe Dorico gracilior, et specie (ut volunt) matronali. Quare et pleraque

pleraque ejus ornamenta imitantur mundum muliebrem : præfertim quæ vocantur *VOLUTÆ* quibus columnæ capitulum quasi cincinnatum est. Propriæ sunt hujus Ordinis et descriptio subtiles, de quo postea.

Stylobatæ altitudo 5:08'. Columnæ 18:00'. Basis in operibus antiquis est plerumque Attica : Scapus strigatus. Intercolumnia Eustyla. Altitudo Trabeationis Columnæ subquintupla aut circiter. Zophorus pulvinatus.

Capituli Voluta erat olim sæpenumero Elliptica, cujus certa descriptio ignoratur, sed est aspectu pulcherrima : Hodie utimur circulari quam sic describimus. Sub Echino Capituli est Astragalus : hujus altitudo bisecta dat centrum circuli qui vocatur *OCULUS VOLUTÆ*. Tum inscribitur Oculo Quadratum, et huic alterum cujus utrumque Diagonium secatur in sex partes, et segmenta numeris suis notantur ut in Schemate. Postremo productis duabus proforthas Oculum quadrifecantibus, centro 1, radio 1a, describitur arcus ab; centro 2, radio 2b, arcus bc; centro 3, radio 3c, arcus cd, &c.

Hæc est Capituli facies si recta spectetur : sin ad latus, apparebit ut in altera Figura : ubi tumor ille medius A instar Tori erecti, cum duobus utrinque Torulis aa, appellatur *BALTHÆUS* : qui utrinque turgent B. B. *PULVINI*. C est latus spiræ extimæ in Voluta una, K in altera.

TAB. IX, X.

§. 4. *ORDO CORINTHIUS* est Ionico subtilior, gracilitate et specie quasi virginali. Multa habet apud Veteres cum Ionico communia; Vitruvio omnia præter Capitulum Columnæ. Hinc in operibus probatissimis Columnæ basis est Attica, Scapus strigatus; Trabeatio columnæ subquintupla.

Stylobatæ altitudo (in nostro, h. e. Palladii exemplo) est columnæ subquadrupla; Columnæ, 19:00'. Intercolumnia Systyla; Trabeationis altitudo columnæ subquintupla. Sub corona Modiliones, cum Echino et Denticulo. Neque vero repudianda sunt exempla vetera, in quibus Columna sæpe habet

bet 20:00'. ejusque vel quadrantem vel duas nonas Trabeatio : quippe singulis hisce rationibus suus locus est ; et omnibus egregia venustas.

De capitulo Columnæ bella est Græcorum fabula, quam prætereo, quia probabiliorem quamvis incertam narrat Villalpandus. Consule si libet Vitruvium IV. 1. Villalpandum Tom. 2. lib. 5. cap. 23. Mihi quidem si daretur Conjecturæ locus, non inverisimile putarem, uti Columnæ scapus imitatur arboris truncum, ita arborem quæ putato capite regerminare cæpisset, fingendi hujus Capituli ansam præbuisse.

Capituli altitudo 2:10'. Minuta cedunt Abaco; cujus anguli præciduntur et curvantur latera hoc modo. Super assumpta $aa = 3:00'$. describitur quadratum $aadd$, cujus Diagonia et Diametri ducuntur ut in Schemate. Fit $cg = 2:00'$. et per g ducitur $ef \parallel ad$. Tum designata $cb = 1:05'$. peripheria fbf , puncta f, b, f pertransiens ducitur per 25:e.3.

Abacus præcisis angulis et lateribus cavis habet quatuor quæ vocantur CORNUA AA. In medio curvaturæ scalpitur B, quod FLOS vel ROSA appellatur cujuscunque sit figuræ. Sustinet Abacum quæ a Figura dicitur capituli CAMPANA C. Hujus peripheria intelligitur octosecari, et in imis octantibus collocantur octo IMA FOLIA DD altitudine 0.20'. His a tergo sunt octo FOLIA SECUNDA EE dupla imorum altitudine, alternatim ut vides collocata; ut si ac sit locus folii imi, erit bd locus secundi &c. Folium secundum sub rosa Abaci habet utrinque CAULICULUM F qui duos quasi capreolos progerminat; major G sub cornu Abaci, VOLUTA; minor H sub flore, HELIX dicitur: quare octo sunt Volutæ quæ binatim coeunt sub cornibus Abaci; et octo Helices quæ binatim sub floribus ejusdem; sustentur autem tertio foliorum ordine ex octo cauliculis nascente. Folia in operibus Græcis sunt Acanthi; in Romanis, sæpius Olivæ.

LIB. I. CAP. V.

DE TRIBUS GENERIBUS.

§. 1. **L**ATINI tribus Græcorum Ordinibus, adjecere duo quæ vocamus Genera, a Græcis (ut Latina fere omnia) derivata.

TAB. XI.

Primum Genus est **ETRUSCUM** sive **TUSCANICUM**, quod et merito vocatur **RUSTICUM**, differt enim a Dorico sicut a Cive Villicus. Exemplum ejus antiquum cum imposita Trabeatione nullum extat. A Vitruvio describitur rusticitate minime toleranda: et nihilo melius a Junioribus præter unum Paladium.

Stylobatæ altitudo 2:00'; facies plana. Columna alta est 14:00'; scapus purus. Intercolumnia Aræostyla. Trabeationis altitudo, Columnæ subquadrupla.

TAB. XII, XIII, XIV.

§. 2. Secundum Genus est **COMPOSITUM** idque triplex.
1. **ITALICUM**, quod et Compositum κατ' ἐξοχὴν dicitur, ut puto, nusquam a Vitruvio memoratum. Componitur ex Ionico et Corinthio, qui duo secum invicem pulchrius committuntur, quam eorum alteruter cum Dorico. Gracilius est Ordine Corinthio, et abundat pluribus sculpturis; ut si virginem Corinthius, Compositum referat meretricem.

Stylobatæ altitudo, est Columnæ triens nempe 6:20'; nam Columnæ 20:00'. Scapus potest esse strigatus. Intercolumnia sunt Pycnostyla. Trabeationis altitudo, Columnæ subquintupla. Columnæ Basis vel Attica, vel potius Ionico-Corinthia. Capituli campana, instar Corinthiæ foliata, insidente capitulo quasi Ionico; nam in hoc differt quod Abacum habeat Corinthium, et Volutas sub cornibus Abaci quasi e campanæ medio prodeuntes. Hisce legibus Palladius immanem
hujus

hujus Generis etiam apud Veteres licentiam summo cum judicio coercuit.

Secundum Genus compositum est DORICO-IONICUM, cujus unicum exemplum Romæ visitur in ruinis Templi Concordiæ. Columnæ basis est Attico-Ionica, plintho carens præterquam in columnis angularibus: capitulum Ionico-Doricum, procurrentibus Volutis ut in Genere Italico; Abacus Corinthius. Scalpitur Zophorus, sed Coronix pura est. Genus ipsum aspectu pulchrum; et poterit distinctionis causa non incommode appellari ROMANUM.

Tertium Genus compositum esset DORICO-CORINTHIUM, si exemplum ejus occurreret; aspectu satis est venustum, et ejusmodi capitulum belle convenit Columnæ quæ vocatur Attica, de qua inferius. Sed relicto hoc Genere quia caret exemplo, esto Tertium Genus compositum, in quo Columna est unius generis, Trabeatio alterius; ut si columna v. g. sit Corinthia, Trabeatio Dorica. Potest hoc fieri probante etiam Vitruvio; et revera factum est in templo Salomonis, cujus columnæ erant Corinthiæ Trabeationem Doricam sustinentes. Tota ejus ratio intelligitur ex adjecto Diagrammate, quo nihil quicquam est venustius. Hoc itaque Genus vocetur HIEROSOLYMITANUM, et quicquid eodem fit exemplo.

T A B. XV, XVI, XVII.

§. 3. Narrat Vitruvius I. 1. pro columnis imagines humanas fuisse aliquando substitutas, insignis alicujus victoriæ indices. Hujus operis duo commemorat exempla, quæ nobis venient sub nomine GENERIS PEREGRINI: ita enim appellabimus Genus omne, quod probatum est, et Canonibus supra expositis non comprehensum.

Esto igitur Primum Genus Peregrinum quod vocatur PER-SICUM, in quo pro columnis sunt Viri, ut in Pausaniæ trophæo Persæ. His imponitur Trabeatio semper Dorica.

2. Peregrinum alterum est GENUS CARYATE, mulierum statuis columnarum locum occupantibus, et imposita

C

Trabeatione

Trabeatione Ionica : nam in primo hujus exemplo erant capitivæ Caryatides ; unde nomen ad reliquas manavit.

3. Tertium Genus Peregrinum degenerat ab Italico ; quippe pro columnis rectis statuuntur Tortiles, exemplo minime laudando : nam infirmæ sunt, et ferendo oneri impares ; et si non essent, videntur tamen. Dicerem etiam aspectu invenustas, nisi me frangeret autoritas divini Viri Raphaelis Urbinatis. Hujus Generis omnia præter Columnæ scapum sunt Italica.

4. Quartum Genus Peregrinum faciet, quæ Vitruvio dicitur *ATTICURGES*, Plinio *COLUMNA ATTICA*, quaternis angulis, pari laterum intervallo. Differt igitur a Parastata, quia caret Entasi et Diminutione ; estque Pila verius quam columna. Nihilominus basin habet probatissimam, quæ vocatur Attica ; et capitulum Dorico-Corinthium ; in quo sub Abaco Dorico est Echinus oviculatus, insidens Campanæ foliatæ.

Columnas Atticas imitantur *ANTES*, (aliud sunt *ANTÆ* de quibus postea) sed duabus notis distinguuntur. Prima, quod nullibi collocentur præterquam in angulis five commissuris mœnium. Secunda, quod earum Basis et Capitulum easdem servant rationes quas Columnæ quibus sociantur. Quare columnis Atticis certa Basis est, certum Capitulum ; utrumque Antibus incertum. Certus vero locus assignatur, Antibus in extremo pariete, Atticis ad latera portarum.

T A B. XVIII.

§. 4. Solent Columnæ statui ut plurimum focivæ, quamvis interdum folitariæ. Duabus vel pluribus fociis supra Trabeationem imponitur *FASTIGIUM*, five *FRONTISPICIUM*, cujus figura vel Triangularis est vel si minor sit, Rotunda. Ambitus iisdem scalpitur Particulis quibus Coronix, et *FASTIGII CORONIX* dicitur. In angulis Triangularium collocantur *ACROTHERIA* five Stylobatæ quibus statuvæ insistant. Pars interior, Fastigii coronice conclusa appellatur *TYMPANUM*, et plerumque scalpitur imaginibus extruendi ædificii causam, vel extructi

tracti usum indicantibus; sæpe etiam insignibus Architecti sumtuarii. Si qua sit Inscriptio, proprius illi locus est in Zophoro; rarius in fascia Epistilii. Sed in quibusdam exemplis Zophori pariter et Epistylii locum occupat Inscriptio, nec in Trabeationis fronte scalpuntur Particulæ præterquam in Coronice.

LIB. I. CAP. VI.

ORDINUM GENERUMQUE EXAMEN.

TAB. XIX, XX.

§. 1. **P**LURIMUM debemus Palladio, quod ex operum antiquorum reliquiis, pulcherrima quæque seligendo, mira ingenii felicitate, nec minore judicio quinque Canones instituerit, receptis quinque Ordinibus accommodatos: adeo ut sua cuique ratio certa sit, et venusta, et Columnæ congrua, et a cæteris ita diversa, ut cujuslibet fere Partis inspectione quam facillime internoscatur. Quare et maximas Illi gratias jure merito habemus; et relictis aliorum, ejus Canones libentissime amplectimur.

Neque vero Architectum volumus tam severis legibus constringi, ut nusquam illi liceat a rigore Canonis discedere: admittit enim Architectura Licentias, quales Poëtis et Pictoribus cognatæ artes indulgent; iisque uti concedit, modo utamur cum judicio et gratia. Hinc itaque magnus Varietati locus est; et tanta superest exemplorum copia, quæ cum inter se diversa tamen pulchra sunt omnia, ut in re tam lubrica valde sit difficile vel præcipere aliquid vel judicare. Poterit tamen Architectus propositi cujuscumque Canonis examen non infelicititer instituire si ad ea diligenter attenderit quæ jam sumus tradituri.

§. 2. I. Rudis Antiquitas truncis arborum tecta fulciebat; extremis ferro, (interdum duplici) revinctis, contra fissuras:

C 2

sæpe

sæpe saxum subjecere ut siccius infisteret, tegulamve aut plures. Truncis ordine imponebant trabes, tigna, cantherios, templa, afferes, &c. Tecto, vel Contignationi (quod est quasi jacens Tectum) necessaria. Hæc omnia provecta ars sculpturis marmorum imitabatur : saxum in imo, Stylobata ; Tegulam, Plinthus ; Truncum arboris, columna ; Revincturas ferreas, sculptura basis et Capituli ; impositas arboribus trabes, Epistylum ; extrema tigna cum intertigniis, Zophorus ; reliqua, Coronix, ubi præfecta canteriorum extrema imitantur Mutuli ; asserum, Denticuli.

Spectanda igitur cujusque Partis et Particulæ origo, ut ei figura, locus, magnitudo rite assignetur : tantique erat apud Græcos veteres hæc regula, nihil ut scalpi paterentur quod non referret partem aliquam materiaturæ fabrilis in situ proprio. Ævo quidem sequiore, cæpit Romæ obsolescere ; maximam vero partem etiamnum valet.

Vetat hæc Regula, prohibente etiam Palladio, Frontispicia ut solent hodie secari, quoniam Compluvia imitantur : unde Fastigium secari tam absurdum est quam patere tectum Compluvii.

Vetat Coronicem tam immanem fieri quam in Genere Italico fecit Serlius : Vetat mutulos tam grandes quam in Ordine Corinthio Albertus. Vetat immodicam coronicis projecturam, ut in Templo Jovis vulgo TORRE DI NERONE. Vetat Denticulos supra modum projici, ut in Corinthia Coronice Catanei. Vetat Coronam tolli e Coronice (quod tamen præcipit Albertus, fretus exemplo Pacis, aliisque cætera probatissimis) quippe tecta sine templis non fiunt. Vetat denique multa alia, quæ in Canonibus præsertim Neotericis observanda Architecto nostro relinquimus.

§. 3. II. Columnæ Descriptio, partim a figura arboris, partim ab humana petitur. Ab hac Entasin, ab illa Diminutionem habet. Striæ Strigesque imitantur vestium plicas : palliorum striæ, (nam columna Græca et virilis est) ideo for-
tasse

tasse semper rectæ; stolarum striges, interdum, ut in templo quodam prope Trebiam contortæ. Sed et scalpi ut ibidem instar corticis scapum, exemplo arboris defenditur.

§. 4. III. Sincera sint opera: h. e. ut firma sunt, ita firmitatem ostendent; utque sunt venusta, ita sunt venustate conspicua. Quare columnarum ordo (si plures sint) gracilior insistat crassiori: columnæ Tortiles, quosque vocant CARTOCCIOS, et scapi annulis revincti, quasi fracti essent et refarciti, omnino fugiantur. Videndum etiam an per hanc regulam scapus canaliculatus sit deterior puro; certum est striges rectas præstare contortis.

Cælatura nimia Venustatem opprimit; nimis extans, ædificium onerare videtur et ruinam minitari. Damnanda igitur quanquam operis exquisiti quæ in Thermis Diocletiani in exemplo quodam Corinthio nuper extitit. Probatissimo Augusti ævo parce cælabant: et AUGUSTA quæ dicitur RATIO, et revera est, paucis constat particulis, manifeste distinctis, symmetria grandiori, parum cælatis. Romæ in Basilica Antonini, seu potius Templo Martis, Zophorus pulvinatus inter duas Regulas collocatur; unde et apparet ipse, et insistens sibi cymatium non occultat. Docuit hoc Optica, aliaque generis ejusdem, in operibus priscis laude et imitatione dignissima.

§. 5. IV. Varietas grata est, modo regulis aliunde constitutis non adverfa. Itaque probantur Helices in Pantheo, in Templo Jovis Statoris, in Nemaufensi, modis licet diversis et insolitis factæ, similis enim Naturæ lusus est: sed in Diocletiani Thermis quæ arietum cornua imitantur sunt absurdæ. Nemaufi, pro suprema regula Coronicis est Echinus; subtus, invertuntur mutuli: In Æde Jovis Tonantis, Echinus e duobus alter in Coronice scalpitur modo singulari: in Pacis, Jovis, Martisque pro sima recta Epistylî est Echinus Scotiæ subjectus; In Virilis Fortunæ Templo, Trabeationis altitudo tota
regu-

regularis est; sed dimidia cedit Coronici: in Jovis Statoris, idem fit: et in utroque cælatur Epistylî fascia tantummodo secunda: In Templo Vestæ Romano non prædicuntur Abaci cornua; in Tiburtino strigum extrema, et cavum Trochili non sunt curva, sed quadrata: tamen hæc omnia sine culpa; nam licentia usi sunt Artifices, sed in loco.

§. 6. V. Haberi debet super omnia DECORI ratio: quare maximæ Veteribus curæ erat ut columnæ ædificio convenirent, et columnis ornamenta. Columna igitur Ionica non esset inventa, nisi templo Dianæ Dorica minus convenisset: et in æde Veneris absurda esset etiam Ionica. Ridiculæ in quovis templo Caryatides; quippe vindictæ monumenta in asylo misericordiæ. Reprehenditur quoque cælatura exempli Dorici in Thermis Diocletiani, ut si non nimia, certe parum virilis: eademque de causa Canon Doricus Scamozzii, præfertim in scapo striges.

Servandi autem Decori gratia sæpe Canon cum laude negligitur. v. g. in capitulo Ionico Volutatæ frontes solent esse oppositæ; summo tamen cum judicio contiguas fecit artifex in columnis angularibus templi Fortunæ Virilis; ita enim eadem columna binis uti par est ordinibus belle respondet. In capitulo Corinthio pro Volutis et Helicibus erant Pegasi, etiam Augusti ævo; sed in Cella Martis Ultoris: pro flore abaci, aquila fulmen tenens; sed in porticu Imperatoris Severi. In Templo Concordiæ sunt columnæ ob eam fortasse causam compositæ: Sed hujusmodi commenta parce cauteque imitanda sunt; nusquam enim alias labi tam proclive est.

§. 7. VI. Consuetudo Veterum auctoritatem habet estque omnino retinenda. Unde nec Latina Genera Græcis ordinibus sociari debent; nec Italicum Genus Etrusco; nec Etruscum urbe recipi, præterquam in Columna solitaria. Hodie quidem ista negligimus; sed servamus alia quæ videntur magis adversa rationi. Nam minorem Epistylî fasciam
majori

majori imponit ratio, ut in arcu Veronenſi et Templo Polæ; in plerisque ſubjicit conſuetudo. Denticulos mutulis (i. e. aſſeres cantheriis) ſubjicimus, more Romano: Græci veteres non probarunt; nec in Pantheo ſubjecit Diogenes, quippe Athenienſis. In Faſtigiis veteribus Græcis nec Denticuli erant nec Mutuli; contra in Romanis: unde Græcum fortaſſe templum eſt a quo abſunt, prope Scifin Umbriæ civitatem. Coronam tolli e Coronice vetat ratio, probat præter alia exemplum Pacis: Denticulum ſecari jubet; ſæpe tamen purus relinquitur. Neque vero hæc temere damnemus; quin noſtro potius diffidamus judicio: poteſt eſſe cauſa cur placeant, quæ Nos fugit.

Quicquid tamen antiquum non eſt continuo imitandum; nam quibuſdam deterioribus pepercit ætas quæ meliora delevit. Interdum coëgit neceſſitas non quod maluit Architectus ſed quod potuit facere; ut in Templo Romæ quod vocatur DEL BATTESIMO DI CONSTANTINO; ubi inter Columnæ Italicæ baſin et apophygin ſunt folia; in Coronice, ſub denticulo ſima recta, et ſub hac ſtatim altera, utrumque ſine exemplo: ſed erat Templum e veteribus fragmentis quoquo modo extruendum. Laudo igitur artificem, qui neceſſitati bene ſe accommodavit; nolo tamen exemplum niſi coactus imitari: ubi enim licet eligere, ſtultum eſt illud ſequi quod ſola neceſſitas excuſat.

LIB. I. CAP. VII.

DE HABITACULORUM SYMMETRIIS.

§. I. **H**ABITACULUM voco, donec alia vox aptior occurrat, quod Italice STANZA Anglice a *Room* dicitur; quod commune nomen eſt ſpatii cujuſvis, pavimento parietibus et tecto vel contignatione concluſi. Multæ ſunt hujus ſpecies, et nominibus propriis inſignitæ; generale nomen

men (ni fallor) nuspiam reperitur: sed et pleraque specierum vocabula optimis etiam Scriptoribus sunt promiscua. Constituamus igitur, ut solent Mathematici, quomodo Nobis significatura sint ea quæ deinceps adhibemus.

CUBICULUM proprie dicitur in quo est *κοίτη* CUBA five lectus ad cubandum: idemque est THALAMUS; sed magis proprie cubiculum nuptiale. Ad cubiculum iter est per conjunctum illi ANTECUBICULUM, quod est Plinio juniori Græca voce PROCÆTIUM: aliud (opinor) est ANTITHALAMUS; quippe qui Thalamo non jungitur, sed in Græcis ædibus ex adverso respondet. Vitruvius VI. 10. IN PROSTADIS DEXTRA (inquit) ET SINISTRA SUNT CUBICULA, QUORUM UNUM THALAMUS, ALTERUM ANTITHALAMUS; ita lege cum Hermolao, non AMPHITHALAMUS; nam qui opponitur Thalamo, quomodo dicetur AMPHITHALAMUS? et nisi adversa sint cubicula, quomodo in DEXTRA erunt ET SINISTRA? Quoniam vero casu incidimus in hanc vocem AMPHITHALAMUS, poterit Nobis POSTCUBICULUM significare; pro quo etiam Philander accepisse videtur.

TRICLINIUM, si Etymologiam spectes, est in quo sunt tres *κλίναι* five lecti ad discumbendum. Hoc Romani, quia rarius pranderent, COENACULUM, vel COENATIONEM appellabant. Græca vocabula *δίκλινος*, *εξάκλινος*, &c. lectos numerant; Latine omnia sunt TRICLINIA. Plautus tamen BICLINIUM dixit quod duobus, et SCIMPIDIUM Gellius quod uni tantum sterneretur. Aliquando Triclinium pro ipsis LECTIS accipitur; et pro Cœnaculo dicitur DIETA, vel (quod idem est vocabulum) ZETA.

OECI in genere sunt habitacula quædam laxiora, quorum alia Virilibus conviviis, alia Matrum lanificio destinata legimus Commode cum Alberto Palladius SALAS vel SALOTTAS, i. e. aulas grandes interpretatur.

EXEDRAM a sedilibus dici nemo dubitat; estque proprie cella ad colloquendum, differendum, vel meridiandum: sed et Tri-

Triclinium Cicero, et Cubiculum, et Conclave Exedram appellat. Eidem alibi

CONCLAVE est angustius habitaculum in secreta parte ædium; quod tamen stricte loquendo non est unum, sed plura habitacula quæ una clave clauduntur. Plautus alicubi vocat CONCLAVIUM; quod Nobis distinguendi ansam præbebit; nam CONCLAVE vocabimus *a Closet*, CONCLAVIUM *an Apartment*, quam et DIÆTAM dici per Synecdochen apud Plinium juniorem est suspicio. Conclavia solis maribus patentia ANDRONES, et ANDRONITIDES appellantur: Fœminis destinata GYNÆCÆA et GYNÆCONITIDES; Hospitibus HOSPITALIA; Hiemi, HIBERNACULA. Apud Romanos aliud significant ANDRONES, de quo postea.

In PINACOTHECA picturas five pictas tabulas servari, ipsa vox indicat, et in eo omnes consentiunt: an idem sit TABLINUM ambigitur. Sed sequamur sane Plinium seniore, qui TABLINUM inquit CODICIBUS IMPLEBATUR, ET MONUMENTIS RERUM IN MAGISTRATU GESTARUM. Ista hodie ARCHIVA dicimus, et interdum ARMARIA; sunt enim teste Isidoro, Armaria, UBI QUARUMCUNQUE ARTIUM INSTRUMENTA SERVANTUR. Archiva publica vocantur etiam TABULARIA.

Sæpe et in Tecto fiunt habitacula, quæ vocare possumus SOLARIA: quæque hæc recipiunt, ea Vitruvius TECTA UBI MAJORA SUNT SPATIA, quæ non recipiunt, TECTA COMMODA videtur appellare. Quam CELLAM vocant FAMILIARICAM, et cujusvis famuli mansionem significat, et præterea VESTIARIUM, seu potius Gallicum GARDEROBE; nam et pro eo loco usurpatur in quo est SELLA five Læsanum; sed per *f* scribi debet quando ita significat.

BIBLIOTHECA et MUSÆUM non egent Interprete. De VESTIBULIS, ATRIISQUE, commodius alibi dicemus.

TAB. XXI.

§. 2. HABITACULA sunt ut plurimum quadrangula ; rarius rotunda. Si quadranguli longitudo fit l , latitudo L , altitudo a , erit ex præcepto Palladii vel Primo $l=L$; vel Secundo, $l=\sqrt{2} L^2$, quod est quadratæ latitudinis diagonium et interdum dicitur LATITUDO DIAGONALIS; vel Tertio, $l=1\frac{1}{3} L$; vel Quarto, $l=1\frac{1}{2} L$; vel Quinto, $l=1\frac{2}{3} L$; vel Sexto, $l=2 L$. Et si planum fuerit laqueare erit $a=L$ in contignatione prima, sed $a=\frac{5}{8} L$ in secunda. Verum in primo præfertim ordine pulchrius erit et securius cælum cameratum, quod maiorem postulat altitudinem. Quare si quadratum fuerit habitaculum, fiat a ipsius L sesquitertia; sin oblongum, pro a sumatur medium inter L et l , vel Arithmeticum $=2) L+l$; vel Geometricum $=\sqrt{1} L$; vel Harmonicum $=2) L+l) 1 L$. Sunt et aliæ (inquit) altitudinum rationes quæ SUB REGULAM NON CADUNT; iis utendum cum iudicio, ubi opus postulat.

§. 3. MUETIUS rationes suas sic instituit. Oecorum longitudo minima $2 L$; maxima, in domo regia, $3 L$; mediores $2\frac{1}{4} L$ et $2\frac{2}{3} L$. Antecubiculi longitudo vel diagonalis, vel sesquialtera latitudinis. Cubiculum fiat vel quadratum, vel parte latitudinis octava, septima, sexta, aut quinta longius. Et pro horum trium altitudine sume vel duas tertias, vel quinque septimas, vel tres quartas latitudinis in contignatione prima; et hac minorem parte sui duodecima in secunda. Quod si lacunar arcuatum sit, pro altitudine sumes latitudinem, vel sexta, vel octava, vel duodecima sui parte imminutam in contignatione prima; et hac minorem sexta sui parte in secunda; et si fuerit tertia, altitudo ejus secundæ dodrantem obtinebit.

Pergulæ, quæ vocatur Anglice *a Gallery* latitudo fiat 16, 18, vel 20 pedum; vel in domo regia 24. Longitudo latitudinis multipla, nec minor quintupla nec major octupla. Altitudo, in contignatione prima, eadem quæ est Oeci, Procæti, et Cubiculi ejusdem ordinis; in secunda vero latitudi-

ni

ni par, vel si lacunar arcuatum sit, latitudo parte sui quinta, quarta, tertiave augeatur.

§. 4. PAVIMENTA fiunt multis modis. I. BARBARICA; quæ cum antiquissima putet Plinius, congruum est ut simplicissima fuisse putemus. Quare crediderim fuisse tantum fistucata, quippe vel terra fistucato spissata, vel saltem ossibus (ut ruri hodie solemus) aut lapidibus fistuca impactis. Scio tamen fistucata et Barbarica tam laxè dici, ut in iis numerari possint SIGNINA. Fiunt autem 2. SIGNINA tusa testa, glareaque et calce addita. 3. COCTILIA voco quæ lateribus vel tegulis strata sunt. 4. LAPIDEA quæ secto lapide. 5. LIGNEA quæ tabulis coaxatis, quibus plerumque nos utimur. 6. TESSELLATA quæ et MUSIVA constant exiguis crustis scutillise testæ, marmoris, vitri, &c. vario colore tinctis, et picturæ ratione dispositis; quæ pro materiæ diversitate LITHOSTROTA, HYALOSTROTA, CEROSTROTA, XYLOSTROTA, &c. appellantur. Hæc initio in Pavimentis tantum; postea humo pulsâ in cameras transiere.

SUBTEGULANEA sunt et antedicta, et alia quædam obsoleta. Sed de his, et præterea de SUBDIALIBUS quæ non in Anglia sed calidiore tractu frequentantur, vide PLIN. N. H. xxxvi. 25.

§. 5. FIUNT quoque Laquearia diversis modis. In quibusdam planis conspicui sunt asseres suprapositæ contignationis; et oportet eos in hoc casu a se invicem abesse sesquialtero crassitudinis suæ intervallo; longius enim distare cœli venustas prohibet, propius parietis firmitas. Sed ut plurimum occultantur asseres, vel intestino opere, vel albario; utroque vel puro, vel picturis, vel extantibus ornamentis decorato. Est ubi hæc pleraque, est et ubi omnia miscentur: unde tanta oritur varietas, ut merito neget Palladius certam laquearibus regulam constitui posse.

§. 6. CAMERARUM vero, ne vocabula quidem Latina certo satis constituta sunt. Prorsus enim Æquivoca sunt ARCUS, FORNIX, TESTUDO, CONCHA, CAMERA, laquearibus cavis fere omnibus communia: neque certo significant præter Græca, HEMISPHERIUM et HEMICYLINDRUM, quæ duo sunt PERFECTE, h. e. ad semicirculum ROTUNDA.

At sæpissime fiunt cameræ non ad semicirculum inflexæ sed curva vel ad segmentum semicirculo minus composita, vel AD CIRCINUM (ut Vitruvius loquitur) DELUMBATA: hæc vero non est circularis, sed circini ope, a semicirculo hunc in modum derivatur.

In Fig. 8. *c a d b* est Semicirculus pro arbitrio æquefectus; *c d* radius proorthas; *c e*, Apsis five altitudo cameræ delumbandæ, quæ Italice FREZZA, h. e. SAGITTA dicitur. Centro *c*, intervallo *c e*, describitur *c g e g*, semicirculus priori parallelus; ducuntur radii *c f*, et sinus *f g*; ubi vero radii secant minorem peripheriam, ducuntur ad sinus rectæ diametro parallelæ, in singulis sinubus puncta singula designantes; et æquabilis curva *a e b* quæ hæc puncta pertransit, eadem est quæ postulatur.

Monet autem Palladius, laquearia venustissime delumbari, ubi frezzam habent trientem latitudinis Oeci: idque septem demonstrat exemplis, quibus totidem habitaculorum speciebus a se ante constitutis cameras suas sic accommodat.

I. Primo nominat IL VOLTO A CROCIERA, Latine, CAMERAM CRUCIATAM, uti et nonnulli vocant. Constat duobus arcubus decussatis; qualis Philandro iudice erat veterum TESTUDO. 2. A FASCIA, i. e. EXEMPLO CORTICIS; vocemus itaque si placet CORTICALEM; malo si liceret FORNICEM, sed ea vox hemicylindrum quoque comprehendit. 3 et 7. A REMENATO; cujus curva est SUBSEGMENTUM circuli, h. e. segmentum semicirculo minus; unde et CAMERA SUBSEGMENTATA dici poterit. 4. RITONDO; Gallice, EN CUL DE FOUR, quæ proinde Nobis sit FURNARIA. Convenit illa habitaculo quadrato, et construatur hunc in modum. Relinquuntur

quantur in angulis quasi Incumbæ quædam quibus imponatur; Hinc a semicirculo incipit, sensimque decrescit; quare in medio subsegmentata est, tantoque semper semicirculi curvæ quanto angulis propior evadit. 5. A LUNETTE, quam Philander vocat LUNULATAM, quartis cruciatæ partibus constantem. 6. A CONCA quæ vocetur ALVEOLATA; navis enim vel lintris alveum imitatur, unde et alio nomine A SCHIFFO dicitur.

Modos quatuor priores a Veteribus usurpatos, Posteriores vero duos a modernis inventos, asserenti credimus Palladio: idque unum suffecerit Architecto ne moretur Grammaticos, frustra hic ut ubique alias extra artem suam importunos.

LIB. I. CAP. VIII.

DE APERTIONIBUS.

§. I. **A**PERTIONES sunt Ostia, Fenestræ, Fumaria, et ex quorundam sententia Scalæ. De his bene admonet Woottonus, 1°. Ut tam paucæ fiant, et tam parvæ, quam per alia necessaria fieri possunt; quia omnis Apertio infirmat: Quare et 2°. Apertiones sunt ab angulis quantum licet removendæ; angulos enim oportet esse quam firmissimos.

Notat Philander portas urbium arcuatas, sed in ædibus sacris privatisque fores pariter et fenestras fuisse semper quadrangulas. Erat ea Veterum consuetudo, quæ tamen hodie negligitur. Apertiones vero quadrangulas occultis fornicibus munire, et antiqui, et nostri moris est. Earum lumen in summo contrahere, ut in Templo Vestæ Tiburtino, quam præcipiat Vitruvius, nos non solemus: nam hujusmodi apertio fortasse firma est; sed proculdubio inveniusta.

T A B. XXII.

TAB. XXII.

§. 2. OSTII vacuum appellatur LUMEN HYPOTHYRI, vel simpliciter LUMEN. Hujus latera clauduntur duabus ANTIS, h. e. pilis vel postibus quadratis; quibus imponitur SUPERCILIUM sive LIMEN SUPERUM, cui oppositum calcatur LIMEN INFERUM. Antis et Supercilio ADPANGITUR, h. e. affigitur cui exinde ANTEPAGMENTO nomen est: hujus superior pars quæ Supercilio prætexitur ANTEPAGMENTUM SUPERIUS vocatur: Fasciæ circumcurrentes CORSÆ. Antepagmento velut Epistylion instar Zophori incumbit HYPERTHYRON; illi insidet CORONIX: quod supra est CORONA LATA appellari videtur. ANCONES sive PROTHYRIDES eadem fere forma sunt qua Modiliones; a lateribus ostii utrinque propendent, et in imo folium habent Compagem ligneam qua oppletur Ostii lumen, nescio an Latino nomine appellare possimus; vocatur Anglice *the Leaf of the Door*. Hujus sunt SCAPICARDINALES A, erecti; IMPAGES B, C, transversæ: C Plurali numero MEDII IMPAGES; D REPLUM; E TYMPANUM.

§. 3. Ædificii porta principalis magnitudinem certam non habet; sed pro Domus et Domini dignitate, et portæ ipsius usu diversam. Probat cum Vitruvio Palladius altitudinem a pavimento ad lacunaria in $3\frac{1}{2}$ partes dividi, et harum duas lumen altum esse; latum vero unam, demta parte duodecima altitudinis. Muetio principalis portæ latitudo minima est $7\frac{1}{2}$ pedum, maxima 12. Altitudo vero latitudinis sesquialtera, vel potius dupla.

Pro Conclavibus, juxta Palladium, hæ sunt Ostiorum rationes. Luminis hypothryi latitudo minima sit duorum, maxima, trium pedum, et altitudo congrua minimæ sit 5 pedum, maximæ, sex semis. Muetio latitudo minima est $2\frac{1}{2}$ pedum, et altitudo congrua $5\frac{1}{2}$. A tribus ad quatuor pedes latitudo duplam sui altitudinem postulat. In domo regia, etiam quinque vel sex pedum latitudo conceditur hypothryo, et altitudo

tudo vel hujus dupla, vel interdum quinta aut quarta parte latitudinis dupla minor.

§. 4. DE fenestris, et earum rationibus tacente Vitruvio ita præcipit Palladius. Adhibenda est (inquit) cura ne plus justo minusve pateant fenestrarum lumina: Nunquam igitur latitudinem habeant vel minorem quinta vel majorem quarta parte latitudinis habitaculi; sitque altitudo, dupla cum parte insuper sexta latitudinis propriæ: et si plures sint ordines, inferioris altitudo sexta sui parte imminuta proxime superioris altitudinem dabit.

Fenestras quamvis habitaculorum inæqualium, tamen si ejusdem sint ordinis, oportet esse æquales: ut ita sint, et tamen quælibet in justa symmetria facile perficiet Architectus, modo sit in contignatione habitaculum cujus longitudo duabus tertiis latitudinem superat. Dividatur enim latitudo in 9 partes, et earum duæ dabunt luminis latitudinem; quatuor cum earum parte sexta, altitudinem congruam: eritque hæc commoda commensuratio fenestrarum omnium istius ordinis in quo est habitaculum prædictum.

Muetii hæ sunt rationes. Fenestræ lumen latum esto quatuor semis pedes, vel 5, vel in domo regia 6; altum vero, ut minimum latitudinis duplum: venustius erit si addatur vel quarta vel tertia, vel dimidia latitudinis pars. Pro secundo ordine, minuatur altitudo primi parte sui duodecima; et pro tertio dematur quadrans a secundo.

T A B. XXIII, XXIV.

§. 5. PORTARUM et Fenestrarum ornamenta sunt Palladio tria; quæ cum Ille appellet *L'ARCHITRAVE, IL FREGIO, E LA CORNICE*, quidni et nos vocemus *EPISTYLIUM, ZOPHORUM ET CORONICEM*? Epistylîi sive Antepagmenti latitudo debet esse nec minor sexta nec major quinta parte latitudinis hypothyri; ECPHORAM vero sive projecturam habere latitudinis propriæ partem sextam. Ab hoc petuntur Zophori et
Coro-

Coronicis mensuræ quatuor modis ut in Schemate. In omnibus primo fecatur Epistylum in partes quatuor, habetque Coronicis altitudo harum partium 5. Zophori vero altitudo in modo primo et secundo 3; in tertio quadrantem amplius; dimidium in quarto. Tum reliqua in Schemate sunt per se factis manifesta.

§. 6. CAMINI apud veteres Romanos non sunt Fumaria, sed eorum Gulæ seu Infumibula: Romæ enim si omnino, certe raro fiebant Fumaria cujuscumque nobis sunt in usu: Sed pro iis in parte domus subterranea fornix erat oblongus qui partim calefiebat succensis lignis, partim ferventibus aquis implebatur. Ab hoc calor, ad Oecos, Triclinia, Cubicula, &c. manabat per canales struētilis quaquaversum in intimis parietibus relictos, et ad summam usque contignationem permeantes; erantque his nares ad loca omnia in quibus procurare vellent calorem, exemtilibus operculis contactæ. Multo (ut videtur) commodius habitaremus nos, si eodem uteremur exemplo.

Fiunt autem hodie Fumaria ut plurimum in muri crassitudine, patulis faucibus in habitaculo conspicuis, excurrente Gula supra tecti fastigium. Circumscribuntur Fauces duobus PARASTATIS et CORTINA, cui imposita PYRAMIS ad lacunar pertingit, eique GULA acclivis insidet. Fumarii solum FOCUS dicitur; Pars faucibus opposita (Italico nomine quando Latino caret) CONTRAFOCUS appelletur.

Mensuræ juxta Muetium sic se habent. In Culinis, Occis, et Tricliniis majoribus Faucium latitudo est a 6 ad 8 pedes: Altitudo a quatuor semis ad 5. Projectura, sive Profunditas, a Parastatæ fronte ad Contrafocum mensurata, a duobus semis ad 3. Hinc sensim decrescit cavum Pyramidis, donec perveniat ad imum gulæ, 4 aut 5 pedes longum; a 10 ad 15 uncias, non amplius, latum. In Cubiculis, Faucium latitudo a quinque semis ad 7 pedes: Altitudo 4 vel semis amplius: Projectura 2 vel duum semis. In Exedris, Cellisque familiaricis,

ricis, latitudo Faucium a 4 ad 5 pedes: Altitudo et Projectura eadem quæ in Cubiculis.

Palladius breviter, Fiant (inquit) pro conclavibus Gulæ, a 6 ad 9 uncias latæ, duos cum dimidio pedes longæ; sed contractior paulo sit hiatus ubi Gula Pyramidi conjungitur. Cortina (vel ut alii vocant Frontispicium) delicatissimi operis sit oportet; nequaquam Rustici; nisi forte in ædibus grandiffimis.

T A B. XXV, — XXX.

§. 7. SCALÆ proprie vocantur quæ sunt gradibus distinctæ; sed et improprie ascensus molliter acclives, quales interdum in Palatiis sunt scalarum leco.

In Scalis tria requiruntur. 1. Ut sint lucidæ, h. e. claro et æquali lumine perfusæ. 2. Ut sint amplæ; pro conditione scilicet ædificii. Fiant itaque gradus a duodecim ad quatuor pedes longi; nam si fuerint breviores quatuor, in iis obvii se mutuo impediunt. Requiritur 3°. ut sint commodæ: Erunt autem ædificio, si sub iis scruta et frivola recondi possint; scandentibus, si sint ascensu faciles. Adnitendum igitur, ut gradus sint numero impares (Veteribus religio erat pares facere) et post 9, 11, vel ad summum 13, succedat AREOLA. Altitudo graduum semipedis esto; aut ut minimum 4 unciarum ubi plures sunt continui: RETRACTIO plerumque pedem obtineat; nunquam amplius sesquipede. Commissura fiat (ut loquuntur Itali) CON UN TANTINO DI SCARPA, h. e. paululum inclinans; quæ res scandendi molestiam valde fallit.

Fiunt scalæ vel spirales quæ vocantur COCHLIDES, vel DIRECTÆ quæ et RECTÆ ITIONIS. Spiralium minus est spatium, difficilior ascensus. Fiunt autem vel CIRCULARES, vel ELLIPTICÆ; utræque gradibus vel rectis, vel (quod præstat) contortis; et vel foli muro infertis, vel foli columnæ, vel utrique.

Si columna sit in medio, secetur spatii diameter in tres partes quarum una cedat columnæ: vel (ut in columna Trajana) septusectæ diametri quatuor partes cedant gradibus. Pro

E

cochlidibus

cochlidibus vacuis quadrifecetur spatii diameter, et gradibus duæ partes tribuantur: Præstat vero scalas omnes et præfer-
tim Cochlides in medio vacuas esse; cum ut ipsæ desuper
illustrari, tum ut per eas ascendentes et descendentes se invi-
cem conspiciere possint.

Inter Scalas directas quæ sunt hodie usitatiores, vel OB-
LONGÆ sunt et duplici constant itione, interjecta areola ob-
longa; vel QUADRATÆ. Pro quadratis, quadrifecetur spati-
um, et duæ partes cedant gradibus; vacuo duæ; quibus et
muri crassities comprehendatur, si pro vacuo murus sit.

Aliquando loci angustia cogit in areolis angularibus gradus
facere, tum vero, centro areolæ angulo, et radio ejusdem la-
titudine, describitur arcus quadrantalıs, et in tot partes seca-
tur quot radius pedes obtinet.

Ex his Sclarum rudimentis infinita pene nascitur varietas,
quam verbis persequi nihil opus est: Exempla consulat Ar-
chitectus; et præceptis hisce generalibus imbutus, consilium
sibiumat in arena: memor quod solertiam ejus nihil magis
desiderat quam Sclarum ingeniosa constructio, et commoda
collocatio.

E L E-

E L E M E N T O R U M A R C H I T E C T U R Æ.

LIBER SECUNDUS.

DE ÆDIFICIIS PRIVATIS PUBLICISQUE.

C A P. I.

DE PRIVATA DOMO URBANA.

T A B. XXXI.

§. I. **D**ICTUM est Libro præcedente de iis quæ sunt maxime necessaria sive ad firmitatem sive venustatem ædificiorum in genere : nunc dicenda sunt ea quæ potissimum faciunt ad utilitatem singulorum. Initium autem sumemus a privata domo urbana.

Situm illi si eligere concedatur, ante omnia videndum quo in loco ædificia publica statuantur ; ut in proximo habeas eum locum quo sæpissime tibi commeandum sit. Templi itaque vicinia erit omnibus commoda, Sacerdoti pene necessaria prope Curiam Aulicus, prope Forum Caussidicus, prope Burfam Mercator, in platea regia Institores, cæterique item cives pro suæ quisque vitæ ratione domicilium optent : non longe a flumine, siquod Urbem præterfluat ; procul a Sebario, Zythepsa, Saponario, cæterisque artibus ingrati odoris, procul a macello ; procul a strepitu fabrorum omnium qui incudem tundunt ; procul a malleo et ferra, et præsertim (ut rectissime

E 2

monet

monet Cato) procul a Vicino malo. Eum denique locum ædificio optabis, in quo domum regularem, h. e. rectangulam extruere, et in ea laxè, nitide, tranquille habitare possis, et ipsius ruris amœnitatem in tuas ædes transferre. Hæc autem omnia si minus poteris, dabis operam ut quamplurima consequaris; Idemque de præceptis cæteris dictum esto.

Partes urbanæ ut cuiusque fere domus sunt tres. 1. Τὰ ὑπόγεια pars infima, quæ ut plurimum parte fui aliqua est subterranea. 2. Τὰ ἀνώγεια pars media Domino et amicis destinata, quæ vel μονόστυχα sunt vel δίστυχα, h. e. unius vel duarum contignationum. 3. Τὰ ὑπέρτατα pars suprema; nempe minora quædam habitacula mediis imposita una cum Solariis si in tecto fiant.

§. 2. In parte media oportet esse grandius quoddam habitaculum; et si distega fuerint anogea, huic imponi aliud, non minus: horum inferius est Italice ENTRATA, superius SALA; Nos INTROITUM, et AULAM appellemus. Aulas oportet esse quoad licet capaces; quare præstant cæteris quadratæ; estque melior oblonga quæ ad quadratum propius accedit: Palladius nulli concedit longitudinem latitudinis duplo majorem.

Circa Introitum et Aulam habitacula magna, parva, mediocria, una cum scalis principalibus sunt ita collocanda, ut ab his in Aulam et Introitum facile pervenire, indeque in cætera ejus ordinis conclavia expedite et libere commeare liceat. Porro habitacula diversæ (ut diximus) magnitudinis oportet esse contigua ut mutuam sibi operam præstare possint.

Horum Symmetrias ita constituet Architectus, ut sint pro Domini munere et dignitate diversæ. Nam qui communi sunt fortuna nihil magnum aut magnificum desiderant: Fœneratores et Publicani habitacula commoda, speciosa, ab infidiis tuta; Caussidici, elegantiora et magis spatiosa postulant ad conventus excipiendos; Mercatores, etiam receptacula reponendis mercibus, tuta et ad Septentrionem conversa; Magistratus

gistratus et Nobiles, omnis generis habitacula; eaque magna, alta, ornata, uno verbo Regalia.

In domo splendida, ea solet esse altitudo habitaculi majoris quæ duas duorum minorum altitudines exæquet, quo eorum alterum alteri ad majoris latus imponatur; quod egregiam præstat utilitatem in magnis ædibus. Quæ ita fiunt habitacula, ea Italice AMEZATA, h. e. DIMIDIATA appellantur; petimus ut Nobis liceat INTERCEPTA dicere. Talia in domo mediocri fiunt rarius; sed eorum loco Conclaviola quæ majoribus habitaculis, et si commode fieri poterit, singula singulis famulantur.

Curabit etiam Architectus ut Conclavia singula ad congruas cœli regiones convertantur; Ad Septentrionem ÆSTIVA, eaque ampla et spatiosa; utrumque propter refrigerium. Ad eundem PINACOTHECÆ, propter constantiam luminis. HIBERNA sint Æstivis minora, et Occidentem spectent, vel potius Meridiem; nam calorem usus postulat: VERNA ET AUTUMNALIA, item CUBICULA, Orientem, propter usum luminis matutini; et BIBLIOTHECÆ cum ob eandem causam, tum quod libri minus putrescent. Ex his postremis in Viridia sit prospectus. Orientem denique aspiciat (uti solent Ecclesiæ) in magnifica domo CAPELLA; in minori ÆDICULA five ORATORIUM. Sciat enim Architectus, in bonis ædibus Oratorium et Musæum sic requiri, ut non Triclinium magis aut Cubiculum requiratur.

§. 3. Atque hæc quidem de Anogeis, parte ædium nobilissima; sed in domo ut in corpore humano sunt partes aliæ, quæ utcunque usu præcipuæ sunt tamen cæteris dignitate minores: has, Naturæ exemplo secretas esse conveniet. Quasdam igitur in suprema parte ædium collocabis: Cellas vero et Culinas, Lignilia, Pistrina, Promptuaria, Lavatrinæ, aliaque hujus generis MINISTRALIA in Hypogæis; nam et locus erit opportunus: et reliqua pars ædium liberior, laxior, sanior et jucundior evadet. Equilia cum Fœnilibus impositis domosque

domosque lecticarias, &c. seorsim ab ipsis ædibus, atque ibi constitues unde in hortos stercore commodissime transferri queant. Si a latere Domus collocentur, belle iis respondebunt ex altera parte Ministralia præter Apothecas : et super his utrinque erunt plurium famulorum cellæ, pro cuiusque eorum muneris ratione et commodo dispositæ.

§. 4. Ingressus ædium sive Janua plerumque in fronte media, interdum situ postulante in medio latere collocatur. Ab Janua statim, vel Itinere quandoque interposito pervenitur ad Introitum ; inde ad Conclavia. Hæc in domo qualibet sunt ita ordinanda, ut sint ab utraque parte ædium habitacula similiter æqualia, singula singulis ex adverso respondentia : cuilibet etiam quæ ab una parte est fenestræ ex adverso respondeat altera, ejusdem amplitudinis et symmetriæ, et in eadem linea horizontali constituta. Habitaculorum ostia sibi invicem directe opponantur, ut apertis omnibus, per totam contignationem sit prospectus ; nam quod exinde incommodum metuit WOOTTONUS, nullum scilicet habitaculum præter extrema secretum fore, illud Architectus sagax facile effugiet ; præsertim si prudenter collocaverit Scalas quæ vocantur Anglice *the Back-stairs*, Nos vocare possumus FAMULARES. Tria hæc postrema, Utilitas, Firmitas et Venuetas juxta possulant ; suntque in contignationibus singulis observanda : In pluribus autem coaptandis, illud quartum quod supra monuimus, ut ubique Vacuum Vacuo immineat, et Plenum Pleno.

§. 5. Fumarium cuiusque habitaculi si in medio latere collocetur est venustum ; sed hoc non est necessarium, præsertim in Cubiculo : et si fiat in angulo Conclavis, erit illud magis spatiosum, et communis gula quadrifida quatuor fumariis inserviet.

Scalæ famulares sunt ubique utiles ; ubi fiunt Intercepta, necessariae : Principales sunt ut diximus collocandæ : nihil autem

autem laudabilius quam ad has pergenti pulchriora ædium in itinere esse conspicua.

Plurimum dignitatis et gratiæ accedit ædibus, si in fronte fiat Frontispicium : et propterea, minus licet in Anglia frequentatum, tamen in adjecto Diagrammate factum vides.

LIB. II. CAP. II.

DE VESTIBULO, OECO, CAVÆDIO, ATRIO, PERISTYLIO.

§. I. **P**RÆTER antedicta, in Palatiis, Ædibusque magnificis facta olim sunt VESTIBULA, OECI, CAVÆDIA, ATRIA, PERISTYLIA. VESTIBULUM proprie quid significet haud facile dixerim, tanta Veterum est dissensio. Multi hodie, nec immerito, arbitrantur esse locum vacuum inter Viam publicam et fores ædium, quasi STABULUM saluatoribus nondum in ædes intromissis : sed ædificiorum comodo et dignitati melius consulunt qui LOGGIAM, h. e. Porticum reddunt coopertam et columnis prætextam. Græci Vestibulum appellant *πρόθυρον* : sed Romanis PROTHYRA sunt repagula quibus equi, currus, &c. a Vestibulo arcentur ; et ista Græce sunt *διάθυρα* : Nobis, ad vitandam ambiguitatem, dicetur LOGGIA VESTIBULUM ; locus ille vacuus ante januam PROTHYRON ; Repagula, DIATHYRON.

Fiunt autem Vestibula vel in media fronte singula, vel si bina fuerint a lateribus. Eorum amplitudo pro domus comodo et dignitate fit diversa ; sed hac lege, ut nusquam habeant latitudinem vel minorem quam denum pedum, vel majorem quam vicenum.

T A B. XXXII, XXXIII, XXXIV.

§. 2. Oecus in genere, (ut supra diximus) est quodvis grandius habitaculum ; frequentissime verò usurpatur pro Introitu, Aula, et Triclinio. Quatuor illius species ita numerat Vitruvius ut quinque efficiat varietates : nam et TETRAS-

TYLON

TYLON narrat, et CORINTHIOS DUOS, et præterea CYZICENUM et ÆGYPTIUM.

Oecus TETRASTYLOS est in quo sunt columnæ quatuor insulatæ, suprapositam contignationem sustinentes. Utile erit Introitum hoc modo fieri; nam et securius erit Aulæ pavimentum; et licebit beneficio columnarum ipsius Introitus altitudinem reliquæ ejus symmetriæ congruentem facere. Vide Tabulam xxxii.

Oecus CORINTHIUS est qui habet (juxta Vitruvium) COLUMNAS SIMPLICES AUT IN PODIO AUT IN IMO POSITAS; h. e. columnas uno ordine, parietibus insertas, ut in Tab. xxxiii. et vel Stylobatis insistentes ut in Fig. prima, vel ipsi solo ut in secunda, et discriminis causa vocari poterit CORINTHIACUS; uterque modus erit Aulæ valde opportunus. Trabeatio fiet vel ex intestino opere vel albario. Lacunar erit vel semicirculare, vel ad trientem latitudinis Oeci delumbatum. Venustissima erit longitudo quæ duabus tertiis latitudinem superat, five superbipartiens tertias latitudinis.

Oecus CYZICENUS non Italicæ consuetudinis erat, sed Græcorum propius; nec tam figura aut usu, quam situ, valvis, et fenestris a Corinthio diversus. Septentrionem et viridia spectabat; tantæque erat amplitudinis ut duo caperet Triclinia cum circuitionibus ex adverso ad invicem collocata. Valvas habuit in medio, et fenestras quoque valvatas ut viridia de tectis prospici possent.

Oecus ÆGYPTIUS, longe omnium pulcherrimus (ut in Tab. xxxiv.) duarum habet contignationum altitudinem; adeoque duos columnarum ordines. Inferiores sunt insulatæ; cum imposito tantum Epistyllo, juxta Vitruvium; sed Palladius jure addit zophorum et coronicem. Hujus coronæ, murus insidet continuus, cui inferitur secundus ordo columnarum; quæ vel dimidiæ sunt, vel trientales; insulatis directe imminet, et quarta parte sunt minores; et in earum intercolumniis undique sunt fenestræ. In inferiori parte paries absistit a columnis, sed facta contignatione conjungitur; ita ut per

Oeci

Oeci marginem fit ambulatio columnata, pavimento subdiali et balaufrato cooperta.

§. 3. De CAVÆDIO, et CAVIS ÆDIUM, dubitandi locus est. Varro enim quod appellat CAVUM ÆDIUM idem esse quod est ATRIUM diserte statuit: Plinius minor quod CAVÆDIUM vocat ab Atrio manifeste distinguit: Qui Vitruvium sequi profitentur, Palladius Barbarusque cum Varrone sunt; Perottus vero ita ad Plinium accedit ut Cavædium vertat UN COUR DE MAISON, Atrium UN VESTIBULE: Ipse denique Vitruvius mentem suam non satis explicat, sed CAVA ÆDIUM pluraliter appellat, et quinquefariam distinguit. Ego quid existimem si interrogos, suum cuique iudicium ut in re incerta relinquendum arbitror; a mente autem Vitruvii haud procul abfuturum qui sic statuatur. In Romanis ædibus Atrium plerumque erat et Peristylum; duæ areæ, vel subdiales, vel ad totius saltem domus altitudinem patentes; circa quas Conclavia ita disponebantur, ut earum utraque Fori speciem obtineret: Porro ex Atrio in Peristylum iter erat per Tablinum; quod diductis ex adverso faucibus, magna ex parte patulum, semperque erat pervium; et horum trium Symmetriæ figuram Atrii sequebantur. Credo igitur hæc tria a Vitruvio CAVA ÆDIUM appellari; eorumque differentias, pro diversa Atrii figura quinquefariam constitui.

T A B. XXXV. — XXXIX.

§. 4. ATRIUM igitur appello aream quadrangulam certa quadam ratione oblongam, cujus omne latus habitaculis claudatur. Habeat enim oportet Longitudo vel quinque tertias Latitudinis, vel ejusdem sesquialterum, vel ejusdem quadratæ diagonium: una omnium sub trabes altitudo, Longitudinis dodrans.

Si Conclavibus per oram dispositis pectinata sint tecta, parietibus ita imposita ut nihil in aream ultra Trabeationem procurrat, vocabitur illud ATRIUM DISPLUVIATUM.

F

Quod

Quod si subgrundæ ut in Tab. xxxv. aliquantulum promineant, adjectis trabibus quibus areæ margo obumbretur, erit ATRIUM illud TUSCANICUM.

Sin, ut in Tab. xxxvi. additis præterea trabibus ab utroque latere, fiat amplior prominentia, trabesque columnis quatuor insulatis sustententur, erit illud ATRIUM TETRASTYLON; et habebit in duobus lateribus duas ex adverso ALAS A A.

“ N. B. In quocunque Atrio alato oportet alas esse similes ter æquales; utramque latam longitudinis Atrii partem sextam, septimam, octavam, nonam, decimam, prout fuerit longitudo a pedibus 30 ad 40, a 40 ad 50, a 50 ad 60, a 60 ad 80, ab 80 ad 100. TRABES earum LIMINARES (vel ut alii LIMITARES, h. e. Epistylia) in corona muri ita attollantur, ut altitudo muri latitudinem Atrii exæquet. Impluvium lumen latum esto nec plus triente nec minus quadrante latitudinis Atrii; Longitudo uti Atrii pro rata parte fiat.”

Porro si duæ alæ ut in Tab. xxxvii. columnis totæ prætexantur, erit illud ATRIUM CORINTHIUM: item, si fiat interius ambulatio columnata, habitaculorum tecto humilior, et pavimento subdiali et balaustrato cooperta: sed hoc discriminis causa vocetur CORINTHIACUM. Vide Tab. xxxviii.

Denique si imposita testudine tota area contegatur ut in Tab. xxxix. TESTUDINATUM appellabitur; et accipiet lumen per fenestras sex pedes altas in corona muri ambientis Atrium reliquendas.

§. 5. TABLINUM quid esset ante diximus: quoad symmetriam oportet esse quadratum; utque Atrio fiat congruum, habeat quadrati latus vel duas tertias, vel dimidium, vel duas quintas latitudinis Atrii, prout fuerit illa latitudo a pedibus 20 ad 30, a 30 ad 40, a 40 ad 60. Altitudo sub trabem fiat adjecta latitudini suæ octava; et accedat insuper pro Lacunariis ejusdem latitudinis triens.

T A B.

TAB. XL.

§. 6. PERISTYLIUM (Polluci PERICION, nam et *κίον* est columna) idem fere videtur quod in Cœnobio vel Collegio CLAUSTRUM. Est enim area quadrangula, tertia parte longior quam est lata, cujus pars media subdialis, ora ambulationem habet columnis undique redimitam: sæpe insulatis, sæpe etiam infertis; semper altis quanta est Porticuum latitudo. Aliquando insulatæ supra infertas collocantur; Aliquando tres sunt vel plures ordines; et Intercolumnia (superioris præfertim ordinis) paries fenestratus occupat: unde, modis hisce omnibus combinatis, ingens varietati locus est. Amplitudinem aræ a nemine (quod sciam) constitutam, Ego non definio; certam tamen ad Atrium habuisse rationem nullus dubito. Quoad situm, obvertitur Atrio; saltem a Vitruvio, qui designat longitudinem IN TRANSVERSO, latitudinem INTRORSUS. Ab Atrio facile distinguitur; hujus enim, Alæ tantummodo sunt columnatæ.

Jam vero Atrio, Tablino, et Peristylis rite compositis fieri arbitror (ut ante dixi) CAVA ÆDIUM Vitruviana: et si aliud sit (ut videtur) CAVÆDIUM Plinii junioris, fuerit fortasse nomen Quadrangulis omnibus commune, quæ conclaviis essent septa et interius subdialia, ea tamen vel figura, vel symmetria, vel utraque, ut nec Atria essent nec Peristylia: qualia plerumque sunt Quadrangula in Collegiis Universitatum.

TAB. XXXV, XXXVI.

§. 7. CAVA ædium Tuscanica præeunte Palladio hunc in modum componemus. Statim a Vestibulo esto Atrium: cujus, $3:2::$ longitudo: latitudo: et $5:2::$ latitudo Atrii: latus Tablini. E Tablino perveniatur in Peristylum, in transverso tertia parte longius quam introrsum; ejusque Porticus latæ sunt quanta est columnarum altitudo. Cætera vel ut in Tab. xxxv. fieri possunt, vel ad ædificantis arbitrium, servatis tamen generalibus regulis variari.

F 2

Ejusdem

Ejusdem exemplo CAVA ÆDIUM TETRASTYLA ita componentur. Per Vestibulum itur in Atrium; cujus, 5 : 3 : : longitudo : latitudo. Hujus latitudinis semissis dat Tablini latus; triens, Impluvii lumen; octava, Alæ latitudinem; decimafexta, Diametrum quatuor columnis, quæ sunt etiam Corinthiæ. Peristylum est in transverso tertia parte longius quam introrsus. Duos habet columnarum ordines; infra sunt Doricæ pedum 16; eademque est porticum latitudo: supra, Ionicæ, quarta parte Doricis graciliores; quæ insunt podio, sive stylobatæ perpetuo, duos pedes et dodrantem alto.

De Testudinatis et Corinthiis mox commodius dicemus: Displuviata cum Palladio data opera præterimus.

LIB. II. CAP. III.

DE PRIVATA DOMO URBANA ALIARUM GENTIUM.

§. I. **P**LERÆQUE gentis uti cœlo et moribus, ita ædificandi modo distinguuntur. Valde autem profuerit Architecto quam tenuerint singulæ rationem probe cognoscere, adeoque exempla, præsertim vetera, sed potissimum Græca et Romana diligenter inspicere. Quare de iis nunc dicemus: et cum Perotti tabulæ Vitruvium plerumque explicant, eum vero Palladius ubi non exprimit emendet, utriusque horum Diagrammata proponemus, et in utrisque eisdem locos iisdem literis designabimus.

T A B. XLI, XLII.

§. 2. Græca domus urbana neque Vestibulum habet contra viam publicam Z, neque in ingressu Atrium, sed angustum iter A, quod est Græce *Συρραπειών*, cujus ab una parte sunt Equilia B, ab altera Ostiariorum cellæ C.

Hinc introitur in Peristylum, sed improprie dictum, nam in tribus tantum partibus habet porticus D; et in ea parte quæ Meridiem spectat duas Antas quasi Fauces spatii E introrsum

trorsum recedentis, quod et *Προςὰς* et *Παράς* dicitur. Ampla est Faucium distantia, et abscedentis lateris sesquialtera, et in Antis invehuntur proximarum contignationum trabes. In dextra Prosthadis et sinistra tria sunt utrinque habitacula, duo cubicula mediocria, H H. quæ vocantur THALAMUS et ANTITHALAMUS, et utrique suum Antecubiculum grandius G, et Postcubiculum minus Γ. Circum in porticibus, Triclinia quotidiana K, Cubicula L, Cellæque familiaricæ I. Ultra Antecubacula Oeci magni F lanificio matrum destinati; Penetræli quodam O discreti, et in subdialia Y spectantes. Atque hæcenus GYNÆCONITIS est.

Interiorius sunt ANDRONITIDES; et in iis habitacula laxiora, Peristylum latius, ornatissimæ porticus, egregia Vestibula, Januæque propriæ cum dignitate. Hujus Peristylî porticus P N sunt quatuor; vel eadem omnes altitudine, vel saltem tres; celsiore (siqua est) quarta N quæ meridiem spectat; quodque porticum talem habet Peristylum incerta aliqua de causa appellatur RHODIACUM. In Rhodiaco contra meridiem sunt Oeci quadrati T; tam ingenti amplitudine, ut in singulis quatuor Triclinia commode collocata, ministrorum tamen et ludorum operis magna spatia relinquunt. In his marium convivium exclusis matribus celebrantur. Septentrionem spectant Triclinia Cyzicena Q, cum Pinacothecis: Occidentem Exedræ R; Orientem Bibliothecæ S.

Seorsim ab hisce ædibus, ex utraque parte sunt HOSPITALIA V, interpositis itineribus X, quæ vocantur Græce Μεσάυλαι, Latine perperam ANDRONES. Sux sunt Hospitalibus januæ, sua Triclinia, et Cubicula, et cum Penu Cellæ: ut in iis liceat Hospitibus post primum diem secreta libertate gaudere. Venientibus enim primo die cœna exceptis, exinde pullos, ova, olera, poma, aliaque agrestia mittebant: unde et XENIA vocantur Tabulæ in quibus talia pinguntur.

T A B.

TAB. XLIII, XLIV.

§. 3. In ingressu ædium Romanarum est Vestibulum V, Palladio Loggia, Perotto, *περόδουρον*: In Perotti diagrammate sequitur Cavædium B. contra Vitruvium, qui VI. 8. diserte dicit, QUOD IN URBE ATRIA PROXIMA JANUIS SOLENT ESSE. Recte itaque Palladius a Vestibulo facit Atrium C; quod in hoc exemplo est Testudinatum; ejusque longitudo quadratæ latitudinis diagonio, altitudo sub trabem ipsi latitudini par est. In Perotti diagrammate est Corinthium, cujus alæ D.

Apud utrumque sequitur Tablinum E; tum, Peristylum F; et servant regulas generales. In Porticibus Palladii, habitacula G eandem habent quam ipsæ porticus latitudinem; eique parem altitudinem rectam, et ejusdem insuper trientem pro abside camerarum. H sunt Oeci Corinthii; I, Tetrastyli; K, Ægyptii; L, Cyziceni; M, Quadrati; N, Exedrae; O, Bibliothecæ; P, Equilia; Q, Balnea; X, Viridia; Y, Ambulationes arboribus confitæ.

Horum quæ literis designavimus ipsa plerumque nomina usum indicant: Reliquorum multiplex erat usus, et pro Domini voluntate diversus; Atriorum vero, apud Veteres, ad servandas imagines Majorum. Nam in Atriis "expressi cera
"vultus singulis disponebantur armariis, ut essent imagines
"quæ comitarentur gentilitia funera (unde obiter causam in-
"telligimus cur proxima januis essent Atria) semperque de-
"functo aliquo totus aderat familiæ ejus qui unquam fuerat
"populus. Stemmata lineis discurrebant ad imagines pictas.
"Tablinum codicibus implebatur, et monumentis rerum in
"magistratu gestarum. Aliæ foris et circa limina domitarum
"gentium imagines erant; affixis hostium spoliis, quæ nec
"emptori refigere liceret. PLIN. N. H. xxxv. 2. Sed hæc
priscis temporibus, et præcipue florente Republica. Post Au-
gusti vero excessum, Architectura cum cæteris Artibus adeo
degeneravit, ut ab eo tempore ad extrema Imperii quo recen-
tiora

tiora essent opera eo magis plerumque essent vitiosa. Hæc de privatis Antiquarum urbium reliquiis dicta sunt.

T A B. XLV, XLVI.

§. 4. Dicendum erat deinceps de modernis ædibus urbanis singularum gentium, sed cum Architectura apud Italos renata nondum extra Italiam adoleverit, tria tantum addemus exempla, e Palladio deprompta.

Primum est Cœnobii quod Venetiis dicitur *IL CONVENTO DELLA CARITA*; quod cum extrueret Palladius, Romæ veteris Urbanum imitari voluit, quodque Architecturæ suæ II. 6. sic describit.

Atrium habet Corinthiacum; idque longum quadratæ suæ latitudinis diagonium. Ala utraque longitudinis septimam lata est. Columnæ sunt Compositæ, pedes 35 longæ, trium semis Diametro. Impluvii lumen latum est trientem latitudinis Atrii. Non interius, sed ab Atrii latere pro Tablino est Sacrarium: ex adverso Domus Capitularis. Utriusque Camera Doricæ imponitur Coronici; et in utroque columnæ sustinent intergerinum parietem, cubicula sive Cellas ab Ambulationibus dirimentem. In ea parte quæ Ecclesiæ adjacet Scala est ovata, vacua, non minus commoda quam venusta. Ex Atrio recta itur in Peristylum seu (ut vulgo dicitur) Inclaustum, quod tres habet columnarum ordines, duobus modis ut in Schemate insertarum. Infra sunt Doricæ trientales; super has Ionicæ quinta parte minores; et ab his tantundem deficiunt supremæ omnium Corinthiæ. Intercolumnia suprema implentur pariete fenestrato; inferiora apertis fornicibus distinguuntur. In supremo ordine sunt Fratrum Cellæ sed relictis ambulationibus. Cameræ ne muros gravent, ita fiunt arundinibus uti suo loco ostendemus. Ultra Peristylum est Refectorium; cujus longitudo latitudinis dupla; altitudo, ejusdem sesquialtera ad usque tertiam Peristylî contignationem attollitur. Ab utroque latere Porticum habet; subtus Apothecam sive Cellam vinariam, ita factam uti fieri solent Cister-

næ

næ ne aqua subeat. Refectorio adjacent, Culina, Furni, Chors, Lignilia, Lavatrinx, Hortulus, aliaque necessaria. In hoc denique Cœnobio computatis Hospitalibus, &c. 44 sunt Habitacula, et Cellæ 46.

TAB. XLVII, XLVIII.

§. 5. Alterum exemplum esto Insulatæ domus, in media urbe Vincentia prope Forum; quæ proinde in primo ordine tabernas habet in fronte cum Interceptis. Procurrit itaque Introitus Vestibulo prætextus; et supra Introitum tanto major est Aula, quanta est Vestibuli latitudo. In utroque item latere est Introitus; in quo columnæ suprapositam contignationem sustinentes, ipsius una Introitus latitudinem altitudini congruentem faciunt. In domo media est Peristylum (nisi mavis Cavædium dicere quia quadratum est) cujus inferiores porticus sunt Generis Etrusci, superiores Italici. Contra Introitum principalem Oecus est, quem vocare poteris Corinthium; in angulis, Oeci quatuor octogoni, tam figura quam multiplici usu commendati. Ministralia partim in Hypertatis; Apothecæ vero, &c. in Hypogæis; quippe sita est domus in edita parte civitatis, ubi nullum est ab aqua periculum.

§. 6. Exemplum tertium esto quod fors obtulit, capite tertio ejusdem libri. Hujus domus Hypogæa ex parte tantum subterranea, 5 pedes supra terram attolluntur: Unde et ipsa a vicino flumine non timent, et Anogea liberiore gaudent prospectu. Distega vero sunt Anogea; estque inferior ordo Doricus, superior Ionicus. In inferiori per totius frontis laxitatem est Porticus: Habitacula omnia camerata; in majoribus, a pavimento ad apsidem altitudo est inter 1 et L Arithmetice media; æquealta illis mediocria lunulatis lacunaribus castigantur; minora habent Intercepta cum cochlidibus famulis. In secundo ordine, Aula est in fronte media; utrinque Vestibulum sublime, sive Menianum: Horum trium altitudo, ad Tectum usque. Aula tanto amplior est Introitu quanta est
subjectæ

subjectæ porticus latitudo : quoniam autem excurrit extra corpus ædium, idcirco anguli geminis columnis muniuntur.

LIB. II. CAP. IV.

DE VILLA, SIVE DOMO RUSTICA; ET SUBURBANO.

§. I. **V**OCABULUM VILLA ubi late sumitur, cum domo rustica, fundum quoque significat: Nobis stricte sumetur pro domo ipsa vitæ rusticæ destinata; cujus in modo, situ, et structura, saltem aliqua fundi est habenda ratio; quæ ad præcepta operis aliquantum, sed ad vim vocis ampliandam nihil facit.

Modus Villæ ex præscripto Veterum is probatur, ut nec Fundus Villam quærat, neque Villa Fundum. Situs vero commodissimus est in Fundi medio: prope flumen (si haberi poterit) navigabile; sin minus, propter aquam profluentem; nam a reside et restagnante, præsertim si hirudines alat, velut a peste fugiendum. Veteres solum captaturi, pecorum in eo pascentium exta rimabantur; et si jecinora invenissent livida, continuo migrabant. Habenda quoque aëris ratio, ut sit purus et salubris; et proinde ædificandum (si licuerit) in loco edito, ubi subinde ventis agitur. Cavendum vero a convallibus; nam in iis Sole et Vento nec carere potes nec frui sine incommodo. Si coactus villam in monte colloques spectet ea temperatam cœli regionem; fugiatque montis celsioris vel adversæ rupis viciniam; ne vel a monte jugiter obumbretur, vel a rupe sole percussio, quasi duobus solibus torreatur. Postremo, Terræ indoles spectanda est; cujus sicut aquæ atque aëris salubritas multis indiciis exploratur: sed hæc a Physicis sunt petenda.

§. 2. Partes Villæ sunt apud Columellam tres. 1. **URBANA**, alio nomine **PRÆTORIUM**, ubi habitat Dominus. 2. **RUSTICA**, in qua sunt familiæ villaticæ et instrumenta

G

rustica

rustica. 3. **FRUCTUARIA**, recondendis fructibus. Prætorium iisdem fere legibus constituitur quibus privata domus urbana. Fructuaria et Rustica sint perpetua, et Prætorio ita connexa ut per totam Villam ambulare liceat sub tecto.

Habitet Villicus juxta portam; et familia villatica in loco ad custodiam Villæ opportuno. Boves equos et jumenta cætera propter gravem a stercore odorem, quoad licet a Prætorio removebis; sed in loco calido et perflabili collocabis. Animalia fœcunda ut pulli, porci, pecudēs, columbæ, &c. locum habeant naturæ suæ atque ufui congruentem; quem per se incertum, habitantis populi mos et consuetudo determinabit; nam ex locorum occasione aliter alibi decernitur.

Vinum adeo delicatum est ut nihil facilius corrumpatur. Fodienda igitur Apotheca eo in loco a quo strepitus, calor, humor, foetor, (addunt alii et radices arborum) procul absint. Lumen accipiat ab Aquilone, vel ab Ortu utique. Pavimentum habeat in medio depressum, uti siquid effluerit, ne pereat. Sub tecto juxta sint Cupæ tam sublimes, ut factum in iis vinum ubi deferbuerit, facile per canales ligneos vel coriaceos in Dolia diffundi possit.

Granaria spectent Aquilonem; ibi enim frigus, et siccitas, et non nascitur curculio; unde plurimum facit hæc positio ad frumenti diuturnitatem: Fiant illis pavimenta vel signino opere, vel (si hoc nequeas) tabulato; omnino enim fugienda calx est, ut frumento maxime inimica. Eodem Horrea quo Granaria, iisdem fere de causis convertantur: Ad Occidentem Fœnilia, vel potius ad Meridiem; fœnum enim Sol siccat, ne (ut solet humidum) concalescat, ignemque concipiat: ad Meridiem instrumenta rustica, sub tecto.

Area vero ad trituram ita collocetur, uti possit e prætorio conspici, verum nec pulvis inde ad Prætorium, nec in hortum provolet lætamen. Spatiofa esto, et soli exposita, et fistucato pavita, vel potius filice constrata; Addit Varro, et rotunda, et in medio extumida. Undecunque Porticus habeat; quæ præbebunt æstu Umbraculum, contra subitos imbres Nubilarium.

T A B. XLIX.

TAB. XLIX.

§. 3. Antiquorum Villa describitur a Vitruvio VI. 9. quem ut facilius intelligas, diagrammate suo Palladius sic illustrat. In ingressu est Vestibulum ad Meridiem conversum. Proxima, sed itinere interposito, Culina desuper illustratur; quadrata est, et in Medio Focum habet, non in latere Fumarium. A sinistra ejus Bubilia, cum præsepibus, Orientem et Focum spectantibus; ita scilicet cavebant ne horridi essent boves. Ex eadem parte Balnearia cum adjunctis locis necessariis Meridiem versus procurrunt quantum ipsum Vestibulum. Ex adverso ad dextram Torcularia Balnearibus respondent, et fruuntur Meridie, Oriente, Occidente: Post hæc Apothecæ sive Cellæ Vinariæ, quæ a Septentrione lumen habent, et ab omni strepitu, et calore Solis removentur. Hisce imposita Granaria ab eadem cæli regione illustrantur. Ex utraque parte Peristylî (quod et Cavædium esse poterit) sunt Equilia, loco calidissimo, modo ne ad focum spectent; item Ovilia, cæterisque pecoribus stabula; Fœnilia, Palearia, Pistrina, &c. quæ ab igne tuta et proinde remota esse convenit. Post hæc omnia est Prætorium; cujus Frontispicium eodem spectat, quo Vestibulum Villæ; unde contigit Atrium in ultima villa collocari, contra quam in domo urbana, ubi januæ proximum solet esse,

TAB. L.

§. 4. Ad Medoacum flumen est illustris Villa Patricio Veneto Mocenico a Palladio constructa, quæ Nobis erit pro exemplo Villæ hodiernæ. Invitare hospites videntur, et quasi venientes amplecti curvæ Porticus a Prætorii angulis procedentes: quarum a lateribus, in anteriore parte, propter flumen sunt Equilia; in posteriore, Culinæ; et utrisque imposita sui generis Ministralia. In fronte media Prætorii, est Loggia sive Vestibulum octostylon, cujus Columnæ Italicæ quadragenum pedum Intercolumnia habent, in medio Systylon,

G 2

utrinque

utrinque Pycnostyla. His a tergo sunt parastatæ duos pedes lati, et sesqui-quartum crassi, et attollunt Podium sive Pergulam patentem, ad contignationis primæ altitudinem: eodem exemplo in lateribus Hexastyla duo statuuntur. Post Vestibulum, ab utraque parte aditus, est Triclinium; pedes vices latum, quadragenos longum: utriusque latus claudit Exhedra vicenis pedibus in quadrum; altitudo ejus est sui lateris sesquitertia; alveolatum enim lacunar pro apside habet lateris trientem. Per aditum itur in Cortile, sive illud Peristylum placet, sive Cavædium appellare; duos habet undecunque Columnarum ordines: quæque superiores sunt Corinthiæ, subiectis Ionicis quinta parte minores: latæ sunt Porticus Ionicarum altitudinem suo diametro multatam, et adjuncta habitacula tantundem, quo validius Tectum mediano pariete fulciatur. In interiore Porticu contra aditum est scala principalis duplici itione contraria, ut in Tab. xxvii. Deinceps est Oecus grandior, latus pedes tricenos, longitudinæ dupla, sesqui-altera; quare et Alas habet columnatas, quibus reliqua ejus symmetria ad altitudinem temperatur. Aula vero supraposita nullas habet, nam ad Tecti cælum attollitur: habitacula vero coordinata, suam tantum latitudinem alta. Quod ad Aulæ altitudinem superest Interceptis spatium relinquunt.

§. 5. Suburbanum est mediæ cujusdam naturæ inter domum rusticam et urbanam; quærit enim nitorem: sed secesum magis; estque prima in eo cura requiescere et latere. Quamobrem et ruris sordes et splendorem urbis juxta aspernatur: nec Triclinia jactat aut Pascua, sed Musæum, Hortos, et Ambulationum laxitatem. Salubritatis interest, ut editius paulo collocetur, et juvabit despectare Urbem, quam reliqueris.

TAB. LI, LII.

Hujusmodi ædium duo subjecimus exempla, utrumque a Palladio, In priore, propter situm quoquo versus amœnissimum,

num, quatuor sunt Vestibula, et in medio circularis Aula quadriforis, supra Tectum assurgens, et desuper lumen accipiens. Vestigium ejus inscribitur quadrato; quodque spatium circulo ad quadratum deest, illud in angulis explent Scalæ quatuor famulares. Ducunt illæ, cum ad Intercepta, quæ minoribus habitaculis imponuntur, tum ad Podium, quod est in Aulæ circuitu, ad secundæ contignationis altitudinem. Supra sunt Hypertata altitudinis octonum pedum: Ministralia cætera in Hypogæis. Bella est secundi Oeconomia, et modis pluribus variabilis. Duo sunt Vestibula, utrumque Ordinis Ionici; Podium (pars ima Mænium) in imo prominens; Anogea distega; in quatuor angulis turriculæ. Apud Palladium Villa est duabus areis instructa, antica in usum Domini, postica ad rem rusticam. His omissis, Suburbanum fiet; omissis quoque turribus et vestibulis, Suburbanum minus: item si Anogea sint monostega, et (mutato situ) Ingressus ubi nunc Posticum est; pro vestibulo reliquo Musæum; pro Aula Oecus Ægyptius, et in angulis Speculæ.

T A B. LIII, LIV, LV.

§. 6. Tribus hisce Tabulis descripsimus novem Frontispicia Palatiorum totidem illustrium, quæ et hodie Romæ videntur.

Primum est Palatium Regis Angliæ, a Bramante in Burgo novo ædificatum, A. D. 1504. Nuper erat Hieronymi Cardinalis Columnæ.

Secundum Ducis Sorani, in regione Apparitorum, vulgo Rione di Parione, quod extruxit idem Bramantes Nicolao Cardinali de Fieschi, A. D. 1505. sed, opinor, sine turricula.

Tertium est Palatium Caffarellorum in regione S. Eustachii, sed ex parte solummodo descriptum; Architectus Raphael Urbinas, A. D. 1515.

Quartum est ipsius Raphaelis domicilium in Burgo novo, a se sibi factum circa A. D. 1513. Quare describitur sine inutilium Ornamentorum ineptiis, a quibus tantopere Vir divinus

vinus abhorrui, ut facile constet aliena manu adjectas. Hujus domicilii Ideam ipse Raphael designavit. Architectus vero Sumtuarius erat Leo X, Papa; Manuarius, Bramantes.

Quintum est alla Lungara; eratque Augustini Chisii Raphaelis amantissimi: In eo itaque Galatea, decantata illa Raphaelis tabula, cum quibusdam aliis conservatur. Architectus erat Balthasar Perusius, A. D. 1518, qui et in eo xystrum tanta arte depinxit, ut mirabilis veri species præmonitum quoque falleret Titianum.

Sextum est Cenciorum Palatium, in prædicta S. Eustachii regione, ad Telonium; Ideam ejus, A. D. 1535, amico suo Paulo Stacchio designavit Julius Romanus.

Septimum extra Portam Flaminiam, vulgo del Popolo, a Jacobo Baroccio Vignola designatum est A. D. 1553, Julio III Pontifice. Vineæ Julia est Palatio nomen; cujus partem in fronte prominulam Diagramma exhibet.

Octavum opus est P. Dominici Pacanelli Faventiatæ Mathematici; Cardinali Alexandrino, A. D. 1585, extructum. In regione Montium, vulgo Rione di Monti, Apostolorum Piazzam, sive Forum, hac fronte aspicit.

Nonum est Palatium Gentis Turrianæ, vulgo SS^{ti} di Torres, in Circo Agonali, quæ est hodie Piazza Navona, A. D. 1560, extructum; Architecto Pyrrho Ligurio, nobili Neapolitano; cujus solertiæ laudem nemo non deprædicat, qui vel in Architectura, vel in cognatis artibus, vel in re Antiquaria scire aliquid profitetur.

Eo animo hæc descripsimus, ut Tironibus essent pro exemplo; ea enim cum voluptate pariter et fructu vel exprimere vel imitari poterint; vel in iis aliquid variare, vel eorum partem aliquam decerpere. Aliis fortasse alia pulchriora videbuntur; Homini Anglo ea visum est eligere, quæ Anglorum moribus censeret præter cætera convenire. De privatis autem Ædificiis dicendi hic finis esto,

T H E
E L E M E N T S
O F
CIVIL ARCHITECTURE,
ACCORDING TO
VITRUVIUS AND OTHER ANCIENTS,
AND THE MOST
APPROVED PRACTICE OF MODERN AUTHORS,
ESPECIALLY PALLADIO.

BY HENRY ALDRICH, D. D.
FORMERLY DEAN OF CHRIST CHURCH.

TRANSLATED BY
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O X F O R D :

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MDCCCLXXXIX.

A D V E R T I S E M E N T.

IT is presumed that the following notices, concerning Architecture and Architects, can scarce prove unacceptable to the Readers, for whose ease the Translation they precede is intended. The intire Novice in that Science—the Artist, whose attention the engagements of an early practice have withdrawn from the history of his profession—the Traveller, who sets out unprepared for countries in which the wonders of ancient Art, and the rival works of Masters, who from them have learned almost to equal them, are every where obvious.—Persons of these descriptions must, it is presumed, receive with no unwilling hand the tender of such information, as officious industry has here collected for them from the best sources; and endeavoured to bring within the shortest compass. A pure view to utility suggested the
G attempt:

A D V E R T I S E M E N T.

attempt : and a candid acceptance is all that is hoped, in return for a labour which no vanity could beguile, since no praise can await its best success.

It is due to the respectable Author of the Translation to declare, that he is totally unaccountable for any mistakes or defects in the sketch he has honoured with a place at the head of his version.

INTRODUCTION.

THE wants of man, in solitude or in society, are the sources of his invention and industry. The first of his needs, after the means of subsistence, is that of protection for his person and stores, against the severity of climate and the mutability of seasons.

His earliest attempts, to provide a permanent shelter for both above ground,* must have been determined by the easiest application of the most obvious materials, such as trees and their branches, reeds, shrubs, rushes, clay, mud, &c.

In whatever artless manner these may at first have been employed, as infant society became less rude, and practice introduced dexterity, his structures would naturally assume some regularity of form.

* If ever there was a time when man inhabited caves in rocks, or burrowed under ground,^a that mode of dwelling is antecedent to the first idea of structure, and therefore foreign to the present purpose; not to mention that the gloom and humidity of such retreats must soon have compelled him to the contrivance of a less uncomfortable abode. We read, indeed, in P. Mela and in Pliny, of an African nation of Troglodytes, i. e. (etymologically) dwellers in caverns, on the south western coast of the Sinus Arabicus, or Red Sea; but Mela's further description of this people, as creaking rather than speaking, and living upon serpents, gives their whole article a very fabulous cast.

^a Vitruv. B. II. c. 1.

The usage of all the less cultivated tribes of men, in the various distant regions of our earth, seems to shew that the conical hut was the primary essay in this kind.* We find it with the Kamkatschan and the Hottentot; we meet with it in the American Wigwam; among the antient inhabitants of Asia Minor,^b and those of the new discovered islands in the southern Ocean. It is of ready erection, as easy removal, has declivity for rain to run off, and sufficient resistance to the ordinary force of winds.

Further experience of this form, incapable of suitable enlargement when increasing families were to be assembled under it, suggested the more convenient one of the cubical hovel, constructed of upright trunks, or beams, planted in the ground, with other beams laid horizontally along their tops and connected, at the angles where they join to terminate the four sides, by ligature or other fastening; after which, the open interstices might be filled up with the small branches of the trunks employed for support, reeds, shrubs, &c.

Requisite enlargement, and partition of such an inclosure vertically, may have furnished the first idea of apartments for separate use. The conical hut must have taught the builder the advantage of giving declivity to the roof of his next invented habitation; and further consideration would in time shew him, that, as this roof might be laid on at any moderate height, some additional solidity and elevation of his walls would render his inclosed space di-

* Sir W. Chambers's *Civ. Arch.* pag. 1. pl. 1.

^b Vitruv. B. II. c. 1.

visible

visible horizontally by a flooring, and so gain him a story above his ground plot. Such seems to have been the first simple model of convenient structure for private habitation; the species of fabric with which the following treatise is chiefly concerned.

How the component parts of this once established form were, in the course of ages, progressively improved; plain props into columns; their superincumbent beams into intabatures; the members of these rendered distinct and pleasing to the eye, by variety of mouldings of different heights, projections, &c. aptly combined and properly ornamented, is briefly explained in the ensuing pages. Suffice it to have hinted here that, from such rude beginnings, the practice of building grew to the dignity of an Art, whose productions have been the pride of sovereigns and the boast of nations.

To trace its progress towards perfection through the several regions of the world, where it has in its birth, growth and decline, followed the fortune of empires; if it could be done with any degree of success, would be an attempt much beyond the limits and design of this introduction, intended only to give the reader, new to the subject, some very general notion of the origin of Architecture, and of the means of its revival in Europe; and to make him somewhat more particularly acquainted with those artists and writers, who contributed most largely to that revival by their researches and communications.

In Greece, some few years before ^c the Peloponnesian war, the liberal arts had advanced the nearest

^c About 440 years before the Christian Æra.

to attainable perfection, that the records of them, come down to the present time, have shewn them any where to have arrived. Three of the universally received Orders of Architecture bear the name of Grecian, in acknowledgment of the country where they originated, at least whence the Romans received them.

The present Canons of Architecture seem to have been formed upon the remains of Roman magnificence, carried to its summit, in this kind, during the reign of Augustus. What examples of that magnificence the devastation of the seat of Empire, involving the ruin of its proudest monuments, had left standing at the revival of the Arts, it was the first business of imitative ability to consult. — The measurement and comparison of these imperial fragments, in their whole and in their parts, gave rise to the earliest labours; the variable proportion, combination and ornament, of their parts engaged the first studies; and the resulting judgment of the best forms, producible from these varied combinations and proportions, determined the subsequent practice of those Masters, whose structures and writings are now resorted to, as of decisive authority for their Successors.

Their vicinity to the best remaining models gave the natives of Italy the priority to those of other countries, in the recovery of the arts of Painting, Sculpture and Architecture: but it would be injustice to suppose, that to this advantage alone they owe their allowed superiority in them. Like the
Greeks,

Greeks, their forerunners in every walk of genius, the Italians are endowed with quick perception, nice discernment, rich invention. Of exquisite sensibility to every kind and form of beauty, it is equally theirs to recognize and to exhibit excellence, by taste and by performance.

The business of the following pages is confined to their Architects, and, among those, chiefly to the few who have written judiciously on the Art, as well as practised it with allowed success. Their varieties in the doctrine of the Orders have been shewn, in parallel, by different Professors, as Mess. * Chambray, Blondel, Perrault in French; Count Alexander Pompei in Italian, &c; and different schemes have been proposed for fixing, from comparison of authorities, the proportion of the entire orders and their parts; none of which have been generally received. The distributions of Vignola and Palladio have been most followed in practice; and those of the latter with preference in this country.

But, before we proceed to these Restorers of classical Architecture, we must not fail to pay our first respects to an Antient,^d who has left us the only Treatise on that art, of so early date, now extant. No Artist, or Scholar, can be ignorant that Vitruvius is here meant; as there is no subsequent Writer, who has not acknowledged the large assistance all have derived from him, in what relates to the history and practice of Greek and Roman Architecture. Most of the literature of the Art is contained

* Translated by Mr. Evelyn.

^d Vitruvius Pollio flourished between 44 and 31 before Christ.

in his Ten Books; and whoever is unread in them will hardly be deemed worthy to rank with its qualified Professors.

Though Vitruvius is named by Roman Authors,^e little more is known of him than what has been collected from scattered passages in his own work. The most probable opinion, suggested by much disquisition concerning the place of his birth, is, that he was born at, or near, Formiæ^f in new Latium. From sepulchral inscriptions, found there and in the vicinity, it is evident that a family of the name was settled in that district; and there is no degree of presumption, from any hint he has left us, that he was born elsewhere. The gratitude he, in the preface to his sixth book, expresses for the indulgence of his parents to him in a liberal education, together with the information he displays through the whole of his treatise, shews that he was well instructed in all that could accomplish him for his profession; and, at the same time, speaks him descended from persons of some ability. It further appears, from his own account of himself, that he made some campaigns under Julius Cæsar^g and was known to him as an Architect. Upon the death of Julius, he passed to the service of his great nephew and successor Augustus, at the recommendation of that Emperor's sister Octavia Major; was by him intrusted with a share^h in the

^e The elder Pliny, Frontinus, &c.

^f Now Mola di Gaeta.

^g Vitruv. B. VIII. cap. 4. Pref. to B. I.

^h conjointly with M. Aurelius, P. Numidius, and Cn. Cornelius. See Pref. to B. I.

management

management of his military machines, and rewarded with a pension for life. In acknowledgment of these benefits, Vitruvius dedicated his ten books of Architecture to his Patron and Sovereign. In them he mentions but one building of which he was himself the Architect, the Basilica at Fano.ⁱ The Theatre of Marcellus, at Rome, has been ascribed to him, but falsely, if his practice of the Doric Order were consistent with his doctrine concerning it; dentils, to which he has given express exclusion, being there employed in the Cornice. His complaints^k of the prevalence of intrigue and ignorance, over probity and skill, in the profession of Architecture seem to imply, that he had not his expected share in the design and conduct of the works executed, or going forward, in his time. The particular attention he gives to moral qualities, in his description of a good Architect,^l leaves no doubt of his having been himself distinguished for private and professional integrity. Provided with the necessaries of life, the precepts of Philosophy with which his education had furnished him, concurring with his natural moderation, enabled him to confine his desires to the level of his humble fortune; and to console himself for any deficiency of present reputation,^m with the prospect of those honours he hoped to deserve and receive from an impartial posterity. He represents himselfⁿ as low of stature, of infirm constitution, and (at the time he dedicated his Book) of an ill-favoured coun-

ⁱ See his description of it, B. V. c. 1.

^k See Pref. to B. III. and VI.

^l B. I. c. 1.

^m Pref. to B. VI.

ⁿ Pref. to B. II.

tenance, from the alteration in feature occasioned by age. He appears to have been aware that his style ° required some apology, as deficient in purity and elegance, if confronted with that of other Roman writers of his time: but, surely, the novelty and nature of his subject, abounding with terms and notions hard to latinize, should have mitigated the censure of Alberti, Mercurialis and others; too nicely attentive to the manner, to be duly sensible to the value of his communications. When our need is urgent, and no choice of help at hand, should we thanklessly refuse the sole assistant that offers, because he is not perfectly well dressed? Every art has its vocabulary, and its phraseology too; harsh, it may be, and strange to the uninitiated, but replete with convenience to those, who are obliged to equal dispatch in operation and discourse, amidst the hurry of increasing employment and the momentary demand for a perplexing variety of directions. The mention, made by^p himself, of his having been, for a length of time, host to a C. Julius, son of Masinissa who served under J. Cæsar, has been adduced in proof of the personal consideration in which Vitruvius was held: but who this C. Julius, unnoticed by any cotemporary writer, was, cannot now be ascertained. The very ingenious Marquis Galiani, after refuting some conjectures on the point, offers a correction of the text, reading Masinthæ for Masinissæ, which he supports by historical evidence of

° Pref. to B. VII. sub finem. And Pref. to B. V. p B. VIII. c. 4.

some

some force.¹ From the few chronological data found in his work, he appears to have been at the height of his reputation between the death of J. Cæsar and the battle of Actium; that is from the year 44 to 31 before Christ. His knowledge of the Grecian Architecture must have been derived from books; seeing he has no where intimated his having travelled in Greece. The treatise he left on that art was first found by Poggio, a Florentine, in the monastery of St. Gall, as is affirmed by himself, p. 346 of his *epistles*. *

The same obligation to brevity (in an introduction to the translation of a piece of but 54 pages in the original) which forbade any attempt to trace the progress of improving Architecture, equally excludes all endeavour to give the less pleasing account of its decline. It seems to require the comparative experience of ages to determine what is most durably satisfactory, to the eye and to the understanding, in the

* What is become of this copy is unknown; nor is it even mentioned by the Marquis Poleni in his *Exercitationes Vitruvianæ primæ*, Padua 1739 4to, wherein he has given an elaborate series of the editions, translations, commentaries, abridgments of Vitruvius; together with a list of Manuscripts he had collated, in preparation for a critical edition of this Author he had long purposed to give. The first intelligent Editor of Vitruvius was Fra. Giocondo of Verona; whose publication appeared at Venice 1511, fol; again with Frontinus at Florence 1513, 8vo. The edition generally most esteemed is that of John de Laet. Amst. apud L. Elzev. 1649, folio. Of the various translations

¹ Vide note 11. p. 22. of his life of Vitruvius, prefixed to his Italian translation. ² Vide Fabricius's account of Vitruvius in his *Biblioth. Lat.* by Ernesti. Lipsiæ 1773. Vol. I. p. 483.

those

works of art; to discover the reasons of that effect; and to form upon them such rules as should generally guide successful practice. These, once settled and exemplified by superior artists, become the standard of execution and of judgment; and, for a season, confine the operations of art to that chastity, propriety and dignity of manner, which ennoble its productions. But, alas, this state is never lasting! Tired of the monotony of perfection, restless imagination, excited by the love of novelty, soon breaks through the restraint of rules; indulges itself in all the extravagances of lawless caprice, introduces every species of incongruity, and finally triumphs in absurdity and confusion. Having presented this general idea of the improvement and perversion of the arts, it remains to offer a slight sketch of the restoration of that of Architecture, from its growing corruptions after the decline of the Roman Empire.

Its more observable advance in recovery began with FILIPPO BRUNELLESCHI,^s a Florentine, born

those of Cl. Perrault in French, 2d. Edition, Paris 1684, fol. maj. and of the Marquis Berardo Galiani in Italian, Naples 1758, are incomparably the best. Upon the authority of Cælio Calcagnini in a letter to J. Ziegler, the celebrated Raphael of Urbino has been numbered among the Commentators on Vitruvius. His labours to this purpose have never appeared; nor is it very probable that a first-rate genius, who executed so many great works, loved society, was gay and amorous, and died at thirty seven, should have bestowed a length of close application on so difficult an author; even supposing him provided with the learning requisite for the undertaking. See Poleni Exercitat. Vitruv. primæ, p. 27.

^s Brunelleschi, born 1377, died 1444, æt. 67,

in 1377, who distinguished himself in the beginning of the fifteenth century. His first employment was that of a Goldsmith, from which he afterwards turned his application to sculpture, and finally attached himself to Architecture. He had some acquaintance with the literature of his time; and was enough versed in Geometry and Perspective to teach the latter to his countryman Masaccio, the first painter who naturalized the stiff manner of Giotto, and set his figures fairly on their feet. He is said to have learned the rudiments of his art from the churches of St. John Baptist and Sant' Apostolo in Florence; the first of which is supposed to have been, in the ages of idolatry, a temple of Mars; the second of very antient date and unknown invention: both admirable for the excellence of their construction. The main proficiency, however, of Brunelleschi was owing to his diligent study of Roman Architecture, in his repeated visits to its stupendous remains, then numerous in the capital of that empire. Here he conceived that boldness of design and ardour of enterprize, which stimulated him to undertake the cupola of the dome at Florence, called Santa Maria del Fiore. His proposal, rejected from the first, was, at a convention, solicited by himself, of Italian and Oltramontane artists, with the curators of the fabric on that business in 1420, generally thought so extravagant, that he was hissed and driven by force out of the assembly. After this ill treatment he retired to Rome, where having well considered his project, and re-examined what-
ever

ever was to be found instructive for effecting it, he, upon his recall to Florence, persisted in asserting his competency to the undertaking; which, after an experiment, or two, of his method on a smaller scale, was committed to him in 1421, with permission to conduct it, by way of trial, to the height of 12 braccia. A very insufficient colleague was, at the same time, joined with him in the person of Lorenzo Ghiberti; of whom, by a little management, he soon got rid, and remained alone in the direction to his death in his 67th year, when he had carried it up and closed it in to the foot of the lantern; for which, and the ball and cross above it, he left designs and instructions. The height, from the pavement of the church to the foot of the lantern is 154 architectural Florentine braccia;* the height of the lantern 36; the diameter of the copper ball 4; the cross 8: the aggregate of these sums 202.

Cupolas† had been built at Constantinople, Venice, Pisa, &c. before. The truly marvellous circumstances in this great work are its volume; the height at which it begins, and that to which it was

* The tables of measures in the French *Encyclopédie Méthodique* (the only authority at hand) state the braccia, used at Florence by Architects, as equal to 243 lines, or twenty inches and one fourth of the *pied du Roi*, which is to the English foot as 144 to 135.

† It is not uncommon, even with persons of education, to call a cupola a dome; which properly signifies the cathedral, or principal church in a city or great town. This being in Italy (whence we have both terms) generally crowned with a cupola, has occasioned the mistake of the whole for the part.

carried

carried up, from the walls, without any frame of timbers for its intermediate support; its being double, with passage room between the vaults; and its having no apparent reinforcements of masonry. Its form is octagonal. Among the various awkward expedients, suggested at the meeting of national and foreign Architects abovementioned, one was to carry up an enormous pier of earth with pieces of money interspersed as it rose; on its summit, properly moulded, to turn the vault of the cupola; and, when it was set, to let the populace remove the earth for the money scattered in it. Though Brunelleschi was so saving of time, as to provide booths and victuallers on the top of the church, that the workmen might have to come up and go down but once in the day, he spent twenty three years in assiduous prosecution of the task he had the mortification to leave unfinished. His regrets, however, were tempered with the consolation of having lived to accomplish the most difficult part of the undertaking, and settle the plan of the remainder. His countrymen are fond of ascribing to him the honour of having first distinguished the characters of the three Grecian Orders, and employed them with judgment. The Neapolitans claim this merit for Stefano, called after his master Mafuccio II, who died in 1388; and allege in proof the Campanile of Santa Chiara, where he meant to exhibit the five orders in proper situation, but the building was carried no higher than the third story, or place of the Ionic.

This first great reformer of Architecture was buried
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in the church he had so long laboured to adorn; where his obsequies were attended by a concourse of his fellow citizens of all orders, with every demonstration of the most affectionate regret. Nor were their endeavours to perpetuate his memory wanting, as his bust, done by his disciple Buggiano, and placed on the right hand of the door of the same church, by the side of that of Giotto, serves to shew.

His other buildings and designs in Florence are the Sagresty (vestry) and great part of the church of St. Lorenzo, with the lodgings of the canons. The unskilfulness, or malice, of those who continued the church has much hurt the effect. S. Spirito, and the habitations of the religious there. The Capitolo de' Pazzi in Santa Croce; where, by the side of the altar, were deposited the remains of the illustrious Galileo Galilei. The uncovered and almost ruined church degli Angeli, an octagon, for the noble family degli Scolari, was carried up to the cornice after his design, preserved in the library de' P. P. Camaldolesi of Florence. The tribune of Santa Maria Ughi was his idea.

He made the model of a superb Palace of his own invention for Cosimo de' Medici, to be built facing St. Lorenzo: but, the execution being dropped, through fear of offence to the public, the author in a pet broke the model. The palace Pitti was conducted after his design as far as the second tier of windows; the rest of the fabric, with the court, was carried on by Bartolomeo Ammanati, the drawings

ings of Brunelleschi being lost. Leonora of Toledo, Consort of Duke Cosimo, bought this palace (for the residence of the grand Dukes) of the representative of Mr. Luca Pitti, for whom it was built. He gave the model of the Casa de Bufini, for two families; that of the house and loggie degli Innocenti; he designed a house for the Barbadori, unexecuted; another of the Giuntini in the * Place d'Ogni Santi. The portico of the hospital de' Convalescenti is believed to be his; as was the continuation of the Palazzo de' Capitani, with much improvement of the first plan given by Francesco della Luna. Out of the Gate of St. Nicholas a Villa for the aforesaid Mr. Luca Pitti. By order and at the cost of Cosimo de' Medici he designed the Abbey of the Canons regular of Fiesole, in site and manner equally convenient and pleasing.

At Milan he planned a fortrefs and other works for the reigning Duke Filippo Maria; and contributed his assistance in the Dome there. The Fortrefs

* Place, conformably to the French rendring, is the only word that occurs as correspondent to the Italian Piazza. And here it may be for the service of the mere English Reader, to apprize him of a strange mistake, often made, as to the meaning of the word Piazza; by employing it to signify the surrounding Porticos, e. g. of Covent Garden, instead of the large Area they inclose, where the market is held, which is the real Piazza, or Place. Mr. Pope, in one of his letters, has (in respect to his talents I had almost said) authorized this mistake; a small one indeed, and that in a foreign language, when compensated by the most perfect possession of his own, that the longest use of it could give to the nicest ear and intellect.

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of Vico Pisano was after his model; as was the old citadel at Pisa. At the new citadel he suggested the idea of shutting up the bridge by the two towers. The fortress of the port of Pesaro was after his plan. In 1445 (says Vasari) he was sent by the republic to the assistance of the Marquis of Mantua, for whom he directed the imbankment of a tract of the Po and other works.

An admirable crucifix in wood of his execution, in the cappella de Gondi in Santa Maria novella at Florence, attests his excellence in sculpture.

Scamozzi, who was in possession of their MSS. affirms that Antonio Filarete, a Florentine, and Francesco Saneſe (of the family of Martini of Sienna) were of the earliest writers on Architecture. Both were good practitioners for their time; but the book, which the former in 1464 dedicated to Pietro de' Medici, does him little credit as an author. Therefore we may truly say, that the first considerable writer on the subject was

LEON BATTISTA ALBERTI[†] canon of the Metropolitan church of Florence. His father was Lorenzo Alberti, of a family noble and powerful at Florence. His paternal uncle, for his virtues and talents displayed in the council of Florence, was created a cardinal by Pope Eugene IV. His brothers, who had the same excellent education with himself, were all men of ability. Our Alberti, joining the most assiduous application to the largest opportunities of instruction his father could procure for him, be-

[†] Leon Battista Alberti born 1398. his death uncertain,

came

came one of the most generally learned men of that age; and a very eminent contributor to the restoration of literature and the arts. Equally profound and elegant, philosophy, law, mathematics, philology, poetry were all familiar to him. He was practically conversant with painting and sculpture; in Architecture superior (taking theory and execution together as necessary to complete the artist) to all of his time. His work *de re ædificatoria* was the first systematical treatise on the subject, since the earliest revival of the fine arts, that received and has retained the approbation of posterity. He distributed it into ten books, in imitation, probably, of Vitruvius, of whom he appears to have been a little invidiously emulous, by his diligence in bringing forward that author's errors in doctrine and faults of style. As a practical architect he was employed in Rome by Pope Nicolas V. in the repair of the conduit of the *Acqua Vergine*; and for the construction of the *Fontana di Trevi*; since rebuilt by Salvi, with much magnificence, at the expence of Clement XII. At the same time, Alberti furnished a design for covering the bridge of St. Angelo, one of the most frequented passages in that capital, where multitudes are still exposed to the full effect of a scorching sun in the hottest months, for want of such a protection. For Sigismond Pandolf Malatesta he conducted, what is generally considered as his master-piece, the new works and embellishments of the church of St. Francis at Rimini, left, however, unfinished by him. For Lewis Gonzaga the reigning Marquis, among
other

other buildings in Mantua, he constructed the church of St. Andrew, now much deformed in the inside by pretended modern improvements. Though the principal front of the church of Santa Maria novella at Florence he deemed unworthy of him, the portal is certainly a design of Alberti. The loggie of the Corinthian order, and the Doric front of the Palazzo Rucellai in the same town, are allowed to be of his invention. Vafari thinks the architecture of a chapel, he planned for the Rucellai family in Rome, the best specimen of his skill in that art.

His writings are very numerous. * Many of his latin compositions, (inedited as well as edited) including his ten books *de re ædificatoria*, were translated into Italian by Cosimo Bartoli a Florentine gentleman. His erudition and his latin style are equally applauded by the learned of his time. Politian, no spendthrift of praise upon his cotemporaries, is very large and explicit, to his own Patron Lorenzo

* The titles of some of them are *Momus*, a moral and political work in four books. *Trattato di Matematica*, translated by Bartoli from the inedited original. *De Jure* inedited. translated by the same with title *Dello amminiftrare la Ragione*. *De Causis Senatoriis* printed at Basil. *Chorographia urbis Romæ antiquæ*. *Libellus Apologorum*, translated by the same. *Philodoxos, comœdia latîna*. *Dell' Economia tre libri*, Italian. *Dialoghi della Republica*; *della Vita civile e rusticana*; *della Fortuna*; published by Bartoli. *De Amore et de Remedio Amoris*; Latin titles to Italian treatises. Much Latin and Tuscan poetry. *Statua*, Latinè inedited. translated by the same. *De Pictura libri tres*, Latinè at Basil 1540; again with John de Laet's edit. of Vitruvius Amstel. 1649; translated by Bartoli and Domenichi.

de

de' Medici," in that of Alberti. It is known that this great man lived to an advanced age; but the time of his death is unascertained.

The reformation of Architecture, begun by Brunelleschi and greatly furthered by Alberti, was by none of the intermediate Artists so considerably forwarded, as by the labours of BRAMANTE," a native of the dutchy of Urbino. The strong inclination he had from nature to this profession could not be repressed by the disadvantages of a mean extraction. His activity in quest of information, and his diligence in applying it, compensated his want of the usual resources. He first studied the celebrated edifices in Lombardy; but soon repaired to Rome, as the amplest field of instruction in the fine arts. His earliest patron there was the Cardinal Oliver Caraffa, who employed him in building a cloister for the Religious Della Pace. He next served Pope Alexander VI. as subarchitect, in the fountain of Transtevere and on other occasions. He was principally concerned in the Palazzo della Cancellaria^x; in the church of St. Lorenzo in Damaso; and gave the design of the palace built 1504 by Cardinal Adriano da Corneto,^y in the Place of St. Giacomo Scosfacavalli; which was afterwards by the said Cardinal (who had been Nunzio in Scotland) presented to the king of England; has since the Reformation been in possession of Cardinal Hieronymo Colonna; and is now

^u Vide Epist. VII. B. X.

^w Bramante da Castel Durante ô Fermignano, born 1444, died 1514. æt. 70.

^x Built about 1512. See an elevation of this in Pietro Ferrerio's *Palazzi di Roma*. Tom. I. plate 24,

^y Vide Elements, plate 53. fig. 1.

in that of the S. S. Counts Giraud. That of the Dukes of Sora, nella regione di Parione, raised by the Cardinal Nicolo de' Fiefchi, was likewise his invention.^z The palace of the Marchese Corfini was begun on his design.

He superintended the construction of a house planned by the great Raphael d' Urbino,^a for his own habitation in Borgo Nuovo; a condescension which nothing but the officiousness of friendship could suggest; if what tradition reports be true, that Raphael was indebted to Bramante for his knowledge of Architecture. The gratitude of that prince of painters, was, however, not inadequate to this and his other obligations to his compatriot Artist; seeing he has transmitted him to posterity in two portraits, inserted in his grand work in the Vatican. In the piece called the School of Athens, he is in the character of the Geometrician; in that of the dispute on the Holy Sacrament his features are given to the bald and beardless figure, that leans himself and rests a book on the marble parapet, and, with the left hand, points to the contents, turning himself at the same time towards one who seems to be his opponent.

Giulius II, created Pope in 1503, found in Bramante, an Architect, by quickness of conception, invention and execution, equal to the projects of his own ardent and enterprizing genius. At the command of this Pontif, he formed the plan of that immense court (400 paces long) between the old Vatican and Belvedere; to serve as a rectangular theatre

^z Vide Elements, Pl. 53, Fig. 2. ^a about 1513, Ibid. Plate 54. Fig. 1.
for

for tournaments and other solemn spectacles. In the execution, he had to contend with a great inequality of the area; which he so judiciously divided into two planes, as to obviate the bad effect of much disproportion between length and breadth, and to bring out, by his well distributed decorations, a fine perspective view of the whole from the entrance. A detail of this noble design may be seen in Vafari: an indifferent engraving of it, by Van Schoel, in the grand collection of prints belonging to the Corsini library in Rome. The whole of this masterpiece was deformed by the erection of the present pontifical library, the site of which was, by order of Pope Sixtus V. so fixed as to cut the magnificent theatre of Bramante through the middle, and make of it two courts and a private garden for the Librarian.

The repository in Belvedere, formed in niches for the reception of those invaluable specimens of antient statuary the Laocoon, Apollo, Antinous &c. was designed by this great Architect; as were also a variety of staircases, there and in other apartments of the Vatican, all much admired for the singular ingenuity and elegance of their contrivance. The grand semicircular one, which occupied the nether end of the great court of which we have just lamented the deformation, was long since, with some others, destroyed by neglect, or removal of the materials.

The little round temple, in the middle of the cloister of St. Pietro in Montorio, is a much applauded design of Bramante; though open to some objections when examined in detail. In Rome, and through-

throughout the ecclesiastical state, he furnished an infinity of plans for houses, churches &c. but the grand effort of his invention was reserved for a work worthy of it. Julius the second having conceived the idea of pulling down the church of St. Peter, and replacing it by one that should surpass in magnificence every thing of the kind then extant; Bramante laboured to fulfil the desire of the ambitious Pontif by a variety of designs; more particularly by one, which placed the great front between two steeples, as represented in the commemorative medals, struck under Julius II. and Leo the tenth, and wrought by the hand of the famous Caradoffo.

Without the walls of Todi * our artist built an insulated temple, in form of the Greek cross with a beautiful cupola in the middle; which appears to have been the model of St. Peter's. The execution of this great design actually begun in 1513, and carried on with all possible industry, was stopped short by the death of the Pope, and his own, within a year of its commencement. The succeeding Architects reduced, and made such changes in his plan, as left little distinguishable for his.

Julius rewarded this favourite architect with the office del Piombo, by which he was enabled to live with credit, and to indulge his liberality in acts of beneficence to distressed artists and other meritorious objects. He died at 70, and was buried in St. Peter's, where his funeral was attended by the Papal court, and the whole body of professors of the fine arts.

* In Umbria, Dutchy of Spoleto.

RAPHAEL

RAPHAEL SANZIO D' URBINO^b is so generally known, as the most distinguished name in the modern annals of painting, that any particulars concerning him, but as an Architect, would be superfluous to the present design.—He was called to Florence by Leo X, to design and conduct a front for the church of St. Lorenzo, which was not executed. During his residence there, he was Architect of the Palazzo Ugoccioni, since Pandolfini, in the grand Ducal Place. Attracted to Rome by the notice of the same Pontif and the solicitation of his countryman (and as some say relation) Bramante, he there built the stables of Agostino Chigi alla Lungara, near the little Farnese; as likewise the ^c Palazzo Caffarelli, since become that of the Cardinal Stoppani, near St. Andrea della Valle. The house he planned and raised at the cost of Leo X, in ^d Borgo Nuovo for himself, has been mentioned in the article of Bramante. It stood in the vicinity of St. Peter's, and was taken down, with some others, to clear the ground for the Place and Portico adjoining to that celebrated Fabric.

Upon the death of Bramante, Raphael was appointed to succeed him as one of the Architects of that Dome; for which he made a design in form of a Latin cross, not much approved at the time, or since. The gardens of the Vatican were laid out by him; a business, in that age and too long after,

^b Rafaello Sanzio d'Urbino, born 1483, died 1520, æt. 37.

^c A. D. 1515. Vide Elements, Pl. 53. fig. 3.

^d A. D. 1513. Ibid. Pl. 54. fig. 1. Compare P. Ferrerio. Tom. I. No. 15, to see the ineptie rejected.

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thought more within the province of the Architect than that of the Painter. Happy for the works of the present day that the analogy has shifted!

BALDASSARE PERUZZI,^e son of Antonio, of a noble family in Sienna, was in his infancy carried by his father into retirement at Volterra, from the civil broils of his native district. This city of refuge being afterwards sacked, the family returned in indigence to its original settlement at Sienna. Our young Artist, initiated in Geometry and Perspective, applied to Design and Painting for subsistence, with uncommon credit: but, to indulge his genius, and enlarge his means of living, soon joined the study of Architecture to his former pursuits, and with equal success.—Rome is the general resort of all who cultivate the fine arts with desire of excellence. Baldassare found a warm patron there in Agostino Chigi, for whom he built a palace alla Lungara,^f which, having since passed to the serene house of Farnese, now goes by the name of the Farnesina. There he moreover displayed the magic of his pencil, in a manner that deceived and astonished even Titian. Monsignor Bottari, in a note to the Neapolitan edition of Vafari, affirms, that all these paintings of Peruzzi, excepting some clair-obscures on outwalls, were in good preservation in 1759, and the painted cornices still of a relief that deceived every unapprized spectator.

Transferring himself, for a while, to Bologna, he

^e Baldassare Peruzzi, born 1481, died 1536, æt. 55.

^f A.D. 1518. See Elements, Pl. 54. fig. 2.

there made two models, in different manners, for the front of S. Petronio, and other designs for the service of that fabric. In the same city he repaired, with additions, the palace of Count Gio-Battista Bentivoglio; very dexterously adapting new constructions to the preserved parts of the old. The portal of the Church of St. Michele in Bosco, at a little distance out of Bologna, was of his invention.

At Carpi, in the states of Modena, he gave the design and model of the dome, which was executed under his direction; and began the church of St. Nicholas.

Returning to Sienna, he planned the fortifications of that city, and made designs for some houses in it. After these engagements were completed, repairing again to Rome he was employed by Leo X. in the fabric of St. Peter's; for which that Pontif began to think the plan of Bramante too extensive; and therefore wished for another, which might appear sufficiently magnificent under less volume. This the ingenuity of Peruzzi soon furnished, as may be seen in Serlio's book, much to the credit of the inventor.

The deposit of Adrian VI. in the Church dell' Anima, is of Peruzzi's Architecture; the sculpture of it by Michel Angelo of Sienna, with his assistance.

When the Calandra of Cardinal Bibiena (the first Italian comedy in prose) was performed before the Pope, the theatrical decorations were contrived by this artist; who exhibited two scenes of such striking effect, as to excite the emulation and inform the practice

practice of those who followed him in that line of painting.

Under his conduct were likewise made the preparations for the coronation of Clement VII. in 1524.

In less than three years after (1527) he was taken prisoner, stripped of all he had, and extremely ill used by the Spanish soldiers, in the sack of Rome by Charles de Bourbon, rebel constable of France.

Our Architect's good mien and person caused him to be taken for somebody of importance, and tortured for discovery of his supposed valuable effects. When found to be a painter, his captors obliged him, notwithstanding his evil plight from their cruel treatment, to make a portait of the constable, who was killed as he was mounting the ladder to the ^e assault. Escaped from his persecutors, Baldassare embarked for Porto Ercole in his way to Sienna. On his road thither he was again assaulted, and so completely despoiled, as to be obliged to proceed on his journey naked.

When the attention of his friends there had recovered him, and supplied him with necessaries, he undertook the execution of his own designs for the fortification of that city.—Resolved not to act against his country, he refused to serve the Pope (Clement VII) in the siege of Florence, its capital. The Pontif, by the good offices of three Cardinals, friends to Peruzzi, was, after some time, so far reconciled as to allow him to return to Rome, where he built two palaces for the family of Maffimi ^a (one of them an

^e 6 May, 1527.

^a See that of Maffimi Alla Valle in P. Ferrerio, Tom. I. No. 18.

oval of very difficult construction, which he left unfinished) and made designs for two villas of the S. Sⁱ, Orfini, near Viterbo, that were carried into execution—as likewise others for edifices in Puglia,

In this situation he began a treatise on the Antiquities of Rome, and a commentary on Vitruvius; making drawings for the latter as he went on with the work. Parts of these undertakings were, when Vasari wrote, in the hands of Francesco Sanese his disciple. Sebastian Serlio, a Bolognese, and Giacomo Melighino of Ferrara, Architect to Paul III. became possessed of the remaining part of what Peruzzi left behind him; the former profited largely by his collections, observations and designs, in composing his own book on Architecture.

The court of the palace of the ducal family of Altemps, in Rome, is supposed to have been repaired and rebuilt by Peruzzi. The palace of the Marquis Silvestri, opposite St. Lorenzo in Damaso,ⁱ and the House of Sig. Giuseppe Costa in Borgo^k Nuovo, were built after his designs: the latter was probably taken down for its vicinity to St. Peter's.

This great Architect and Painter was born in family distress; harrassed, through life, with misfortune; and never in any comfortable degree approached to easy circumstances. His attention was more earnestly exerted in the attainment of professional excellence, than of the gain due to his services. Of this indifference to pecuniary reward the most

ⁱ See P. Ferrerio. Tom. II. No. 34. date uncertain.

^k Ibid. No. 46. date uncertain.

opulent

opulent of his employers are said to have taken such unworthy advantage, as left his mind a prey to anxiety for the fortunes of his family, and his health to decline under that pressure, without the alleviations of domestic convenience. His all was a salary of 250 Roman Crowns a year, as Architect of St. Peter's. When in extremity, the reigning Pope, Paul III. sent him 100 crowns, with many unseasonable offers of promotion. Thus is acknowledged merit, when unassuming as it generally is, left to live on empty praise; while the man of mean talents, backed by effrontery and upheld by intrigue, states his own claims, and none dares to delay or refuse them.— He was buried in the Rotonda, by the side of Raphael d'Urbino, with the usual attendance of Artists, &c.

FRATER JOHANNES JOCUNDUS.¹ Neither the extraction of this very learned ecclesiastic, nor the exact time of his birth, are yet ascertained. That he was a native of Verona is on all hands allowed. It has been said that his family name was Monsignori, but without proof. J. Cæsar Scaliger has affirmed his descent to have been noble. Perhaps the vanity which prompted that great scholar's endeavours to establish his own high birth, might incline him to indulge nobility to one, whom (though the fact be somewhat dubious) he declares to have been *his* preceptor; without considering that the respectability of Jocundus, as well as his own, stood on better ground

¹Fra. Giocondo, born some years before the middle of the xvth century; death uncertain.

than

than that of ancestry. He was, most probably, born some years earlier than the middle of the fifteenth century, the commonly assigned date of his nativity. To what religious society he belonged has been matter of further controversy; some calling him a Dominican, others a Franciscan. The very accurate Marquis J. Poleni,^m after stating the varying authorities on this point, endeavours to adjust the differences by supposing him first a Dominican; afterwards to have quitted that order, and lived in the world as a secular priest; and to have finally joined the society of the Franciscans. No man of his time was superior to him as a Divine, Philosopher, Mathematician, or polite Scholar. All the arts of design he possessed in an eminent degree: in Architecture he was consummate. At an early age he visited Rome and its adjacencies; where he applied himself with singular industry to all the remains of antiquity. One fruit of this application was a volume of collections, he presented to Lorenzo de' Medici, mentioned by Politian,ⁿ with high commendation of the author. This is said to have contained more than 2000 inscriptions. The original volume is missing: but the libraries of the learned Marquis Scipio Maffei at Verona, and that of Magliabecchi at Florence, have copies of it. He resided some time in Germany, with the emperor Maximilian, by whom he was much esteemed. Invited by Lewis XII into France, among other buildings for that sove-

^m Exercit. Vitruv. primæ, p. 21.

ⁿ Miscellan. Cent. 1. Cap. 77. edit. Ascensii, fol. CLIIII.

reign,

reign, he directed the construction of two bridges, of his own invention, over the Seine at Paris; but certainly did not superintend the whole of the execution; as these were finished in 1507, and Jocundus was at Venice in 1506 and 1508. During his abode in Paris, he had the good fortune to find, in an old library there, a more complete MS. than any then known of the younger Pliny's *Epistles*,^o from which he procured an edition of them at Bologna, 1498. 4^{to}. Under favour of the same opportunity, he assisted Budæus in reading Vitruvius, by his drawings as well as oral explanations.

In 1506 a most important service was rendered by him to the republic of Venice. Consulted on the growing danger of the Lagunes being filled up, with the earth and sand discharged into them by the mouth of the Brenta, he recommended the making a cut to divert part of its water, with the matters brought down by it, towards Chioggia. In consequence of that expedient, the wash since carried that way has made a tract of good ground of what before was sea, and the Lagunes are kept free from what accumulates there. In acknowledgment of this service, the celebrated Lewis Cornaro called Jocundus the second founder of Venice. It was afterwards thought still more conducive to the end proposed to lead the outlet farther southward, where it now enters the sea at Porto Brondoli.

In 1511 he superintended his own edition of Vitruvius, fol. at Venice, in which he very considerably

^o Vide Annotationes prior, et posterior. G. Budæi in Pandeet. Lutet. 1556. p. 39. F. p. 120. D.

amended

amended the text, and, by drawings and other illustrations, facilitated the study of his author. In 1513 when most of the quarter of Rialto, in that city, was destroyed by fire, he furnished a magnificent design for rebuilding it. It consisted of a forum surrounded by porticos, with houses and warehouses for the merchants, church, exchange, an ornamental bridge, &c. To his infinite discontent this great plan was laid aside, and a wretched one, of Zambragnino a very inferior architect, carried into execution some years after. This and other designs of our Artist were in possession of the Bragadini family, opposite S. Marina.

Upon the death of Bramante, in 1514, he was joined with Raphael of Urbino, and Antonio Sangallo, in the direction of the fabric of St. Peter, of the Vatican, then thought in danger of ruin through the insufficiency of the foundations. These he assisted in making good by proper underbuilding of piers and arches turned upon them, so well applied as to insure the stupendous masses they help to support.

He restored, in 1521, the Ponte della Pietra, at Verona, and, by a very simple process of planking, fortified the middle pier, several times destroyed by floods. After which repair it continued immoveable till 1757, when the whole was borne down by a most formidable swell of the Adige.

Jocundus was critically possessed of the Greek and Latin languages. To him are owing the first useful edition of Vitruvius — Illustrations of Cæsar's Commentaries, with the earliest plan of his bridge over

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the Rhine, in an edition of the Latin text, printed by Aldus. Ven. 1517. fol. — Frontinus de Aquæductibus, published with his Vitruvius. Flor. 1513. 8vo. — Pliny's Epistles, before mentioned. — Julius Obsequens was presented by Jocundus to Aldus, who printed the first edition of this author, 1508. 8vo. — Cato de re Rustica, and the Epitome of Victor, were likewise edited by our Franciscan.

That this indefatigable promoter of Arts and Sciences lived to a very advanced age is certain; but the time and place of his decease are unknown.

MICHEL SANMICHELI^p was born at Verona, in 1484. From his father John and his paternal uncle Bartholomew, both excellent Architects, he learned the rudiments of their art. At sixteen he went to study at Rome, where his application and discernment, exercised on the best models, perfected that ability, of which domestic instruction had laid the ground work. Thus qualified for practice, he began his career with the Dome of Monte Fiascone, of an octangular form, crowned with an elegant cupola. His talent was further displayed in the Church of St. Domenico, in Orvieto, and several houses in both those towns. His reputation as an Architect increasing, he was employed, in conjunction with Antonio Sangallo, by Pope Clement VII, in visiting all the fortifications of the Ecclesiastical State. That commission fulfilled, he returned to his own country; where, prompted by curiosity and desire of improvement, he made a tour for the inspection of the for-

^p Michel Sanmicheli, born 1484, died 1559, æt. 75.

treffes of the Venetian territories. In this journey, his very attentive observation of those objects caused him to be taken up for a spy at Padua: but his innocence of the charge being soon proved, and his ability recognized, he was strongly pressed to engage in the service of the Republic. This invitation his obligations to the Pope would not permit him, at that time, to accept. The solicitations, however, of the Republic, added to his own, procured him, not long after, leave to retire from his employments under the holy see, to adorn and defend his country.

His fellow citizens, with much appearance of reason, ascribe to Sanmicheli the invention of the improved mode of fortification now in use; though the French have done themselves the honour of it, and few of the Italians suspect that it originated with a national of their own. He first introduced the pentagonal bastion, with flat faces and flanks, whereas those before in use were either round or square; and it is pretended that the dawn and progress of this improvement may be traced in the bastions of his construction at Verona, beginning with that delle Maddalene, erected in 1527, wherein, it is said, that the expiring old manner and the new-born amendment are both observable. Count Pompei gives this distinguished Engineer the further credit of the Orillon Bastion (Baloardo con gli Orecchioni) and other inventions, which have been only modified by succeeding military Architects. These new methods he applied in the fortifications of Legnago, Orzi Nuovo, Castello, &c. Upon the apprehension of a

war with the Turks, he made good all the Venetian strong holds in Dalmatia, Corfu, the Morea, the Levant, Cyprus, &c. By the works he raised for its defence the city of Candia, metropolis of the island of that name, was enabled to stand out a ten years siege by the Turks; to whom, after that long course of devastation and carnage, it was given up by capitulation, Sep. 6. 1669. a mere field of ruins.

But the merit of all these specimens of his ability as an engineer disappears, when they are compared with that astonishing fortress del Lido, at the mouth of the Port of Venice. The soil, on which this enormous mass is built, was marsh surrounded by the sea. Notwithstanding which difficulty, our Artist contrived, by the choice of his materials, the solidity of his foundations, the massiveness of the stones and the care in their conjunction, so to complete his enterprize, that no changes of weather, nor constant agitation of the sea, nor incidental storm have in any degree affected this construction; which, by its compactness, seems rather cut out of a rock, than built by hand. Envy soon suggested that the great quantity of heavy artillery required to furnish this fortress, would, when discharged, infallibly occasion its ruin. Sanmicheli, in order to do away at once this malevolent suggestion, begged leave to have the largest cannon of the arsenal brought thither; and, furnishing all the embrasures, ordered a discharge of the whole number of pieces at once. This formidable experiment caused not the least breach or crack in the works, and effectually silenced the presages of the envious. In

In Venice Sanmicheli gave the model of the monastery of the Nuns of St. Biagio Catoldo. He designed the palace de' Cornari a S. Paolo; and that of Grimani, near St. Luke's, upon the great canal.

At Castel Franco, between Padua and Trevigi, he built the Villa Soranzo, much applauded for its beauty and commodiousness. At Padua, a Deposit in the Church of St. Antonio, for Alexander Contarini, of a curious design.

In Verona, his native town, la Porta Nuova—la Porta del Palio—la Porta di San Zenone—la Cappella Guareschi in S. Bernardino, in form of a little round Corinthian Temple: this, through various avocations, he did not finish, and with sorrow beheld his plan debased by those who continued the work. He gave the design of the front of Santa Maria in Organo, of the Olivetans, begun to be executed after his death, but stopped short in the outset. In the church of St. George he contrived to strengthen the sides, so as to allow him to erect a cupola upon them, which no other artist had dared to attempt. His circular temple of the Madonna di Campagna was lamed in the execution by another hand—and still more so his admirable design for the Lazzaretto, through a fordid oeconomy. He designed the Campanile of the Cathedral, strangely deformed, and at last let down by the incompetence of the builder. Bernardino Brugnoli, his nephew by a sister, rebuilt it, as he did likewise that of St. George after a plan of his uncle. The palaces Canossa, Bewilacqua, Pellegrini, Pompei, Verzi, are elegant designs

designs of Sanmicheli. The Portals of the Pretorian and Prefectitil Palaces at Verona are his. Many of this great Architect's work, to his undeserved discredit, either remained imperfect, or were finished by incompetent hands. Where his own superintendence could be given, all was so well conducted, that Vasari says, no building of his ever shewed the least crack.

His two cousins german, Matthew and Paul, were famous Architects; the former planned the Works and Citadel of Casale, the Capital of Montferrat, at that time reputed one of the strongest places in Italy; and likewise designed a grand Deposit of marble, in the Church of S. Francesco, in that city. The latter was father of his favourite disciple and cousin, John Jerome. The death of this able artist (not without suspicion of poison) at Famagosta in the isle of Cyprus, in his 46th year, so deeply afflicted our Sanmicheli, that he survived it but a very short time. He expired at Verona in 1559, æt. 75. The excellent school he left there was some reparation of this loss to Architecture.

Bernardino Brugnoli, his nephew abovementioned, designed and executed the high Altar at St. George's in Verona; which Monsig. D. Barbaro, who translated and commented Vitruvius in Italian, declares to be, both for the perfection of the Architecture and that of the carving, the completest thing of the kind he ever saw, though little noticed by the present artists there.

The Orders of Sanmicheli were published by
Count

Count Alexander Pompei of Verona, 1735, printed for Jacopo Vallarfi, Verona, in folio. Italian.

MICHEL ANGELO BUONARROTI.¹ This powerful and comprehensive genius, who became possessed of the three great arts of design almost as soon as he attempted them, was born 1474, at the castle of Caprese in the Diocese of Arezzo, where his father Ludovico, di Lionardo, Buonarroti Simoni was magistrate of the district. The life of this eminent artist having been so largely written, by different hands, and so generally read, it will be sufficient for the present purpose to select, from the mass of particulars concerning him, only what relates to his operative history as an Architect. It is said that he was 40 years of age when he took to the study of Architecture, and then without a master. But these circumstances cannot make his success seem marvellous, when we consider that he was beforehand consummate in painting and statuary, and perfectly acquainted with the antient remains of every kind.

At Florence he built the Medicean Library: there too he was Architect of the Sagrestia Nuova of St. Lorenzo, deemed his best work after St. Peter's. In 1527, when the Medici family were driven out of Florence, he was appointed surveyor general of all the fortifications of the Florentine State. His military works, in the Capital of Tuscany, and at S. Miniato, have been much applauded by competent judges of their merit.

Upon the death of Antonio Sangallo, in 1546,

¹ Michel Angelo Buonarroti, born 1474, died 1564, æt. 90.

M. Angelo

M. Angelo was, in spite of his own remonstrances against the choice, declared by Paul III, Architect of St. Peter's, with full power to act at will in his charge. His final acceptance of this commission was accompanied by a renunciation of all emolument from it: a resolution he strictly adhered to, notwithstanding the most pressing instances of the Sovereign Pontif. Disapproving the design of his predecessor in office as faulty, of infinite expence and tedious execution; he, in 15 days, made a model of his own, at the small cost of 25 crowns; whereas that of Sangallo had employed several years, and cost above 4000 crowns. His procedures in the reform of this grand fabric, many years continued, must be learned from ampler accounts of his works of this kind, than the present summary was intended to give.

While those were going on, he was called to the rebuilding of the Capitol, which he began with the middle palace, or habitation of the sole senator of modern Rome. The double-ramp outward stairs were conducted by him, but no other part of this edifice. The side one, or wing occupied by the Conservators of Rome, was intirely of his design; in which there are thought to be some things to blame among many to commend; and in the former perhaps, Giacomo della Porta and others, who, after him, undertook the conduct of the work, may have had their share. In the descent from the Capitol towards the City, M. Angelo designed a Cordona, with a balauftered Parapet at its top, adorned with statues and antient monuments. In the middle
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of the place, inclosed by the forementioned buildings on three sides, is the famous equestrian statue of Marcus Aurelius, upon a simple and well proportioned pedestal designed by Buonarroti. The great Farnese Palace having been left by Sangallo, its Architect, without a cornice, our Artist was employed to give it that finishing. For this purpose he made a model in wood, six braccia in height, and placed it upon one of the angles of the edifice, in order to take opinion of the effect; which proving much in its favour, the design was executed. The Drum, upon which the Cupola of St. Peter's was to be placed, being well conducted to its height; M. Angelo (who had been obliged to retire from the office of Architect to that Fabric, with a compensation of 100 crowns a month, rejected on the first tender of payment) was importuned by his friends, of all ranks, to make a model of the cupola, as a precaution against any oversight on his part, or foul play of those to whom the execution was intrusted. This he first performed in clay and in small; and, from that, formed, with much attention and care; a large one of wood, of which Gio. Farnese was the chief workman. This was much applauded and actually executed under Sixtus V. Notwithstanding all his circumpection, envy, of his superior talents and disinterested use of them, continued to excite cabals against him, to occasion opposition to his plans and misconduct in the performance of them, by his less competent successors: till, upon his complaint to Pius IV, it was ordered that no changes should be made in his designs,

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which

which order was renewed by Pius V. and duly enforced.

By order of the former of these Pontiffs, he made three designs for the Porta Nomentana; to be thence-forwards called Porta Pia. The least costly of these was preferred and erected, though an irregular and capricious composition. When very far advanced in years, he dictated five designs to Tiberio Calcagni, an able Florentine Sculptor, for the Church of St. John of the Florentines in Rome; the richest of which was chosen by the delegates. Of it a wooden model was made and preserved long after; but, when under Clement XII, the front was to have been built, that Model was not to be found.

It being proposed to convert the magnificent remains of Diocletian's Baths into a Church of the Chartreux, upon a competition of many Architects for that undertaking, the plan of Michel Angelo had the preference, and was carried into execution with general approbation; though since reformed by a modern artist Luigi Vanvitelli, too much in counter-sense.

The Cappella Strozzi, at Florence, was designed by M. Angelo; as likewise the College of the Sapienza in Rome, excepting the part where the church is situated.

When, at the great age of 90, this so variously excellent Artist yielded to God a life spent in the most unremitting exertion of the rich talents with which his bounty had endowed him, the reigning Pontif, Pius IV, ordered his remains to be transferred

red, from the church of the Apostles, where they were first inhumed, to that of St. Peter of the Vatican. But Cosimo I. then grand duke of Tuscany, contrived, by the means of the deceased's nephew Leonardo Buonarroti, to get them removed by stealth to Florence, where they were received with every imaginable testimony of respect; and, after the most magnificent funeral rites (in the church of St. Lorenzo, reserved for those of the sovereigns of Tuscany only) that the joint efforts of genius and opulence could devise, finally deposited in that of Santa Croce, where he had desired to rest among his honourable ancestors.

GIULIO PIPPI, commonly called GIULIO ROMANO, well known as the second name in the Roman school of painting, has an equal title to rank high as an Architect. In Rome he designed the Villa Madama, with a Palazzine now ruined. Above St. Pietro Montorio another Palazzine in possession of the Duca Lante. The plan of the church of the Madonna dell' Orto. Palazzo Ciccia porci in the Strada di Banchi. And that of Cenci in the place of St. Eustachio, contiguous to the Palazzo Lante.

The Duke of Mantua, enamoured of Giulio's talent in Architecture, left nothing undone to draw him thither; and, when he had effected it, treated him with great distinction. The Palace T, (so called from the resemblance of its ground-plan to the

r Giulio Romano, born 1492, died 1546, æt. 54.

s Qu. whether the same with No. 40, Tom. I. of Pietro Ferrerio?

t Vide Elements, Pl. 54. fig. 3.

form

form of that letter) built by him, a little out of Mantua, is one of the most renowned Edifices in Italy. In addition to the merit of its construction, it has to boast some of the noblest efforts of his pencil; in particular the Hall of the Giants, where their fall is represented in a style correspondent to the magnitude of the subject. This invaluable work suffered greatly, by the barbarism of Pandours and Hussars, who used it as a guard-room, in the war terminated by the peace of Aix la Chapelle in 1748. He modernized and enlarged the Ducal Palace, and built another at Marmiruolo, five Miles from his Capital, for the same sovereign. In Mantua he erected a house for his own residence; and there refitted the church of St. Benedict, of the religious of Monte Cassino, and rebuilt the Dome. There, indeed, and in the vicinity his works of Architecture are so numerous, that the Cardinal Gonzaga was used to say, that Mantua was a Creation of Giulio Romano, and all there his own.

His design for the front of St. Petronio was deemed the most suitable, of several presented by celebrated Architects. Arrived to the fulness of his fame, it was confirmed to him by his appointment to the envied charge of Architect of St. Peter's of the Vatican. Resolved to remove thither with his whole household, and in actual preparation for a departure, not a little displeasing to the duke of Mantua and his own family, he was seized with an illness that, in the issue, finally closed his labours and concerns in this life.

The

The buildings he left unfinished in Mantua were carried on by Bertani, who erected the Church and Campanile of Santa Barbara, called the Quattrizonio, the best in Italy.

SEBASTIAN SERLIO,^u of whom Vafari, our general guide in this walk of Biography, says little or nothing, was born in the Bolognese; and distinguished himself as an Architect, in Lombardy, about 1530. His master in Geometry, Perspective, Painting and Architecture, was Baldassare Peruzzi of Sienna, who formed many other great artists. Serlio was one of the most attentive observers of the remains of the antient Roman edifices, and the first that gave their measurement, in detail, with reasonable accuracy.^x He is by the Marquis Maffei^y highly commended for his particular treatment of the amphitheatres; having in his book given designs of those of Rome, Verona, Pola, with elevations, sections, plans and profiles. He resided sometime in Venice, where he published his fourth book, the first that appeared. This procured him the favour, largesses, and invitation of Francis the first to his service. The honour thereby done him he did not immediately accept; since it appears from the dedication of his fourth book to the Marquis del Vasto, upon his republication of it at Venice, with additions, in 1540,^z wherein he says *here in Venice*, that he was there in the month of February that year. It is probable

^u Sebastian Serlio died 1552.

^x See in his third book a valuable collection of them.

^y Book 2. c. 1. of his Treatise on amphitheatres.

^z Presso Francesco Marcelini da Forli.

that

that he very soon after transferred himself to the actual service of his royal patron, who survived this acquisition but seven years. Many works he certainly conducted for that monarch, at the Louvre, Fontainebleau, the Tournelles and elsewhere, (besides private services) of which we have no description, nor even catalogue. His intervals of leisure he employed in the prosecution of his Treatise on Architecture. The third book of this work appeared a year after the fourth, and was dedicated to Francis I. In the service of that monarch he published his first and second books; the former containing the elements of Geometry, the latter those of Perspective, necessary to an Architect. These were followed by the fifth, (dedicated to the Queen of Navarre^a) the sixth and seventh.*

The war with the Emperour, which recommenced in 1542, could not but give some check to the works Francis I. had projected for the employment of Serlio; and, though that terminated by the peace of Crespi in 1544, the short remainder of this monarch's life, still involved in a war with England ended but in 1546, and perplexed with the intrigues of his court and the contests with his protestant subjects, must have rendered his good will to the arts less effective than zealous. Conformably to this conjecture, it is recorded that Serlio retired to

^a Niece of Francis I. and mother of Henry IV. of France.

* The complete editions of Serlio's Architecture are those of Francesco Sansone, in Venetian, 1566, 4to. and 1588, folio.

Lyons

Lyons, where he lived gouty and indigent; and that he afterwards removed to Fontainebleau, and there ended his days, as scanty of comfort as rich in renown.

PIRRO LIGORIO.^b The very honourable mention the Author of the Elements has made of this artist, and the elevation of a palace of his design given in the last figure of the plates, seem to require that something be here briefly said of him. He was a Noble Neapolitan of the Seggio di Porta Nuova,^c deeply versed in the study of antiquity and the fine arts. By Paul IV. he was appointed architect of St. Peter's; but in that office conducted himself so offensively, by his contempts of the venerable and yet capable M. A. Buonarroti and his rude disputes with him on matters relative to his charge, that all the Pope's partiality to him, as a countryman, could not keep him where he had placed him.

Pius IV. employed him to design the deposit of Paul IV. The Palazzine in the wood of Belvedere is thought to be his architecture. The Palace Lancelotti,^d in Piazza Navona, is likewise his invention—and he moreover painted some clair-obscures, of a colour resembling Bronze, in Rome.

Alfonso II, last Duke of Ferrara, used his service as an engineer, in securing his capital from the damage it was exposed to by the inundations of the Po. In this employment he ended his days at Ferrara.

^b Pirro Ligorio Napolitano died 1580.

^c A sort of lodges, in different parts of the city, into which the nobles are distributed.

^d Vide Elements, Plate 55. fig. 3.

A great

A great part of his designs of antient monuments (of which his measures are found to be not always just) may be seen in the Royal Library at Turin.

GIACOMO BAROZZI,^c usually called VIGNOLA, from a place of that name in the Modenese, where he was born in 1507, was son of Clement Barozzi, a Milanese of genteel family; who, not being suitably provided with the aids of fortune, and apprehending the effects of civil discord, left his abode at Milan for a retirement at Vignola, where he died while this son was yet very young. Thus early deprived of his best support, our Barozzi yielded to the direction of genius, and betook himself to the study and practice of painting in Bologna. This pursuit soon discovering to him the necessity of a good knowledge of Perspective, he so earnestly laboured to possess himself of that part of Science, as to supply the want of instruction by the invention of a method for himself.* While the exercise of his pencil supplied him with the mere necessities of life, what leisure his occupations of that kind left him he employed in investigating the principles of those arts, he could not be content to practice from a sole habit of imitation. It was during this first residence at Bologna that he is said to have furnished Francesco Guicciardini, the celebrated historian (then Governor of that city,) with some excellent designs

^c Giacomo Barozzi da Vignola, born 1507, died 1573, at. 66.

* This he has given in a treatise intitled *Le due regole della Prospettiva pratica di Giacompo Barozzi da Vignola*, republished *Coi Commentarj di Egnazio Danti*, in Roma, 1583, folio.

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afterwards executed, at Florence, in Tarfià, a sort of mosaïc of differently coloured woods, formed into landscapes, architecture, and other picturesque representations.

The passage was easy, from a deep acquaintance with geometry, perspective and design, to Architecture. Vitruvius he had carefully studied. Yet the attention, he bestowed on that first of Authors in this Science, served but to convince him, that something more than writing could teach was wanted to form the real architect. Where to seek this the custom of all his antecessors in that profession had informed him. Arrived in Rome, he endeavoured to maintain himself as before by his pencil, with a success by no means equal to his industry; and therefore, throwing aside the pallet in disgust, he sought a new resource in measuring the antient remains for the Academy of Architecture, newly set on foot in Rome. This employment, conducive alike to his subsistence and improvement, engaged his attention so strongly as, probably, to have given birth to the Treatise on the five Orders under his name; which all conversant with this study must have read, and some prefer to whatever else has been written on the subject.* He next became assistant, in the Belvedere, to Giacomo Melinghini of Ferrara, an excellent architect; and was allowed to frequent the meetings of the Academy of Architecture, where

* Vignola's Orders have passed many editions and translations. The Italian one at Venice 1570, is an early one, if not the first.

Marcello Cervini, afterwards Pope Marcello II, M. (afterwards Cardinal) Maffei, Alexander Manzoli and other persons of distinction attended; who employed Vignola in designs and works that contributed to his support, and extended his reputation.

Francesco Primaticcio, a Bolognese and excellent painter, coming to Rome about this time from France to collect pictures, and procure copies of the most celebrated statues and reliefs, in order to their being cast in bronze, as ornaments for the royal palaces, singled out Vignola for his assistant there; and at his return carried him into France, where he passed two years in planning many works which failed of execution, through the distress of the times, by the foreign wars and civil disturbances, with which Francis I was continually harassed.

Returned to Bologna, he gave a design for the front of St. Petronio, much approved by Giulio Romano and Cristoforo Lombardi.* In the Facciata de' Banchi, that makes a sort of wing to that Cathedral, his dextrous management of the site, and some old buildings that could not be removed, exhibited a further most advantageous display of his ability; though his design was dropped short by the omission of two turrets, that would have added greatly to its effect. At Minerbio, near Bologna, he built a palace for Count Isolani. But the most important service, that neighbourhood owed to Vignola, was his conducting the Canale del Naviglio, which ran three miles wide of it, into Bologna; an

* Architect of the Dome at Milan.

achievement

achievement spoken of with high applause by Vasari. Meanly recompensed for this great work, he removed to Piacenza; where he gave the plan and superintended the foundations of the Ducal Palace, of which he left the further direction to his son Giacinto. The citadel of Piacenza was likewise formed by him. It is not easy to ascertain either the number, or the dates, of the various edifices of this great artist dispersed through Italy. Some of them are the churches of Mazzano, St. Oreste, della Madonna degli Angeli in Affisi, and a beautiful chapel in that of St. Francesco in Perugia.

Upon his revisiting Rome, he was by Julius III appointed his architect, intrusted with the direction of the acqua di Trevi, and the construction of the Villa, without the Porta del Popolo, called Papa Giulio.^f At a small distance, on the Flaminian way, Vignola built a chapel in the style of the antient temples, called St. Andrea di Ponte molle, a work much applauded. The plan of it is rectangular, the pilasters Corinthian, without pedestals. In Rome he refitted that Palace of the SSi de' Monti, which has since been called the Palace of Florence; being become the property of the Grand Duke. For the same family he began a palace opposite that of the household of Borghese, but was not allowed to conduct it much above the foundations. The Cardinal Alexander Farnese, who thought highly of Vignola's intelligence of his art, committed to him that part of the great Farnese Palace which contains the famous gal-

^f Vide Elements, Plate LV, fig. 1.

I INTRODUCTION.

lery painted by the Carracci. By his order likewise our Architect built the elegant Corinthian portal of St. Lorenzo in Damafo; and a rustic door to the Farnese gardens, that does credit to its inventor. The great favour of this Cardinal to the order of Jesuits suggesting to him the building of the magnificent church del Gesù, Vignola was employed to design and conduct the fabric. The foundation was laid in 1568, but the superstructure was not carried on by him to its termination. So far as it had the benefit of his direction, it has every merit; but the alterations made in his plan by Giacomo della Porta, who succeeded him in the superintendence, are by no means to the advantage of the work.

S. Anna de' Palafrenieri, near the Vatican, is supposed to have been built by Giacinto Barozzi, after a design of his father Giacomo;—the Oratory of S. Marcello, the Cappella Ricci in Santa Caterina de' Funari, the Deposit of Cardinal Ranuccio Farnese in S. Gio. Laterano, are all believed to be inventions of Vignola.

But, if every proof of his skill hitherto specified were away, the sole palace of Caprarola, about thirty miles from Rome towards Viterbo, would establish the superiority of his professional talents. This singularly magnificent and commodious edifice stands solitary, on the brow of a barren hill, surrounded by other rocky eminences, in a sort of gut opening into a delicious country. The offices are distributed into several courts, round the mid-rise of the hill, on whose summit the palace is placed.

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It is externally of a pentagonal form, flanked by five bastions, in manner to give it the commanding air of a fortress. When you have passed the entrance, the area within is circular, and the fabric rises by two stories of porticos. One side of the pentagon is occupied by a grand loggia and staircase; and in the other four there are, on each story, four great apartments complete; which are kept free from all communication by means of the porticos, that run round the great circular court. More detailed descriptions of this masterpiece of a great master may be seen in Vasari, Danti; and, with designs of the whole and the parts, in D'Aviler's *Cours d'Architecture*. It may, however, be useful to add, that this palace is no less respectable for the paintings of the Zuccari (historical of the Farnese family) and the perspectives of Vignola that adorn it, than for its architecture. Mons. D. Barbaro, upon a critical survey of the whole, for which he was eminently qualified, is said to have exclaimed—*Vincit præsentia famam*.^g

After the death of Michel Angelo, Barozzi was declared Architect of St. Peter's, and in that office erected the two lateral cupolas with the most agreeable effect. When the Baron Berardino Martirani arrived in Rome from Spain, to collect designs for the Escorial, and had got together twenty-two by the most eminent architects of Italy, he shewed the whole collection to Vignola; who, judiciously select-

^g The reality exceeds all report.

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ing and combining what was most masterly and congruous in the ideas of so many great artists, and adding his own to their best conceptions, composed a design greatly superior to any single one that had been shewn him. This, when presented and examined, was favoured with the preference of the monarch, and an invitation of its author to superintend its execution ; an honour his attachment to Rome would not permit him to accept. In regard to the general esteem of his probity and ability, he was commissioned by Gregory XIII to settle his differences with the Grand Duke of Tuscany, concerning the boundaries of their respective states near Città di Castello ; and, having acquitted himself to the satisfaction of his employer, died immediately upon his return to Rome in 1573. His remains were deposited in S. Maria della Rotunda,^h with the most respectful attendance of the Academicians and Professors. It was, says D'Aviler, but just, that the greatest partizan of antient Architecture should have sepulture in the most magnificent remaining edifice of antiquity. But will not the want of some monument, or record there, to attest the fact and mark the spot, ultimately defeat the intention in his case, as in that of B. Peruzzi and other worthies, that sleep there unnoticed by the numerous successive visitants of that august structure ?

Our great artist has been, not unfitly, called the Legislator of Architecture. He, indeed, first reduced

^h The antient Pantheon.

the vague and fluctuating use of the best authorities to system, and rendered the detail of that system easy in practice. Of fruitful yet sober invention; ever attentive to propriety and convenience; solid, simple and majestic, in great works; elegant and chaste in such as required the attraction of ornament; as quick in availing himself of the advantages of site, as dextrous in eluding the constraints, or impediments, it might oppose to his designs; had he lived nearer the times when philosophy (i. e. reason and nature) was to fix the principles of the fine arts, he had left us an Architecture (of finite intellect we can at best say) only not perfect.

ANDREA PALLADIOⁱ was born at Vicenza A. D. 1508, on the 30th of November, St. Andrew's day, whence the choice of his christian name. His earliest application was to sculpture; but, having the good fortune to attract the notice of his illustrious townsman Count John George Trissino,* who discovered

ⁱ Andrea Palladio born 1508, died 1580, æt. 72.

* Son of Gaspar Trissino, and Cecilia Bevilacqua of a noble family in Verona, born at Vicenza A. D. 1478. Though he lost his father when but seven years old, his education was so well conducted that he became one of the most knowing and accomplished noblemen of his time. He was instructed in Greek, at Milan, by Demetrius Chalcondyles. When 22 years old he went to Rome, in view to improve himself by conversation with the many learned men resident there. On his return, at 24, he married a lady of his own name and family; but still continued his favourite studies, particularly those of Poetry and Architecture. He gave the design for reforming, and in good part rebuilding, his seat at Cricoli near Vicenza, commonly ascribed to Palladio; who, probably, only superintended

his natural propensity to mathematical science, he was by his new Patron directed to the reading of Euclid, Vitruvius and Alberti, and afterwards taken by him thrice to Rome, where he diligently measured and designed the choicest remains of antient architecture. He visited Rome a fourth time in consequence of a call to employment in the fabric of St.

superintended the execution. Losing his lady early, to divert his grief he returned to Rome, and there composed his Tragedy of Sophonisba, (the first regular piece of its kind in the Italian language, and in blank verse) which was represented in a most splendid manner at the expence of Leo X. The Author was by that Pontif sent ambassador to the Emperour Maximilian I, in 1516, who honoured him with the Order of the Golden Fleece, and employed him, as did afterwards his successor Charles V, in many important negociations with different Sovereigns. Those ended, he was called to Rome by Clement VII, and appointed his ambassador to Charles V, and the Republic of Venice. Restored to repose in his own country, in 1521, he married a second time a lady of his own name and family, Bianca Triffina. By the former match with Giovanna Triffina, he had two sons, Francis and Julius; by this latter a third, named Cyrus. When the issue of both grew towards manhood, quarrels on matters of interest arose between them, which involved their father in a long law-suit, and, in the end, deprived him of most of his property. Worn out with vexation, and thus reduced in circumstances, he abandoned his country and repaired to Rome; where he died the following year, 1550, and was buried in the church of St. Agatha. In the midst of his serious occupations he found time to compose many considerable works in verse and prose; among which is the epic poem of the *Italia liberata da' Gotti*.

The respect to a character so early illustrious in literature, that prompted this note, will, it is hoped, render its length pardonable.

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Peter ; but, finding on his arrival there the Pope dead, and all things in confusion, he made no other advantage of that journey than to review and re-measure those relics of Roman magnificence, he had before examined and admired. He further corrected his measures and designs in a fifth journey to that capital, in company of some Venetian Gentlemen his friends. About this time he printed a little book of those antiquities, usually joined to that entitled *Mirabilia Romæ*. Thus diligently prepared, he at his return entered vigorously on practice, with the most advantageous offers of employment in his own country, and out of it. At 29 years he was intrusted with the conduct of the public Palace at Udinè, called *Il Castello*, begun by John Fontana. Near the same time he planned, and directed the execution of, the porticos inclosing on three sides the great hall of Justice at Vicenza; a work of which he speaks (B. III. C. 20, of his *Architecture*) with more consciousness of his success than he has upon any other occasion discovered. He was invited by the Cardinal of Trent to build his palace in that city. By Emanuel Filibert, Duke of Savoy, on the same account. By the city of Bologna, for the front of the great church of St. Petronio, for which he made four different designs. By that of Brescia, for the rebuilding the public palace there, nearly destroyed by fire. The Republic of Venice, his natural sovereign, both pensioned and employed him, after the death of Sansovino, on all occasions. In Vicenza, and its neighbourhood, he left ample proof of his su-

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perior taste and skill in a great variety of houses, villas, churches, and other public buildings. The designs of most of these he has inserted in his well-known book of Architecture. It is observable, however, that those, who have taken his measures from the actual fabrics and compared them with what are set down in the designs there given, have found many differences of proportion; but, if these are not improvements as to effect, it has not been noticed that they are prejudicial to it.

Palladio is generally believed to have had a fifth book of his Architecture nearly ready for the press when he died, containing designs of ancient temples, arches, sepulchres, baths, &c. which, with his other unpublished plans and writings, he left to his particular friend, the Senator Giacomo Contarini (no mean judge of that art) upon whose demise they were all dispersed. Some the late Earl of Burlington collected in his travels, and printed with great magnificence at his own expence. It is highly probable that many of those scattered designs were executed in different places, at different intervals, after his death; with no other indication of their author than what their manner must afford the discerning observer. It is not therefore always safe to deny him the credit of an invention, the style should warrant his, because the date of the execution is posterior to his decease.

He was particularly curious in whatever related to the art of war, as practised by the ancients; and laboured much in the explanation of Polibius and Cæsar,

far, by plans and discourses. His elucidations of the former author, yet unpublished, were dedicated to Francis the reigning grand Duke of Tuscany. Those of the latter are printed with Baldelli's Italian translation of the Commentaries. It is certain that the profound erudition of his noble friend Trissino assisted him greatly, in the study of the Roman art of war; and thence, by mistake, might arise the tradition of the same friend having been his master in Architecture likewise. Palladio explained many difficulties in Vitruvius to Mons. D. Barbaro; and furnished him the drawings, that accompany his Italian translation of that author with a commentary.

The last great effort of our Architect's genius was the design of the Olympic Theatre^k in Vicenza, begun the twenty-third of May, 1580, by an Academy of that name instituted in 1555, of which he was a member and had been one of the first promoters. In this work he meant to realize his own idea of the antient theatres, as derived from Vitruvius and the remaining Roman structures of that kind; but he lived not to conduct it further than a part of the foundations. His surviving son Silla was appointed to the superintendence upon his decease; and Scamozzi (as himself declares) directed the standing scenes. The completed fabric was viewed, by the best judges of the time, with rapturous admiration; and has, ever since, been reputed a prodigy of the

^k For a description and critical examination of this see *Il Teatro Olimpico* of Count Gio. Montenari, Padova, 1749, 8vo.

art, in a country where its wonders are not rare even to the critical eye. Its form differs from that of the ancient models, in being a half ellipse instead of a semicircle. This change was an accommodation to site, no little contributive to the merit of the whole invention.

Palladio is described as rather low of stature, of a pleasing countenance, chearful and open in conversation, but ever observant of his superiors in rank or knowledge. Fond of the society of men of letters, and well able to bear his part in discourse with them. In the exercise of his profession, he is said to have been communicative and engaging to his workmen, without descending to a familiarity derogatory from the respect they owed him.

Beside his surviving son Silla, he had Leonidas, bred an Architect likewise; and Horatio, who applied to law. Both these died young, within three months one of the other. Their untimely loss he laments in his dissertation on the Roman militia, prefixed to the abovementioned translation of Cæsar's Commentaries. His own death happened on the nineteenth of August, 1580, æt. 72, at Vicenza, where he was buried, with the usual honours of a superior artist, in the church of the Santa Corona, of the Dominicans.

Among the numerous good Italian Architects of the sixteenth century, fruitful in genius of every kind, pre-eminence is, by the joint suffrages of his countrymen and of foreigners, assigned to Palladio. A perfect acquaintance with the literature and sciences

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ces subservient to his art, a profound study of the ancient models, and a quick perception of whatever contributes to the greatness of effect that distinguishes them, conspired to advance his natural aptitude for his profession to excellence. Not content to measure and design the edifices of antiquity, as a matter of form, he traced them to their foundations, examined their grosser materials, and the various modes of combining them, as conducive to strength, or reductive of expense. In the superintendence of his own works he was particularly attentive to the manual execution.

If we examine his peculiar style, his greater buildings have an air of grandeur, that seems to be the result of volume, proportion and ornament, dictated by propriety. His Villas speak themselves the retreats of nobility, veiled but not hid. — If analogy between the human and material fabrics (much resorted to by writers on Architecture) be allowable here, perhaps we may not unfitly say that the general effect of Palladio's edifices is similar to that of personal dignity well dressed. In a word, the perfection of his whole manner has occasioned him to be called the *RAPHAEL* of Architects.*

* Of the buildings ascribed to him, not in his book, are in Venice the Church of S. Giorgio Maggiore, the Refectory and other pieces of the Monastery — Front of that of S. Francesco della Vigna, built by Sanfovino — del Redemtore alla Zucca de' Capucini — delle Zitelle — di S. Lucia — some repairs of the Ducal Palace. At Vicenza Santa Maria Nuova — Palazzo Prefettizio, his name on the east Front — Façade of the Palazzo Torniери — that of the Pal. del Conte L. Schio — a House of his design supposed for himself, but which it appears he could have occupied only

VINCENZO SCAMOZZI¹ succeeded to the public appointments of Palladio. He was born in Vicenza, of parents in good circumstances. His father Gio. Domenico, a man of letters and a good Architect, procured him the best masters; particularly for mathematics and design. Under these his proficiency was such, as enabled him to compose a large work on Perspective at the age of 22, while he yet remained at Vicenza. To advance himself in Architecture, he studied with emulous attention the fabrics of Sansovino and Palladio, then going on at Venice. With the same view he next visited Rome; where he perfected himself in mathematical science by the instructions of the celebrated P. Clavius; and availed himself of all the advantages his situation afforded for accomplishing himself in his profession, by the most studious observation of the antient edifices subsisting there. Not satiated with these, his still eager curiosity carried him to Naples and its adjacencies.

Upon his return he fixed at Venice, and began his practical career with the Deposit of the Doge

only as a renter—Arco delle Scale del Monte, from the manner thought to be a design of his—Doric Loggia, and a Door, in the Garden of the Counts Valmarana—two rustic Doors in the Garden of Count Porto. In Padua, nel Borgo di Santa Croce, a House of singular contrivance, for the conveniences it includes in small area. In Bologna, northern front and Court of Pal. Ruini, since Ranucci. In Parma, part of the Theatre, carried on by Bernini, Spada and Magnani.

¹ Vincenzo Scamozzi born 1552, died 1616, æt. 64.

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Niccolò da Ponte in the church of Sa. Maria della Carità; which gained him such credit as procured him further honorable employment, in the prosecution of the library of St. Mark, begun by Sansovino. and the addition of the public musæum to it. He had afterwards the preference of those in trust for the continuation of the Procuratie Nuove, in the piazza of St. Mark; in which he added a third order to the design of Sansovino; an alteration not generally approved. In his own way he did not conduct the work to its completion. That was effected by his successor in office Baldassare Longhena.

Having conceived the design of giving to the public his great work, entitled *Idea dell' Architettura Universale*, and feeling the want of some information not to be acquired on his side the Alps, he took the opportunity of an embassy from Venice in 1600, to travel through France, Lorrain, Germany and Hungary. The enlargement a mind like his must receive from such a field of observation as this could not but dispose public opinion still more in his favour; and, accordingly, the demand for his services became at his return to Venice distressfully great. In consequence, the public and private buildings, in which he was more or less concerned, in the capital, at Vicenza, Padua and other places of the Venetian domain, are too numerous to be all mentioned in an abridgment like this. The more distinguished fabrics of his design are—in Venice the Palace Cornaro on the great canal of three Orders, Doric, Ionic and Corinthian, including a magnificent court.—In Vicenza, the
Palace

Palace Trissino, now Trento, a noble structure—At Sabionetta in the Mantuan, a theatre after the antient model, for the Duke Vespasian Gonzaga of that title.—At Florence, the second story of the palace Strozzi.—In Genoa, Palazzo Rava'schieri of three stories, Rustic, Ionic, Corinthian—in 1604 he was called to Saltsburg, where he built the Cathedral. His skill as a military Architect is proved by the famous fortrefs of Palma in Friuli, of which he laid the first stone in presence of the Venetian generals in 1593. Besides his more known constructions in Italy, he furnished a great number of designs for foreign countries, at the request of sovereigns and other personages.

This multiplicity of occupations much shortened the leisure he wished to employ on the above mentioned ample Treatise of Architecture, which he intended to divide into twelve books. He therefore reduced it to ten; but, though such is the number announced in the title-page, the work as published in 1615 contains but six, i. e. books, 1, 2, 3, of the first part, and 6, 7, 8 of the second. The supply of this imperfection was unhappily prevented by his death in 1616, at the age of 64, in Venice, where he had sepulture in the church of St. Giovanni e Paolo, without a monument: but one was, many years after, erected to his memory in the church of St. Lorenzo in Vicenza, his native city. His effects were left to an adoptive son Andrea Toaldo, of the family of Gregorj, who took the name of Scamozzi.

Concerning

Concerning the professional merit of Scamozzi judgments have been different and extreme. Some (among these Mons. de Chambray) disgusted, perhaps, with his ostentation of extraneous erudition, his intimations of his own superiority, and reticences concerning other artists, have refused him the praise justly due to him. The title of his work on Architecture,* and many passages in it, certainly indicate an extravagant opinion of his own sufficiency; but this does not prove that it had no support in reality. His sixth book, on the Orders, was thought to deserve a translation into French by Daviler, magnificently republished, with additions from other parts of the Author's works, by Du Ruy at Leyden 1713. Of his Book of Antiquities† the learned Marquis Maffei affirms,‡ that it is the only one where any thing is said on the internal repartition and distribution of amphitheatres, and contains information on the subject never before given or sought for. The judicious Count A. Pompei is large and particular in praise of his Orders, and pronounces the designs in his book and many of his buildings highly commendable; among the latter he specifies

* *Idea dell' Architettura Univerfale di V. Scamozzi, in Venezia, per Giorgio Valentino, 2 tom. in folio, 1615, first edition, very rare.*

† *Discorsi sopra l'Antichità di Roma di V. Scamozzi, con XL Tavole in rame per Battista Pittoni, in Venezia per Francesco Ziletti 1582 in folio, very rare likewise, the plates from designs of Baldassare Peruzzi.*

‡ *Libro 2^{do} degli Anfiteatri.*

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the palace Cornaro as a master-piece of art. When he succeeded to the direction of fabrics, that were to be continued upon settled and well concerted plans, it must be allowed that he was too prone to indulge his self opinion, in the attempt to do more than enough, and better than well.

THE Author of the ensuing Elements died Dean of Christ Church in 1710. An article relating to him in the Biographia Britannica (perhaps not the most accurate, or complete, in that valuable collection) saves the necessity of mentioning things generally known concerning him, and leaves us at liberty to conform to our plan, by hinting only what may be supposed to affect his qualification, as a judge and teacher of the fine arts. A person he, undoubtedly, was of true and versatile genius, assisted by learning, converse and travel. An acute and accurate observer, a patient thinker, a deep and clear reasoner. His natural portion of these faculties was improved by a perfect acquaintance with mathematical science, and quickened by the subtlety of the scholastic logic. That the vigour of his conceptions might be transmitted unimpaired by the expression of them, he sought, in a familiarity with classical elegance and propriety, the habit of exhibiting them with force and lustre. The warm suns of Italy, the domesticity with congenial spirits he contracted there, exalted his inbred taste and rendered it excursive through
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the whole field of Arts. There he became impassioned for Architecture and Music, from such specimens of both as no other country can afford. That the impression was not merely local and momentary, his executed designs* in the one, and his yet daily recited compositions† in the other, would enable his historian to prove.

Become President of a numerous and learned society, in one of the two Universities that distinguish our Island as a nursing Mother of Science, the suavity of his manners, the hilarity of his conversation, the variety and excellence of his talents, in conjunction with a fine person, conciliated and attached all committed to his superintendence, to such a degree that his latest surviving disciples, of the first rank, have been seen unable to speak, recollectedly, of their intercourse with him, without the tenderest indications of affection to his memory. Ever ready to direct, assist and encourage, their endeavours in pursuit of useful knowledge, he lowered himself (if such works be not rather fit only for a great master) to the composition of different elementary pieces § for their instruction. Among these, in favour of the few, whose happier fortunes permit them to join elegant

* The Peckwater Quadrangle at Christ Church, the Church and beautiful Campanile of All Saints in Oxford are of the number, and, most probably, Trinity College Chapel. See Mr. Warton's Life of Dr. Bathurst p. 71.

† Those of the devotional kind are still current in all our best choirs.

§ On Logic, Geometry, &c.

with solid information, he compiled the rudiments of Architecture now offered to the public, through the very liberal concession of the governing Members of Worcester College, friends to science too true, too zealous, to rejoice in the exclusive possession of any means subservient to its propagation.

T H E

THE FIRST PART

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ELEMENTS

OF

CIVIL ARCHITECTURE.

ARCHITECTURE is the art of building well:—the Architect, he who practices the art, who may be considered in three views. 1. The Sumptuary, who furnishes the expence of the building. 2. The Projector, who designs the plan. 3. The * Operator, or he who erects, or adorns, an edifice.

Architecture is twofold: one, Civil, which is concerned in edifices destined to the uses of peace, and its attendants, the liberal arts, &c. such as churches, palaces, porticos, &c. The other Military, whose province is fortification and the construction of machines for war. Of the first, beauty is the chief object; of the second, security; of both, convenience.

Of this Science, then, there are two divisions, of which in the following books it is my purpose to treat; and I shall endeavour to instruct the projecting Architect as briefly and clearly as I can; of whom I do not demand, as Vitruvius does, a knowledge of all sciences, but should wish him to understand mathematics and design. I should be glad if he followed

* Vitruvius calls him Officinator or Superintendent, Surveyor in English.

2 OF THE ELEMENTS OF

this study from particular inclination. For, as in all pursuits a natural propensity is of great importance, in this it is an indispensable requisite.

I shall therefore presume that I am addressing myself to such a student; and shall so explain to him the language and most approved precepts of Architecture that he may either rest satisfied with my instructions, or be able by his own application to supply my omissions. I shall divide the work into two parts, each consisting of three books: the first part will treat of Civil Architecture, the second of Military. The first book will contain general rules: the second will speak of public and private edifices: the third of the ornaments of building: the fourth will describe fortifications: the fifth naval Architecture: the sixth instruments of war.

BOOK. I. CHAP. I.

OF THE APPARATUS.

THE three chief properties of a good building are these, utility, strength, and beauty. Utility will be consulted if each part of the building be well arranged, of suitable dimensions, and in proper position. Strength will ensue, if the walls stand perpendicularly on well laid foundations, and are thickest at the bottom. All apertures should fall exactly one under the other, so that a void space be over a void space, and walling over walling. Beauty arises from parts handsome and necessary, correspondent to each other, and to the whole.

To provide for these things accurately, let the Architect first make a draught on paper of the intended work: 1. the Ichnography, which describes the ground plot; 2. Orthography, the elevation or front of the mansion; 3. Sciagraphy, or, Scenography, which exhibits the front and the sides retiring in a perspective view. To execute this requires a knowledge of design, of which I suppose the Architect already possessed.

By

By the aid of these schemes he will ascertain the size, proportion of the parts, site, ornaments and the respective costs, so as to judge of the expence of the building. For he should be aware, that his own credit and the strength of the structure much depends upon his having a sufficiency of materials well seasoned, workmen and money at command, before he begins, that the building may go on and be completed without interruption.

§. 2. The materials for building are timber, stone, sand, lime, and metals.

The properest season for felling timber is from the beginning of Autumn to the latter end of February, when the moon is waning, and the weather temperate. Green or over dried wood requires great labour in working: none is fit for use that has not been laid by some time, and covered over with cow-dung: timber is unfit for making joists, doors, or windows, till it has been cut down three years.

Air hardens stone. Stones which are fresh dug up are easiest worked, and should be immediately put under the tool. Those of a harder nature are employed immediately; those of a softer kind, not till they have been two years exposed to the weather.

Among stones we may reckon bricks (and tiles), 1. testaceous; * unbaked; or those which are at least five years dried by the sun; or, 2. which are baked by fire, but not till they have been made two years. In autumn it is best to dig them, and from a white, chalky, yielding earth. The loom during the winter should be kept steeped, and made into bricks in the spring. The size of the brick, or tile, according to the practice of the Greeks, should be proportioned to the grandeur of the edifice: the greatest, Pentadori, are five spans each way, and are used in public buildings;

* Formed of chalky earth burnt.

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moderate ones, Tetradori, four spans; the smallest, called by Vitruvius Didori, by Pliny more fitly Lydii, two spans, fit for private houses; which the Romans likewise made use of, and which are in length a foot and an half, or cubit, and a foot broad.

Sand is of three kinds; pit sand, river sand, and sea sand: pit sand is the best; but of this the white is inferior both to the blackish and red sort: the * Carbuncle is superior to all. Among these should be mentioned the earth of † Pozzuoli, which immediately hardens in the water, and becomes stone. Of the river sand, that is the best which is found in torrents. Sea sand is of the least value; but if cleared from the saline particles, by washing, is of use in the plaistering or rough casting of walls.

Lime is made of stone calcined; but that from the pumice stone, shells, and river pebble, does for plaistering walls. The best stone for burning to lime is that which is white, very hard and dense, and which loses a third of its weight in the kiln. It must remain there sixty hours at least. Cement is composed from one part of lime, with three parts of pit sand, or two parts of river or sea sand.

Metal has various names and uses: 1. Iron for nails, hinges, handles, chains, &c. 2. Lead for soldering pipes and roofs. The ancients made these things mostly of 3. copper; or 4. brass; 5. of copper, brass and lead; bronze was made in imitation of Corinthian brass. This composition was usually employed for the bases of pillars, and their capitals; likewise for doors and statues. But of these things enough; seeing the Architect, particularly the Inventor of the plan, has little concern in these matters,

* A sort of earth dug out of the mountains in Hetruria, hardened by the subterraneous vapours of those hills: Pliny and Vitruvius call it Carbunculus, Vitruv. II. 4. Pliny XVII. 4.

† Pozzuoli, anciently Puteoli, a city near Naples, famous for its Mole made of this earth. See Addison's Travels, Remarks on Italy, &c.

BOOK II,

BOOK I. CHAP. II.

OF THE FOUNDATION, WALLS, AND ROOF.

§. I. **I**N laying foundations, first examine the soil, partly by external appearances, such as plants, water, trees, stones, &c. partly by making frequent openings in the ground. Avoid a soil sandy, gravelly, soft, marshy, or artificial, or made ground; avoid ruins also, unless they are known to be strong and firm. Buildings require a soil dry, solid, firm, that resists the spade, and does not dissolve when moistened.

For, if the nature of the ground afford it, the hollow for the foundation should be dug down to the solid, and, in the solid, carried down to the sixth part of the height of the building, and a little more, if cellars or any subterraneous offices are intended.

If the nature of the soil afford not solidity, the ground must be strengthened by a multitude of piles, on which the walls that surround the area, or divide it, may rest. The length of the piles should be an eighth part of the height of the walls; their thickness a twelfth part of their own length. Let them be driven in by repeated strokes, rather than by very forcible ones.

Let the foundation be twice the thickness of the wall, more or less in proportion to the solidity of the ground, and the dimensions of the building. Let the bottom of the trench be exactly level. It was formerly laid with Tiburtine stone: now a course of stones is placed over planks or beams. The stones should be without mortar, lest the wood be destroyed by the lime. The thickness of the foundation, as well as of the wall rising above ground, should gradually diminish, and the diminution on each side should be equal, with this certain rule, that the middle part of the upper order should rest in a perpendicular line upon the middle of the lower. To save expence, the foundation work is not continued solid under
the

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the whole building, but interrupted by the means of arches, particularly in marshy ground: and in the walls of larger buildings, columns are carried up: a thrifty and useful invention if winding stairs are placed in them. †

P L A T E I.

§. 2. There are many kinds of walls: one, which Vitruvius either names *uncertain*, or *inserted*, I know not which; it may be either. Uncertain, or irregular walls, are those (see Palladio on uncertain stones) where the stones are laid with their natural dimensions, and their figure and size of course uncertain. This is explained by Scheme the first, A A. *Perault* properly terms that kind of wall *inserted*, where the stones are of a determinate size, and placed in a regular order; for instance, in brick work. In this kind of work, the * *rows of stones* joined together should be alternate, that the middle stones may be rendered firm and close by those above them. This rule should take place in the middle of the wall, if possible, if not, at both the sides.

The Greeks made their walls in the manner of brick ones, with a hard stone or flint of a square form, i. e. of equal depth and breadth. A wall thus constructed, they called *Ισοδομος*, such is B B. When the stones were irregular in size, they termed the structure *ψευδοδομος*. The third kind of edifice was called *εμπλεκτον*, or involved, D D, when the stones were even in front, but placed fortuitously. When they filled the middle of the wall internally with broken or pounded cement, they termed it *δια μικτών*, E E. If the walls are *Ισοδομοι*, and fastened together with iron, they are properly called by *Perault*, † cramped. See the example F F. *Δικτυοειτον*, or net-work structure, G G, was

† It is not easy to ascertain the meaning of the Author here. Quære, whether he has in view those round turriform erections, at equal intervals, so common in the walls of our old castles?

* *Coagmentationes alternas*, courses of stones.
Corii et Chorii,

† In the French Language *cramponée*.

was

much used in ancient Rome, and is beautiful to the sight, but was apt to crack. Wherefore, according to Palladio, no ancient specimen of this kind remains. Vitruvius has given the same account.

PLATE II.

The precepts of Palladio may be explained in the second plate. The net-work, A A, is the first kind of structure, and which he disapproves. To ensure the strength of which he proposes to erect brick buttresses at the angles B B, and to place transversely, or longways, six courses of bricks at the bottom C C, in the middle three D D, wherever the net-work is raised six feet.

The second is brick work; which, especially in the walls of a city or extraordinary building, is constructed like the *Διαμικτον*, for the bricks appear, E E. The rubbish lies concealed in the middle, F F. In the bottom there are six courses of larger bricks; then some less at the height of three feet; then the walls are bound again with three courses of larger bricks; an example of this kind still remains in the Pantheon, and the hot baths built by Dioclesian.

The third kind are walls made of cement, I I, composed of rough pebbles out of a river or from a rock; sometimes of shell, as are the walls of Turin in Piedmont. This kind of wall should be bound by three courses of bricks, at the height of two feet, as K K. The fourth species is the *uncertain*, L L; a specimen of which still remains at * *Prænestæ*.

The fifth kind is built with square stones, and is called *Pseudisodomum*, as M M; to be seen now at Rome, in the temple of Augustus. The sixth kind, which may be seen at Sirmion upon the lake of Garda, is a species of wooden walls, N N, and are called † *Formæ*, and are stuffed

* A city of Italy, twenty miles to the east of Rome. The modern name is Palestrina.

† The Spaniards call these walls mud walls; they are formed of two planks set edgewise at a distance, opposite each other, according to the intended breadth of the wall. See Palladio on the writings of the Ancients,

with

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with stone, mortar, &c. at random. The planks being taken away, the wall O O appears ; and is called *formaceous*. To this species, namely sixth, the seventh may be referred, which may be seen in the ancient walls at Naples. There are two walls P P of square stones, four feet thick ; their distance six feet. They are bound together by the transverse walls Q Q at the same distance. The cavity R R left between is six feet square, and is filled up with stones and earth.

According to Palladio, great care and art is necessary to connect the stones, and that a proper juncture is essential to the beauty and strength of the work. This effect the ancients produced in such a manner as to escape the eye : They laid their stone first in its natural state, and afterward polished those parts that were exposed to view. As the wall rises above the ground its thickness should diminish proportionably in the manner of a graduated Pyramid. The inside structure of the wall should be in a perpendicular line. The thickness of the * Podium or foot of the wall is half that of the foundation : in the middle of the wall, or, front band, the thickness is diminished half a brick ; at the top, or crown of the building, another half brick is taken away. Some sculpture or bassie relief should conceal outwardly the gradual diminution.

Above all, attention should be paid to the angles, which should be rendered as firm as possible with long and hard stone laid with a level and rule. The openings, windows, &c. should be removed from the angles as far at least as the quantum of their breadth.

§. 4. The walls being finished the roof is to be put on, which antiently used to be flat ; and in warm climates is so now. In cold and temperate climates experience has taught men to carry off the droppings from their shelving roofs by placing gutters in them to collect the water falling from the eaves, and to convey it by pipes into the part of the court-yard, which they termed *Impluvium*.

* Called by the Italian writers *il Poggio*.

Ridged

Ridged roofs are either shelving two ways like a cockle's shell, or four ways like a tortoise's shell. The top of the roof should be elevated in proportion as the climate is exposed to thick or frequent falls of snow. In Italy Palladio advises two ninths of the breadth of the building to form the height of the roof.

In England three fourths is in general the measure. In Germany they raise them higher.

PLATE III. FIG. I, II.

The timber work of a roof, which Vitruvius mentions B. 4. Cap. 2. are these: A G the column or king post; B B collar beams; C C braces; D D principal rafters; E E purlines placed transversely over the principal rafters; F F smaller rafters. We now add to these many other parts, to which there are no latin names, and we place them in other directions. But the timber work belongs to the surveyor's business, the architect will content himself with the rules of Palladio, which advise with regard to this matter, that partition walls should be erected, which will sustain part of the weight, and produce many advantages to the whole of the roof.

Roofs originally were made of reeds and leaves, or leaves and clay: afterwards with reeds and straw, or with clay beaten together with short straw; which custom remains even now in Cottages. Pliny relates that Rome was covered with shingles, that is, with small pieces of thin boards, to the time of the war with Pyrrhus. Cynaras invented burnt tiles: who found out lead, brass and copper, is unknown. Byzas of Naxos introduced the use of small pieces of marble cut into the form of slates. The antients, which one wonders at, knew not of our slate stone.*

The English seldom use any metal except lead, and that in the form of thin plates, and not tile fashion; often slate, but chiefly burnt tiles, and those either flat or crooked.

* Peculiarly good at Horsham in Sussex.

In placing them both they lay laths across the rafters, to which they connect the tiles in the manner of scales. The crooked and gutter tiles are so disposed as that one of the latter may always be placed between two of the former; the work thus constructed they imagine bears a resemblance to the tails of peacocks, wherefore they call such roofs *PAVONACEOUS*. Five representations of tiles are shewn in Plate 3. A is the ridge tile; B the crooked tile; the rest are plain or flat tiles.

BOOK. I. CHAP. III.

WHAT IS AN ORDER? WHAT ARE ITS MEMBERS? WHAT THE GREATER AND LESSER PARTS OF THE MEMBERS?

§. I. I SHALL now treat of the ornaments of walls, and first of columns.

A column is either attached to a wall, being inserted in some part of it, or stands off from the wall, so that the air surrounds it. The one may therefore be called an inserted column, the other an insulated one. For those houses are called insulated, which stand distinct from others, and are surrounded by the air, as an island is by the salt water.

PLATE III. FIG. IV.

A column has three parts. The base BC; the shaft CD; the capital DE. The other parts you see in the drawing are adjuncts of the column; at the bottom, below is the pedestal AB, above, the architrave EF, with the freeze FG, and the cornice GH; which three parts are comprehended under the single term entablature EH; the column with the pedestal is termed the columnation AE. By the side of the column in arched work impostes are placed supporting the vault of the intercolumniation, as II. The figure M shaped like a wedge represents the stone placed in the middle of the arch, and is called the key-stone.

The

CIVIL ARCHITECTURE. 11

The shaft of a column, properly so called, is round; when the face is plain it is called a pilaster, and differs only in this circumstance from the column; in every other respect it resembles a column, and is subjected to the same rules. It is generally inserted, but often insulated.

An order is the graceful symmetry of a pillar with its adjuncts, restrained by fixed bounds: symmetry is so called, I apprehend, because it constitutes the order of columns; by Vitruvius and others the symmetry is termed proportion or kind.

To determine the exact symmetry, the semidiameter of the column is cut into 30 parts, and is called a module, whose parts are minutes; the mensurations which consist of these are expressed, as in an astronomical calculation; for instance, 1:20'. signifies 1 mod. 20 min. 3. 15. 3 mod. 15 min. 4:00. four modules, 0:06. six minutes, and so of the rest. Wherefore the column, and of course the module, may be encreased or diminished at the discretion of the architect. The size of the module being proposed, the whole symmetry of the entire Order is likewise ascertained, as will be shewn in its proper place.

P L A T E I V.

§. 2. Among the members of an Order, or the greater parts, we may reckon the columnation and the entablature. Other writers call those members, which we call parts of members, and of which we have already treated. Among the parts the smaller divisions or particles are worked by the tool of the sculptor.

Some parts are flat, as the plinth A, which is a parallelopiped, * and has the name and figure of a brick or rather a tile. When placed on the capital of a pillar it is called an abacus, and sometimes made with hollow sides as B. 2d, The fillet,

* Parallelopiped (in geometry) is one of the regular bodies or solids comprehended under six rectangular and parallel surfaces, the opposite ones whereof are equal.

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or platband C, is a kind of plinth of a more oblong shape. From this the reglet D and the listel E differ only by their being smaller. The reglet when placed on the cornice is called the corona or larmier, which always projects, and its lower part is called its chin. A circular listel is called an annulet; a reglet divided, its parts alternately omitted, is called a dentil F; sometimes the bisection is equal, but generally the parts left remaining are the greater.

Some of these particles have cushion-like appearances, or a swelling curve, as 1. the tore G, which resembles a muscle or fleshy tumor; or, as others conjecture, because the word torus means a rope. The lesser tore H is expressed diminutively by the Latins torulus. That which is still less I is called an astragal and has berries often cut on it, as K. 2. The echinus L, or quarter round, is half a large tore. Sculptured, as M, it is termed oviculated, because artists imagine the sculpture to imitate eggs and anchors. This part is called an echinus, because of its resemblance to the prickly coat of chestnut, and to the gaping which that fruit exhibits in its state of maturity.

Other particles of an Order are hollow, the common name to which is scotia,* from a greek word signifying darknes. The scotia is 1st horizontal in the chin of the larmier, as N; 2d, upright, as O; 3d, inverted, as P; 4th, composite; (that is, both inverted and upright as Q; it resembles the hollow of a pulley, and has the greek name τροχιλος. 5th. The Greek word † αποφυγη R, in English (escape) signifies a scotia, which is inverted upon the annulet, from whence the

* Scotia is a semicircular channel between the tores in the bases of columns, or between the torus and astragal.

† The greek words αποφυγη, and αποθεσις are small hollow rings at the top and bottom of the shaft of a pillar. The top is the αποφυγη, the bottom one the αποθεσις. The antients used whole unhewn trees in the infancy of Architecture for their columns, and to prevent their splitting at top or bottom, bound them in those places with these rings; αποφυγη means an escape, i. e. from the evil attending their splitting by the weight they sustained; αποθεσις the removal of that inconvenience. See Baldo's Vitruvius Article Apophyge.

shaft

shaft of the column arises. 6th, The *αποθesis* S means a scotia upright under the annulet in which it terminates.

N. B. The apothesis is less than the apophysis, from whence the shaft is gradually diminished: not indeed as some imagine like the frustum of a cone, but in the most approved models it exhibits a small swelling downwards. This is called by the Greeks the entasis of the pillar, and may be most conveniently described by the same instrument with which Nicomedes drew the figure in geometry, called by him a conchoid.†

Of this class are those channellings in the shaft of the column, which are called by the several names of † *STRIÆ*, *STRIGES*, or as others name them from their shape, *STRIGILES*. For the sake of distinction we will call those *STRIÆ* which meet in an acute hollow, as T, and are twenty in number; *STRIGES*, which meet in an obtuse one, as V, and are twenty four. These have also their swelling and diminution in proportion to that of the column. Sometimes they are filled with a small twig, as it were, to the third part of their height, as X, called by Aristotle *ραβδοσιν*. Wherefore a shaft of this kind we denominate a virgated one.

Some particles of an Order are formed with a waving appearance, i. e. convex and concave as the *επιτιθεις*, *λυσεις*, *κυματιον*,* *fima* upright and inverted, *unda*, *cyma*, *cymatium*, *Doric* and *Lesbian*, which words writers variously confound. That we may form a distinct notion the larger undulated one shall be called *fima*, or *cyma*, from its figure; the less from its

† A name of a curve, which always approaches nearer to a straight line to which it inclines, but never meets it.

† In this and some other instances the translator has been under the necessity of retaining the Latin names, as he finds none in English which will fully come up to their meaning. Columns of this kind are ranked by the English Architects under the general name of *fluted columns*. See Baldi's *Lexicon Vitruvianum*, under the articles *Striæ* and *Striges*.

* *επιτιθεις*, *λυσεις*, are synonymous words, saving the variation proceeding from their situation. See Baldi's *Vitruvius*, under the articles *επιτιθεις* and *λυσεις*.

Cyma, *cymatium* and *fima*, signify a wave of a smaller or greater degree.

smallness

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smallness cimatium. The shape of each is fourfold: 1. upright, which is hollow above and outward, as Y; 2. inverse, which is hollow below and inward, as Z; 3. converse, which is hollow below and outward, as Γ; 4. perverse, which is hollow above and inward, as Δ.

Modillions are to be ranked among the smaller undulated parts of a column, whose front appearances are generally such as the example Ω represents; but their sides are flat, as Θ; sometimes inverted, as Λ; and always carved and supported with flowers. Some call them mutules, but we term those mutules which are parallelopipeds properly so called, and are either mutules single in their front, as the greek Ξ, their side as Φ, or double their front as Π, the side as Ψ. The fixed place of all these mutules and modillions is in the cornice directly under the crown. The spaces between the modillions and mutules are called CAPSÆ; in which roses, or in short any kind of flowers are carved as in Σ.

PLATE V.

§. 3. We will now treat of the figures which are carved on these smaller parts of an order; but as the moderns have been too profuse of these ornaments, we will mention only those with which the antients were most conversant. We shall take the liberty of using new words for these things, as, though the things themselves remain, the names of them are become obsolete; unless perhaps K is the vine of Pliny and Virgil, the garland work of Vitruvius, and L the encarpus of the same author, and what the Italians mean by the word festoon.

Among those that want names, the carving A is called by the French postes, (we will call it in latin veredaria,) meaning the same thing. B, I, M are enleafed parts; b b with jagged leaves; ββ with aquatic; II with purslain leaves; MM with oaken leaves. The laurel and parsley, and leaves of other plants known at first sight are frequently carved. The carving C is shield fashion, or orbiculated; D may be termed enchanneled; N enscaled.

E is

E is a smaller aſtragal, bound with a ſpiral line, and may be called a ſcytale; † F exhibits the ſpiral line, the aſtragal being taken away, and may be called a tendril; ‡ G and H are beaded aſtragals; for diſtinction's ſake let G be called a necklace, and H a roſary. The four figures repreſented by O are properly termed labyrinths, which the antients have deſcribed under various forms: but this rule held univerſally that none were executed but with right angles.

§. 4. The greater members (of the Orders) are furniſhed with theſe minuter parts with all their variations and additions, whether they are plain or carved, or both. For inſtance, the baſe which is called attic (ſee a ſpecimen of it in plate 6) has a plinth, a trochil, two liſtels and a larger and leſſer tore, and its height is always one module. It derives its name from the attic column, (of which hereafter) to which it particularly belongs, though it be adopted very generally by other columns.

The following is the order of the members and parts as they riſe. Firſt, the baſe of the pedeaſtal, the trunk, or die, and the cornice; next, the baſe of the column, the ſhaſt and the capital; ſo far is termed the columnation, the follows the architrave, freeze and cornice, of which conſiſts the trabecation or entablature.

Intercolumniations are conſtructed in five ways: the firſt mode is aræoſtyle, where the ſpace between the pillars is 8:00. 2. diaſtyle 5:15. 3. euſtyle 4:15. 4. ſyſtyle 4:00. 5. pycnoſtyle 3:00.* But theſe proportions muſt be underſtood

† Scytale is in one ſenſe a kind of ſerpent, which the twiſting of the ſpiral line may ſeem to repreſent; and in another, the ſtaff, which a Lacedæmonian general ſent to his brother officer, who had one of a ſimilar kind, round which he wound the letter he received. The form of the aſtragal may be thought like this. The Reader by turning to the figure E may form his opinion.

‡ Claviculus in the original may be rendered thus perhaps, as clavicula ſignifies a young twig or ſhoot of a vine, and the figure F ſeems to countenance the conſtruction.

* Aræoſtyle, diaſtyle, ſyſtyle, pycnoſtyle. See theſe proportions of diſtance in the pillars deſcribed in Ware's Body of Architecture, London edit. 1756, by T. Oſborn and J. Shipton, in Grays Inn. to

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to refer to intercolumniations which are straight, in arched ones the spaces between the columns are much more extensive, nor have they any term to distinguish them.

The same observation holds with respect to the lowest order of columns where they are many. In this case the intercolumniations of the superior orders should be equal to those of the lowest: though elsewhere this circumstance would militate against rule.

BOOK I. CHAP. IV.

OF THE THREE ORDERS.

§. 1. **I**N the familiar language of Architects, the terms, kind and order, are synonymous, and the number of the orders is five; the Tuscan, Doric, Ionic, Corinthian, Roman, or Composite. But to distinguish the terms, kind and order, we shall only call three of them orders, namely, the Doric, the Ionic and the Corinthian, being the most ancient, and invented by the Grecians. The rest we shall name kinds.

PLATE VI.

§. 2. The Doric order invented by the Dorians is of a robust and manly appearance: wherefore in the works of antiquity the pillar was without a base, as men were supposed to walk with bare feet. Afterwards the attic base was added, which indeed gives a great beauty to the order.

The height of the pedestal is 4:20. the trunk has a square face; the column when insulated is high 16:00. when inserted 17:10. The shaft may be fluted. In the capital the great ring is called the hypotrachelium or neck. The intercolumniations are diastyle. The entablature is generally the fourth part of the height of the shaft or nearly.

In the cornice Triglyphs are sculptured, an ornament peculiar to this order. They consist of three flanks, EFG, and the

the like number of channels A, B, C, + D; for the two angular demichannels constitute the third. Under the Triglyph six drops are sculptured in the architrave, and above, in the chin of the larmier, are eighteen drops in three ranks. It is a rule to place the middle of the triglyph, on the middle of the pillar, and to make the space square between the triglyphs, which is called the metop.

In this, and in the other precepts, X marks the figure of the cornice, Y of the capital, Z that of the imposts.

PLATE VII, VIII.

§. 3. The Ionic Order is sometimes called the female Order, since it is more slim and elegant than the Doric, and is thought to exhibit a matron-like appearance. Wherefore many of its ornaments imitate the female habit; particularly the volutes, by which the capital of the column is, as it were, curled. They are peculiar to this Order, and require a minute description, of which hereafter.

The height of the pedestal is 5 : 08' of the column 18 : 00. The base, in antient specimens, is generally attic: the shaft fluted: the intercolumniations are eustyle. The height of the entablature is a fifth part, or nearly of the height of the column. The freeze is pulvinated.

The volutes of the capital were generally by the antients made elliptic; the exact description of them is unknown, but in appearance they are very beautiful: at present we make them circular, according to the following description. Under the echinus of the capital is the astragal, the height of which, divided into two parts, gives the centre of the circle, which is called the eye of the volute. Then a square is drawn within the eye, and in that square another, each of whose diagonals is cut into six parts, and the segments are marked in the plate by their respective numbers. Lastly having produced the two strait lines drawn through the eye at right angles dividing the square into four parts, on the center I with the radius I a

* C

is

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is described the arch ab ; on the center 2 with the radius $2b$ the arch bc ; on the center 3 with the radius $3c$ the arch cd , &c.

This is the appearance of the capital as viewed in front; if it is seen sideways its appearance will be as exhibited in the other figure, where the middle swelling A, resembles an upright tore with two small ones aa on each side, it is called a belt. The swellings on each side, B B, are called cushions: C is the side of the outmost spiral line in one volute, K that in the other.

PLATE. IX, X.

§. 4. The Corinthian order is more delicate than the Ionic, resembling the graceful figure of a virgin. Among the antients it had much resemblance to the Ionic; according to Vitruvius it imitated the Ionic in every part but in the capital of the pillar. Wherefore in the most admired works the base of the column is attic; the shaft fluted. The entablature is a fifth part of the height of the column.

The height of the pedestal in our figure (which is taken from Palladio) is a fourth part of that of the pillar: the height of the pillar 19:00. The intercolumniations are systyle, the height of the entablature is a fifth part of the column. Under the larmier are modillions, with an echinus and dentil. No objection should be raised against some specimens in the antique, in which the column has often 20:00' and its entablature has one fourth or two ninths of the pillar: as each of these proportions claim attention from their singular beauty.

A pretty Greek story is told of the origin of the capital of this column, which I shall omit, as Villalpandus gives a more probable, yet a dubious account. Consult Vitruvius, B. 4. chap. 1. and Villalpandus, Vol. II. B. 5. chap. 23. Were I permitted to conjecture, I should not think it improbable, that, as the shaft of a pillar represents the trunk of a tree, so the

the tree being lopped and sprouting again, furnished the hint for the design of this capital.

The height of the capital is 2 : 10'. The minutes go to the abacus, whose angles are cut off, and its sides arched in the following manner. On the given line $aa = 3 : 00'$ the square $aa dd$ is described, whose diagonals and diameters are drawn as in the plate; cg is $= 2 : 00'$ and through g is drawn $ef \parallel ad$. Then having made $cb = 1 : 05'$ the periphery fbf is described passing through the points f, b, f by 25 : e. 3.

The abacus, with its angles cut off and its sides hollowed, has four parts which are called horns, A A. In the middle of the curvature is some sculpture, B, which is called a flower or rose, whatever figure it really assumes. C is called the bell, from its shape, and supports the abacus. Its circumference is supposed to be divided into eight parts, in those at the bottom are placed eight leaves D D; their height 0 : 20'. Behind these are placed eight more, E E; their height is double that of the lowest ones, and placed, as may be seen in the plate, alternately: so that if you suppose ac the place of the lowest leaf, bd will be the place of the one immediately above, &c. The second leaf under the rose of the abacus has on both sides a stalk F from which two tendrils sprout. The greater one G under the horn of the abacus is called the volute; the smaller one H under the flower, the helix. Wherefore there are eight volutes, which meet in pairs under the horns of the abacus; and the eight helices meet in a similar manner under the flowers of the abacus. They are supported by the third row of leaves springing from the eight stalks. The leaves in the Grecian models are those of the acanthus, in the Roman they are oftener those of the olive.

BOOK. I. CHAP. V.

PLATE XI.

OF THE TWO KINDS.

§. 1. **T**HE Romans have added to the three Grecian Orders two, which we call Kinds, taken from the Greeks (as in most things the Romans were their imitators).

The first Kind is Etruscan, or Tuscan, which also may be called Rustic; it differs from the Doric as much as the appearance of an inhabitant of the country does from one of a city. There is extant no antient specimen of it with an entablature. Vitruvius speaks of it as rustic even to deformity; nor are modern artists more favourable to it, except Palladio.

The height of the pedestal is 2 : 00, the face flat. The pillar is 14 : 00' high; the shaft plain. The intercolumniations aræostyle. The height of the entablature is a fourth part of the column.

PLATE XII, XIII, XIV.

§. 2. The second Kind is Composite, which is threefold: 1. The Italian (which is called Composite by way of eminence) is, I think, never mentioned by Vitruvius. It is composed both of the Ionic and Corinthian; which two exhibit more graces in combination, than either of them would if joined singly with the Doric. The Composite is more slender than the Corinthian, and more ornamented with sculpture: if the latter bears any resemblance to a young maid, the former represents an harlot.

The height of the pedestal is a third part of the column; 6 : 20; for the height of the column is 20 : 00. The shaft admits of flutings. The intercolumniations are pycnostyle. The height of the entablature is a fifth part of the column; its base is attic, or rather Ionico-Corinthian. The bell of the capital, like that of the Corinthian, is enleaved, with a capital

capital resting on it, like the Ionic; with this difference, that it has a Corinthian abacus, and volutes under the horns of the abacus, rising as it were out of the middle of the bell. By these rules Palladio, with great judgment, restrained the enormous liberties which even the antients introduced into this Kind.

The second species of the Composite is Dorico-Ionic; the only remaining instance of which may be seen at Rome, in the ruins of the Temple of Concord. The base of the column is Attico-Ionic, and without a plinth, except in angular pillars. The capital is Ionico-Doric, with the volutes projecting, as in the Italian; the abacus is Corinthian; the freeze is sculptured, but the larmier is plain. It has a beautiful appearance, and may not improperly, for the sake of distinction, be called Roman.

The third species of the Composite would be Dorico-Corinthian, if any instance occurred; its appearance is elegant enough, and its capital would suit the column which is called Attic, of which hereafter. But we say nothing of this as it is without example.

The third species of Composite is therefore where the column is of one Order and the entablature of another; for instance, when the column is Corinthian and the entablature Doric. This is approved of even by Vitruvius; and, in fact, was introduced in the Temple of Solomon, whose columns were Corinthian supporting a Doric entablature. From the annexed plate the whole plan will be understood, and is not to be exceeded in beauty. This Kind may be termed Jewish, and whatever is constructed after that fashion.

PLATE XV, XVI, XVII.

§. 3. Vitruvius relates B. I. C. I. that human figures were sometimes put in the place of columns, as symbols of some signal victory. He mentions two instances of this workmanship, which we arrange under the terms a Foreign Kind; for such

such we call every Kind that, though in use, is not comprehended under the rules we have before explained.

The first Foreign Kind is the Persian; in which Persian men are placed in the room of columns, as in the Trophy of Pausanias; on these is always placed a Doric entablature.

The second Foreign Kind is the Cariatid; * where instead of pillars female figures are substituted, supporting an Ionic entablature: for, in the origin of this kind, women of Caria, who were taken captives, were represented; and the same name was afterwards transferred to all female figures.

The third Foreign Kind degenerates from the Italian; for instead of straight pillars we see them twisted, a style unworthy of imitation; for they want strength, and are unequal to bear any burden; and if they are not so in fact, they have the appearance of being weak. I should pronounce them to be inelegant in their form, if I were not overruled by the authority of the divine Raphael. Of this Kind, all the parts, except the shaft of the pillar, are Italian.

The fourth Foreign Kind is what Vitruvius calls *Atticurges*, Attic work, and Pliny the Attic Column, having four angles, and four equal sides. It differs from a detached pilaster, as it wants the swelling and diminution, and is rather a pier than a column: nevertheless it has a very regular base, which is called Attic, and its capital is Dorico-Corinthian; in which, under a Doric abacus is an oviculated echinus, resting on an enleaved bell.

Antes † resemble somewhat the attic columns, (*Antæ*, † of which I shall speak hereafter, are different) but differ in these

* Vitruvius relates the origin of the Cariatides. He observes that the Greeks, having taken the city of Caria, (a country in Asia Minor, between Lycia and Ionia, near the side of the mountain Taurus. See Plin. B. v. c. 27.) led away their women captives; and, to perpetuate the memory of their servitude, represented them in their buildings supporting columns. The Lacedæmonians, in like manner, having conquered the Persians at Platæa, perpetuated their victory by substituting the figures of Persian men for columns. See Lib. i. c. 1.

† Antes were square pilasters placed at the corner of walls.

† *Antæ*; pilasters attached to the building, and resembled pillars.

two circumstances; first, that they are placed no where except in the angles, or in the junction of walls; secondly, because their base and capital retain the proportions of the pillars with which they are associated: wherefore a determinate base and capital are seen in the attic columns, but not so in the Antes. Both the Antes and Attic columns have their fixed situation; the former at the extremities of walls, the latter at the sides of gates.

P L A T E XVIII.

§. 4. Columns are generally coupled, though sometimes single. When two or more are combined, a pediment or frontispiece is made above the entablature, whose form is either triangular or, if smaller, round. Its circumference is sculptured in the same manner as the cornice, and is called the cornice of the pediment.

On the angles of a triangular pediment are placed *Acroteria*, or pedestals on which statues are erected. The inside part, enclosed by the cornice of the pediment, is called the *Tympanum*, and is generally adorned with figures in sculpture, expressive of the origin or use of the edifice, and often with the arms of the person at whose expense the building was erected. If there be an inscription, the freeze is the proper place for it; it is seldom seen in the list of the architrave. But in some instances the inscription is seen both in the freeze and architrave; nor in the face of the entablature is there any sculpture except in the cornice.

BOOK I. CHAP. VI.

A REVIEW OF THE ORDERS AND KINDS.

PLATE XIX, XX.

§. I. **W**E are much indebted to Palladio for his beautiful selections from the remains of antient artists, which he has made with so much taste; and for the rules formed on them, which he has laid down with equal knowledge

knowledge and judgment ; applying them to the five regular Orders in such a manner that the just proportion is so ascertained, and so gracefully appropriated to each particular column, that we distinguish with the greatest ease at first sight each individual member. Wherefore, in gratitude to his services, we will pass by other Writers, and cheerfully follow his footsteps.

Nor would we restrain the architect by laws so rigid, as never to depart from the strictness of rules. For Architecture, as well as her sister Arts, Painting and Poetry, claims some indulgences, and may be permitted to use them, when compatible with taste and elegance. Variety has here an ample range ; and so many are the models extant, which though differing from one another, yet are all graceful in themselves, that it becomes a difficult task either to prescribe with accuracy, or to select with judgment. Nevertheless the Architect will obtain a sufficient knowledge of each precept and rule, if he pays an earnest attention to the following detail.

§. 2. I. Remote antiquity propped the roofs of their houses with the trunks of trees, their extremities being girded with iron to prevent their splitting, sometimes the iron was doubled ; they often put under them a stone, or a tile or two, to keep them dry. They placed regularly upon these trunks beams of greater or smaller size ; rafters, beams, † upright or transverse, joists, &c. parts that were necessary to a roof or floor (which is a kind of horizontal roof.) The Art in its advanced state imitated these parts by sculpture in marble : the pedestal represented the stone ; the plinth the tile ; the column the trunk of the tree ; the sculpture of the base and capital the iron braces ; the architrave the beams placed upon the trees ; the freeze the extremities of the rafters, with the intermediate spaces : the remaining parts are imitated by the

† See Baldi's Vocabulary for a further explanation of the terms. Art. Tempia, Afieres, &c.

cornice,

cornice, in which the modillions represent the ends of the principal timbers cut off; the dentils those of the upper rafters.

The origin of each part, greater or less, should be attended to, that its figure, size and situation may be given to it. This rule was of such importance among the ancient Greeks, that they never suffered any part of an edifice to be sculptured which did not represent some part of the carpentry, in its proper situation. In a later age this rule grew obsolete at Rome, but in general it prevails even at this day.

This rule (and Palladio adopts it) forbids frontispieces to be divided at the top, as is customary in these days, because they resemble gutters; so that to divide the pediment is as absurd as to expose to view the roof of the *compluvium*. ‡

This rule forbids the cornice to be so large as Serlio has made it in the Composite Order, and the mutules to be so large as Alberti has made them in the Corinthian Order. This rule forbids likewise the excessive projection of the cornice, which is seen in the Temple of Jupiter, commonly called TORRE DI NERONE. It forbids the dentils to project so far as is seen in the Corinthian cornice of Cataneo. It forbids the crown to be left out in the cornice, (though Alberti advises it upon the authority of the Temple of Peace, and other edifices of general excellence) for the reason that roofs are never made without *Templa*. * This rule likewise forbids many other things; which, as the architect will observe them noted in modern authors, we leave them to his judgment.

‡ Gutters receiving the rain from various roofs.

* Templa, purlines; timbers laid transversely over the greater rafters to support the smaller ones.

§. 3. II. The description of a column is partly taken from the form of a tree, and partly from the human figure: from the one it derives its swelling, from the other its diminution. The flutes and grooves imitate the folding of drapery: the plaits of the men's clokes (for the Greek column is masculine) were mostly made strait: those of the women's robes were sometimes twisted; an imitation of which may be seen in a temple near the river Trebia. That the shaft may be sculptured seems defensible by its resemblance to the tree with its bark on.

§. 4. III. Buildings should be uniform; i. e. as they should be strong so they should shew their firmness. Those that are elegant should be conspicuously so. On which account the more delicate order of pillars (if there be more than one) should be placed upon the larger Order: twisted columns, which are called *Cartouches*,* and shafts braced with rings, as if they had been broken and repaired, should be avoided by all means. It may be asked, if a fluted shaft is not inferior to a plain pillar by this rule; it is certain that perpendicular channels are preferable to those that are twisted.

Too much carved work is destructive of elegance; if it projects too much it seems to burden the building, and threaten its ruin. The sculpture lately to be seen in the Baths of Dioclesian in the Corinthian style, though of exquisite workmanship, was a fault rather than a beauty. Artists in the classical age of Augustus were sparing of sculpture. The style which is called the August, and is really so, consists of a few small parts distinct from one another, of accurate and bold symmetry, with little carving. At Rome in the Basilica † of Antoninus, or rather in the Temple of Mars, the freeze which is pulvinated, is placed between two reglets or lifts; by this means it is

* The word in the Original is from the Italian term *Cartoccio*, which signifies a scroll of paper.

† A term for any large building, church, palace, &c.

conspicuous

conspicuous itself, and does not hide the Cymatium, placed upon it. The science of optics dictated this rule, and others of the same kind, which in the works of the antients call for our praise and imitation.

§. 5. IV. Variety is agreeable, if not repugnant to the rules already admitted. The helices * in the Pantheon, in the Temples of Jupiter Stator, and that of Diana at Nîmes, are worthy of imitation, though constructed in different uncommon styles : such a variety is agreeable to the caprices of Nature ; but those which imitate the horns of rams in the Baths of Dioclesian deviate much from propriety and elegance. At Nîmes, instead of the uppermost reglet of the cornice is an echinus underneath, the mutules are inverted. In the Temple of Jupiter Tonans, one of the two echines in the cornice is carved in an uncommon manner. In the Temples of Peace, Jupiter, and Mars, instead of the *fima recta* of the architrave, an echinus is put under the scotia. In the Temple of Fortuna Virilis the height of the entablature is regular, but half of it is given to the cornice. In the Temple of Jupiter Stator the same circumstance occurs, and in both the second fascia only of the architrave is carved. In the Temple of Vesta at Rome the horns of the abacus are not shortened. In her Temple at Tivoli, the ends of the channels and the cavity of the trochile or casement are not round but square : but all these deviations are faultless. In proper places the fancy of the artist wanders secure from error.

§. 6. V. The idea of fitness should above all things be attended to : for this reason the ancients carefully attended to the suitability of a column to its edifice, and of the ornaments to their columns. The Ionic column had not been found in the

* Helices, the curling stalks under the flowers in the Corinthian Order. From the Greek word *ελισσω*. Volvo.

Temple of Diana, but that the Doric was less adapted to that edifice ; and in the Temple of Venus even the Ionic had been improperly placed. Cariatid columns in any Temple would have been ridiculous ; as it would have been introducing monuments of vengeance into an asylum of mercy. The carved work of the Doric Order in the Baths of Dioclesian, is censured ; if it be not admitted to be excessive, it cannot be thought to be manly. The same fault is to be found in Scamozzi's rule for the Doric column, particularly with respect to the flutings in the shaft.

But to preserve fitness, a general rule is set aside with success ; for instance, in the Ionic capital the faces of the volutes are generally made opposite each other : but with great judgment the artist has made them contiguous, in the angular columns of the Temple of Fortuna Virilis ; so that the same column very properly and happily corresponds with both Orders. In the Corinthian capital, instead of volutes and helices, figures representing the horse Pegasus were substituted, even in the Augustan age ; but they were substituted in the Temple of Mars Ultor : instead of the flower of the abacus was seen an eagle grasping thunder, but it was in the portico of the Emperor Severus. For the same reason, i. e. fitness, there are Composite columns in the Temple of Concord. But inventions of this kind should be attempted seldom and with caution, as in no other department of the art is success so precarious.

§. 7. VI. The rules observed by the ancients carry an authority with them which may not be disputed. In compliance with which we must not mix the Italian kinds of Architecture with the Grecian Orders, nor the Composite with the Tuscan ; nor should the Tuscan Order be introduced in edifices in a city, except in the case of an insulated column. We at present neglect these circumstances, and yet preserve some practices that seem more repugnant to the principles of good

good sense. Reason would place the small Fillet of the architrave upon the greater, as may be seen in the arch at Verona, and the Temple at Pola; in most instances the practice is the reverse. The moderns, according to the Roman fashion, put the dentels under the mutules (i. e. the small rafters under the principal ones); this practice the antient Greek artists condemned; nor did Diogenes in the Pantheon, being an Athenian, pursue this plan. In the antient Grecian pediments neither mutules nor dentels are seen; but they are found in the Roman: so that the Temple near Scifis, a city of Umbra, whose pediment is without these ornaments, is perhaps Grecian. Reason forbids the corona to be omitted in the cornice; but in the Temple of Peace, and in others, practice warrants it. Reason enjoins ornamented dentils, but they are often left plain. We should not indeed rashly condemn these instances, but suspect our own judgment; and presume there may be a reason, of which we are ignorant, to justify their use.

But every thing which is ancient in this Art demands not our imitation; for time which has destroyed more noble may have left us less beautiful models. Sometimes necessity and not the good sense of the architect directs the execution; as in the Temple at Rome called *DEL BATTESIMO DI COSTANTINO*; where between the base and apophyge of an Italian column leaves are introduced; in the cornice under the dentil is placed an upright cima, and immediately under that another; each case is unsupported by authority, but somehow or other a temple was to be erected from the the ancient ruins. The artist deserved praise who so well complied with his task. Necessity only can excuse the instance; where he is left to his own judgment, he will not follow a model defensible only on the plea of necessity.

BOOK I. CHAP. VII.

OF ROOMS AND THEIR PROPORTIONS.

§. I. **B**Y the term HABITACULUM, as no better word occurs to me, I mean what the Italians call a stanza, and the English a Room, which appellation comprehends any space whatever encompassed with walls, a floor, a cieling or a roof. There are various species of rooms distinguished by proper titles; a general name (if I mistake not) is no where found, but the many terms which discriminate the species of rooms, are used promiscuously even by the most accurate writers. But, as mathematicians do, we will define the terms we mean to use.

The word CUBICULUM implies a place where there is a couch or bed to lay down on; the word thalamus is used in the same sense, but more strictly is a nuptial chamber. To the cubiculum, or bed room, is annexed the antecubiculum or antechamber, which Pliny the younger names by the greek word *procatium*. The antithalamus I suppose to have a different meaning; as in the Greek houses it did not join to the thalamus, but answered to it on the other side. See Vitruvius, B. vi. Ch. 10. On the right and left of the Proctas* are two rooms, one of which is a thalamus, the other an antithalamus, or a similar one opposite to it. Hermolaus † is of the same opinion, and objects properly to amphithalamus; for, how can a room that is placed opposite to another be called amphithalamus? ‡ And if the rooms did not stand opposite one another,

* A portico, or any vacant space, entrance, &c. with square pilasters on each side of it.

† Hermolao Barbaro published a translation, with notes, of Vitruvius in the year 1584. By birth a Venetian, and descended from ancestors eminent for their political and literary characters, &c. See Dict. Historique, a Caen, 1783.

‡ Amphithalamus, composed of the greek word *αμφι*, which signifies generally around, close to, and sometimes opposite. See Constantin. Lexic.

how

how could they be on the right and left hand? As we have introduced the word *amphithalamus* we may use it to signify a *postcubiculum*, or room placed behind another; which sense Philander seems to have annexed to it.

The word *TRICLINIUM*, if we regard its etymology, means a room where there are three couches or beds. The Romans, whose principal repast was supper, called this room a *Cœnaculum* or *Cœnationem*. The greek words *δικλινος* *εξακλινος* marked the number of the couches in the room. *Triclinium* is a general name in latin for them all. Plautus makes use of the word *biclinium*, and A. Gellius of *scimpodium*,* the former meaning a room with two couches, the latter, where only one was to be found. Sometimes *triclinium* was put for the couches themselves, and for the word *cœnaculum* *dieta* or *zeta*, which are synonymous.

Οἶκι in general meant rooms of considerable extent, some of which were set apart for the use of the men to feast, &c. only, and others for the women to spin in, &c. Palladio and Alberti call them *saloons*, meaning in English great halls.

That the word *EXHEDRA* means a place where there were benches cannot be doubted, and is properly a room for the purposes of conversations of all kinds, and to pass the middle of the day in. But Cicero makes *triclinium*, *cubiculum*, and *exhedra* synonymous.

CONCLAVE means a room of less extent in the retired parts of a house; which, accurately speaking, does not signify one room only, but many which are accessible by one key. Plautus somewhere uses the word *conclavium*, which may assist us in finding the difference; we may call *conclave* a closet, *conclavium* an apartment; which I apprehend Pliny the younger by the figure *synechdoche*,† expressed by the word *diœta*.

* *Σκιμποδιον* signifies a little bench or stool with one foot only, and held but one table. See Hesychius on the word.

† A figure in speech, which takes the whole of a thing for a part, and the reverse.

Apartment

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Apartments to which men alone had access were called andrones and andronitides; those the women only frequented were called gynæcia or gynæconitides; those for strangers, hospitelia; for winter, hibernacula. Among the Romans andrones had another signification, of which hereafter.

The word PINACOTHECA* implies from its derivation a receptacle for pictures or painted tablets, and in this meaning all writers concur; whether it be synonymous with tablinum is yet undecided. We may use the authority of Pliny the elder, who says the tablinum contained books and vouchers of transactions in public offices. The modern name for these records is archives, and sometimes storehouses; which is a general term according to Isidorus, for all places where the instruments of any art whatever were deposited. Public archives are sometimes called exchequers. In the roof there are often rooms which we term solars, the roofs which admit them are called by Vitruvius TECTA UBI MAJORA SUNT SPATIA, those which do not admit them TECTA COMMODA. By the words cella familiarica, is meant any room for servants, or the vestiarium, by the French called a garderobe, by us a wardrobe; for it is likewise used for any recess where there is a close stool or water closet; and sella, thus applied, is spelt with an f.

The terms BIBLIOTHECA and MUSÆUM require no translation. Of vestibules and courts we will speak hereafter.

PLATE XXI.

§. 2. Rooms are in general quadrangular, seldom round. If the length be l , the breadth L , the height a . From the rules of Palladio in the first instance $l = L$ in the second, $l = \sqrt{2} L$, which is the diagonal of the breadth squared, and sometimes is called the diagonal breadth; in the third $l = 1 \frac{1}{3} L$; fourth $l = 1 \frac{1}{2} L$; fifth $l = 1 \frac{2}{3} L$; sixth $l = 2 L$;

* From the Greek word Πιναξ a tablet, Τιθημι to place.

and

and if the ceiling be flat it will be $a=L$ in the first story, but $a=\frac{5}{8}L$ in the second. But in the first story especially, a coved ceiling will be handsomer and more secure, and a greater height must be given to it. Wherefore if the room be square, let a be sesquitertian of L ; if oblong, instead of a let a mean be taken between L and l , either arithmetical $= 2) L+l$, or geometrical $= \sqrt{l L}$, or harmonical $= 2) L+l) l L$. There are other proportions of height, according to Palladio, which are not reducible to rule. These may be used occasionally, and with due discretion.

§. 3. M. Muet has laid down these proportions. The least length of a saloon should be $2 L$, the greatest in a palace $3 L$. Those of a mean size $2 \frac{1}{4} L$ and $2 \frac{2}{3} L$. Let the length of the antichamber be either a diagonal of its breadth or sesquialteral. Let the chamber or bed room be either square, or longer than it is broad by an eighth, seventh, sixth or fifth part. To constitute the height of these three rooms take $\frac{2}{3}$ or $\frac{5}{7}$ or $\frac{3}{4}$ of their breadth in the first story; and in the second let it be a twelfth part less than the former. If the ceiling be arched, to form the height take the breadth lessened by a sixth, eighth or twelfth part of itself, in the first story, in the second diminished by a sixth part of the former; if there be a third story the height of it will be $\frac{3}{4}$ of the second.

The pergulæ, or galleries, should have their breadth 16, 18, or 20 feet; in a palace 24 feet. The length must be a multiple of the breadth; not less than five times, nor greater than eight times. The height in the first story the same as that of the saloon, antichamber, and bedchamber in the same story; but in the second equal to the breadth; or if the ceiling is coved, the breadth should be encreased by a fifth, a fourth, or a third part of itself.

§. 4. Floorings are made in various fashions. 1. The barbaric, which Pliny reckons the most antient, were probably

* E of

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of the most simple construction. I imagine therefore these floors were made of earth rammed down till it became firm and compact, or with bones (as we see often in the country) or stones driven into it. But these pitched or barbaric floors, from their vague signification, may, I apprehend, include floors of plaster. 2. Plaster floors are made of pounded bricks and coarse sand, with a mixture of lime. 3. Those floors I term *coctilia* which are laid with bricks or tiles. 4. Those *lapidea* made with hewn stone. 5. *Ligneæ*, those that are made with boards joined together, such as are at present mostly used. 6. *Tessellated* and *Mosaic* floors are those which are composed of small pieces of marble, shell or glass, in the shape of lozenges, &c. stained with different colours, and arranged so as to represent painting or pictures. On account of the variety of their materials, floors were called *lithostrota*, *hyalostrota*, *cerastrota*, *xylostrota*, * &c. At first these materials were confined to pavements or floors, afterward they were transferred from the ground to vaulted ceilings.

The *subtegulanea*, or floors made of tiles, come under the description of the above, and likewise other obsolete pavements. For an account of these, and floors exposed to the open air, (which are not to be found in England, but are frequent in warmer climates) see Pliny, *Nat. Hist.* Book xxxvi. Chap. 25.

§. 5. Ceilings are likewise constructed in various forms; in some that are flat, the timbers of the story placed over them are open to the view; in this case the distance of the timbers from each other should be sesquialteral of their thickness; a greater distance would be injurious to the beauty of the ceiling, a less to the strength of the wall. But for the most part the timbers are concealed by wainscot or stucco; both which may be either left plain, or adorned with paintings, or any

* *Λιθοσ*, laid with stone; *υαλοσ*, with glass; *κερας*, with horn; *ξυλον*, with wood.

other

other ornaments in relief. In some instances many of these modes are adopted, in others they are all blended together. Hence arises so great a variety, that Palladio asserts that no rule can invariably be laid down with respect to ceilings.

§. Of vaulted ceilings the latin names are not fully ascertained. *Arcus*, *fornix*, *testudo*, *concha*, *camera*, * are terms applied without distinction to all vaulted ceilings whatever. The two Greek words, HEMISPHERIUM and HEMICYLINDER, are sufficiently understood, and always imply the most perfect kind of arch, that is, the semicircular one.

But vaults are often made not in the form of a semicircle, but with a less degree of inflexion; or, as Vitruvius expresses it, "ad circinum delumbata." See B. vi. Chap. 5. This kind of vault is not circular, but by the help of a compass originates from a semicircle in the following manner.

In Fig. 8. $c a b d$ is a semicircle equally divided at pleasure, $c d$ the radius drawn at right angles: $c e$ the apsis or height of the arch you intend to describe, which the Italians term *frezza*, we *sagitta*.† On the center c with the distance $c e$ describe the semicircle $c g e g$ parallel to the former. Let the radii $c f$ and the sines $f g$ be drawn; where the radii cut the periphery of the lesser circle, let right lines be drawn to the sines parallel to the diameter; through the points where they intersect them let the equable curve $a e b$ be drawn, which is the curve required.

Palladio says that the arches of ceilings, less than semicircular, are most advantageously described when they have the *frezza* or arrow a third part of the breadth of the room. This he shews by seven plans of as many rooms constructed by himself, with arched roofs peculiarly adapted to them.

* All signifying an arch.

† *Frezza*, *sagitta*, an arrow in English. In mathematics the term signifies a versed line of an arch, standing on the chord like an arrow. See Chambers's Dictionary.

1. The first he terms *IL VOLTO A CROCIERA*, or crossed vault. It is formed by two arches cutting one another across in the shape of an X, which Philander thinks was meant by the testudo of the antients. 2. A *FASCIA*, or bark fashion; I would rather stile it *FORNIX*, cradle-wise, but under that term the hemicylindrical arch is comprehended. 3 and 7 Is termed A *REMENATO*, whose curve is a subsegment of a circle, or a segment less than a semicircle. 4. *RITONDO*, in the French language *EN CUL DE FOUR*, which we term oven-wise. This form of a ceiling is adapted to a square room, and is thus constructed. In each of the angles a kind of impost is left for it to rest on; it begins with a semicircle and gradually contracts, so that in the middle it makes a subsegment of a circle, and widens into a semicircular curve the nearer it approaches to the angles. 5. A *LUNETTE*, which Philander calls lunulated, consisting of the four parts of a crossed vault. 6. A *CONCA*, which may be termed a channelled vault, as it resembles the hollow of a ship or pinnace, and is sometimes called by the Italians A *SCHIFFO*.

Palladio has spoken of the first four arches as in use among the antients, the two latter as inventions of the moderns: which information may satisfy the architect without paying attention to the pedantry of Grammarians, who in this case, as well as in others, interfere impertinently in matters unconnected with their province.

BOOK I. CHAP. VIII.

OF APERTURES.

APERTURES are doors, windows, the tunnels of chimneys, and according to some writers, staircases. Sir H. Wootton gives the following excellent rules with respect to them: first, that they should be as few and as small as conveniently they may: because every aperture weakens a building: wherefore, in the second place, the apertures should be

be as distant as possible from the angles of an edifice, as the angles ought to be made very strong.

Philander observes that the gates of cities were arched, but in sacred and private buildings the doors and windows were always quadrangular. This was the practice of the antients, but neglected by the moderns. The antient custom, as is likewise the present, was to strengthen the square apertures by concealed arches. Though Vitruvius advises to contract the openings of doors at the top, as may be seen in the temple of Vesta, near the Tibur, the moderns have not adopted this plan: for though an aperture of that kind may be more firm, yet it fails in the beauty of its appearance.

PLATE XXII.

§. 2. The void space of the door is called *LUMEN HYPOTHYRI* or simply *LUMEN*. The sides of which are enclosed by two *ANTÆ*, that is, jaumbs or square posts, on which is placed the *SUPERCILIUM* or upper Lintel, the opposite to which is the lower one or Threshold, on which we tread. To the *ANTÆ* and *SUPERCILIUM* is affixed what is called from that circumstance the *ANTEPAGMENTUM*, or architrave; the upper part of which, covering the upper lintel, is called the upper architrave, the *Fascia* running round, the *Corfæ*. On the *ANTEPAGMENTUM*, as an architrave, rests the *HYPERTHYRON*, like a freeze, and over that the cornice. The ornament above that may be called the *CORONA LATA*. The *ANCONES*, or *PROTHYRIDES*, are of almost the same form with modillions; they project on each side the door, and have a leaf generally carved at the bottom of them. The wooden contexture that fills the aperture of the door, is called the leaf of the door. The parts of which are *A*, the upright rail; *B*, *C* the transverse ones; *C* the middle one; *D* the sunk border of the pannel; *E* the pannel.

§. 3. The principal door of a building has no determinate dimension; but varies according to the grandeur of the house
and

and its possessor, or its use. Palladio agrees with Vitruvius that the height from the floor to the ceiling should be divided into three parts and a half, that two parts should be given to the height of the aperture, and to its breadth one, after deducting from it the twelfth part of the height. M. Muet proposes the least breadth of the principal door to be seven feet and a half, the largest twelve feet. The height to be one and a half of the breadth, or rather the double of it.

With regard to rooms, Palladio has laid down these rules for the doors: the least breadth of the aperture should be two feet, the greatest three feet, and the height agreeable to the least, five feet; to the greatest, six and a half. M. Muet is of opinion that the least breadth should be two feet and a half, and the height, suitable to it, five and a half. The breadth, from three to four feet, requires the height to be twice as much. In a royal palace the breadth of five or six feet may be allowed to the opening, and the height may be double of it, or sometimes less than double by a fifth or fourth part of the breadth.

§. 4. Vitruvius being silent on the subject of windows and their structure, Palladio lays down these rules. Great care is to be taken (says he) that the openings of windows be not wider or narrower than is proper. Let not their breadth be less than a fifth, or greater than a fourth, part of the breadth of the apartment: and their height be double their breadth, with an additional sixth part of it; and if there be more stories than one, the height of the lower one, diminished by a sixth part of it, will give the height of that next above.

Windows, though belonging to rooms of unequal dimensions, yet, if in the same story, should themselves be equal: to contrive this, and that the architect may adhere without difficulty to the rules of symmetry, let there be in the story a room, the length of which exceeds its breadth by two thirds.

Let

Let its breadth be divided into nine parts, two of which will give the breadth of the aperture of the window; and four with a sixth part added will be a proper height. These dimensions will suit all the windows of that story in which the abovesaid apartment is constructed.

M. Muet has laid down the following proportions: let the opening of a window be four feet and a half or five feet wide: in a royal mansion fix: its height at least double of its width. It will be handfomer, if a fourth, a third part, or one half of its width be added. In the second story, the height of the first may be decreased by its 12th part; in the third, a fourth part may be taken from the height of the second.

PLATE XXIII, XXIV.

§. 5. The ornamental parts of doors and windows, according to Palladio, are, the architrave, freeze and cornice. The breadth of the antepagmentum, or architrave, ought to be not less than a sixth, nor greater than a fifth, part of the breadth of the void: the projecture to be a sixth part of its own breadth. From thence may be taken the dimensions of the freeze and cornice, in the four ways exhibited in the plate. In all, first let the architrave be divided into four parts: let the cornice have for its height five of these parts: the freeze, in the first and second design, three: in the third, a fourth more: in the fourth, one half. The other parts will be sufficiently understood by consulting the plate.

§. 6. The fire places of the antient Romans had not chimneys, but only the funnels of them: chimneys such as ours are, were, if at all, very rare at Rome: but instead of them, in the subterraneous part of the house, an oblong vault was made, which was heated partly by lighted wood, partly by being filled with hot water; from this the heat flowed to the saloons, dining rooms and bedchambers, through ducts constructed in the inside of the walls, in every direction, and reaching

reaching to the top of the building; and in them were vents, made in all those places where they wished to procure heat, covered with lids, which were stopped or unstopped at pleasure. Our own habitations would be rendered (in my opinion) much more convenient if we adopted this plan.

Chimneys at present are made, for the most part, in the thickness of the walls, with their openings visible in the apartment, and their funnel rising outwards above the top of the roof. The apertures are limited by two jaumbs, and the mantle-tree, on which a pyramid is constructed, reaching to the ceiling, and on it a shelving funnel is erected. The floor of the chimney is called the hearth; the part opposite to the opening is called the chimney's back.

Muet proposes these following proportions for chimneys: in kitchens, saloons, and dining rooms of an extraordinary size, the breadth of the apertures should be from 6 to 8 feet. Their height from $4\frac{1}{2}$ to 5. The projection or depth from the forepart of the jumb measured to the back of the chimney from $2\frac{1}{2}$ to 3 feet. Thence the hollow of the pyramid gradually diminishes till it reaches the bottom of the funnel 4 or 5 feet long; from 10 to 15 inches broad, and not more. In bed chambers the breadth of the opening should be from $5\frac{1}{2}$ to 7 feet; the height 4 feet or $4\frac{1}{2}$; the projection 2 feet or $2\frac{1}{2}$. In common parlours and servants rooms, the breadth of the opening should be from 4 to 5 feet; the height and projection the same as in bedchambers.

Palladio proposes, in a summary way, that the funnel in the chimnies of rooms should be from six to nine inches wide, and two feet and a half long, and that the opening of the funnel where it joins to the Pyramid may be somewhat contracted. The mantle-tree should be of very elegant workmanship, and by no means of the rustic kind, unless in very large buildings.

P L A T E

P L A T E XXV—XXX.

§. 7. Staircases, properly so called, are separated or subdivided by steps. Those gentle ascents sometimes constructed in palaces in the place of stairs do not come under this appellation.

In staircases three properties are required; 1st, that they have a full and steady light; 2d, that they be large in proportion to the size of the building; the steps should be from 12 to 4 feet long; should they be shorter than 4 feet, persons meeting each other would be delayed. 3d, They should be convenient; to the building they will be so, if under them lumber, &c. can be concealed, to those who ascend them, if their ascent is easy. The steps should be unequal in number, (the ancients had some superstition about making them equal) and a resting place or landing should be contrived after 9, 11, or at the utmost 13 steps. The height of the steps should be six inches, or at least four, where there are many without interruption. The breadth for the most part is a foot, never more than a foot and a half. The steps should be laid or joined, according to the Italian phrase *con un tantino di scarpa* with a little inclination or slope, which will greatly contribute to the ease of the ascent.

Staircases are made either spiral, which are called cockle stairs; or in a right line, which are called straight ones. The spiral have less space, and are more difficult to climb. Staircases are either circular or elliptical, each of which is made with straight steps or (which is the better mode) with contorted ones; and are either inserted in the wall only, or in a pillar only, or in both.

If the pillar be in the middle, let the diameter of the space be divided into three parts, one of which must be given to the pillar; or (as in Trajan's pillar) four parts of the diameter, when divided into seven, must be allowed to the steps. In cockle stairs, where there is no pillar, let the diameter of the space be divided into four parts, and two of them be occupied by

* F the

the steps. The best constructed staircases, particularly spiral ones, are those which are void in the middle, both that they may receive light from above, and likewise that persons ascending and descending may see one another.

Among the strait staircases, which at present are most common, some are oblong, and consist of two ascents, with an oblong landing placed between them, or they are square. In the square ones let the space be divided into four parts, and two given to the steps, two to the void, in which the thickness of the wall will be included, if there be a wall instead of a void.

Sometimes the narrowness of the place obliges the architect to make steps in the angles of the landing places; in this case, making the angle of the landing the centre, and its breadth a radius, describe a quadrantal arch, and divided it into as many parts as the radius has feet.

From these elementary rules for the construction of staircases, an almost infinite variety in them is produced, which it is needless to speak of in the detail. Let the architect pay attention to the best models; and, furnished with these general principles make use of his own judgment in his designs; remembering, at the same time, that the due construction and commodious placing of them will call for the utmost exertion of the powers of his art.

THE

THE SECOND PART
OF THE
ELEMENTS
OF
CIVIL ARCHITECTURE.
TREATING OF
PUBLIC AND PRIVATE BUILDINGS.

PLATE XXXI.

§. I. **I**N the preceding Book all those things which constitute strength or beauty in buildings in general have been considered; it remains now to mention what things contribute to the utility of particular buildings; we will begin with a private house in a city.

In chusing the situation, its vicinity to public edifices should be principally attended to; that is, we should build as near as convenient to the place where the business of the owner chiefly calls him. Every one would wish to be near a church, but especially a priest, a nobleman near the prince's court, the lawyer near the hall of justice, the merchant near the exchange, the trader in the principal street; and every other citizen in the same manner would chuse his dwelling according

to his occupation—not far from the river, if any flows near the city; at a distance from a tallow-chandler, a brewer, a soap-boiler, a butcher's shop, or any other business attended with an unfavourable smell; far from the noise of the anvil, the hammer and the saw; and, above all, (as Cato says) at a distance from bad neighbours. In short, that spot is most eligible in which you can construct a regular house, that is, one with right angles; where room, leisure and cleanliness may be obtained, and you may procure to your house the advantages of a rural situation. If all the above conveniences cannot be met with, it is prudent however to aim at as many as possible. The same observation may extend to the other precepts.

In general there are three divisions of a city house. The lower, some of whose parts are generally under ground; the middle one is assigned to the use of the owner and his friends, and contains one or two stories. The highest consists of smaller rooms placed over the middle ones with solar, if the roof admits of them.

§. 2. In the middle part a more spacious room should be constructed, and if it contains two stories, another room not less should be raised over that; the lower of these is by the Italians called *ENTRATA*, the higher *SALA*, or saloon; we may call them entrance and hall. The halls should be as spacious as may be, wherefore a square is preferable. The oblong is the better the nearer it approaches to the square. Palladio gives to none of them a length greater than double the breadth.

Adjacent to the entrance and hall, the large, small, and middle sized rooms, together with the principal staircases, should be so placed, that an easy and free passage may be had into the entrance, hall, and other apartments of the same story. Moreover rooms of different size should be placed near one another, so as to be of mutual convenience.

In

In marking the proportions of these the architect should have an eye to the office and dignity of the possessor. Men of ordinary fortune want not houses either large or magnificent. Money lenders and inn holders wish to have them convenient, showy, and well secured from thieves. Lawyers build them with more elegance and space to receive their clients. Merchants require rooms to stow their goods in; well defended, and facing the north. Men in office and noblemen demand houses large, lofty, ornamented, and in short princely.

In a stately mansion the height of the larger room is such, as to equal both the heights of the two lesser, by which means one of them is placed over the other, by the side of the larger room; which circumstance in great houses is of much utility. Rooms thus constructed, the Italians call *AMEZATA*, or halved; we may call them half stories. These are seldom found in houses of moderate size; but in their stead closets are adapted to the larger apartments, each to each, if it may conveniently be done.

The architect will likewise provide that each room has its proper aspect. Summer rooms should face the north, and should be large and spacious for the sake of coolness. Picture rooms with the same aspect for the sake of a regular and continued light. Winter apartments should be less than summer ones, and face the west, or rather the south, as they require warmth. Rooms used in spring and autumn, likewise bed chambers should face the east on account of the morning light. For the same reason libraries should be to the east, and because that aspect is most favourable to the preservation of the books. From the latter we ought to look into the pleasure grounds. In a large house the chapel (as churches do) should face the east; so should also, in a smaller edifice, the oratory which answers to the chapel. The architect should be informed that in houses of any splendour an oratory and a museum are as requisite as a dining room or a bed-chamber.

§. 3. So far with respect to the division of a house above ground, which is the most magnificent part of it; but in a house as in the human body, there are parts which though of eminent use are yet of inferior dignity to the rest; such in imitation of nature we should keep private. Some of these should be placed in the highest part of the mansion. Underground should be cellars, kitchens, woodhouses, bakehouses, store rooms, laundries, and other offices. Such a situation will be most convenient for them, and the body of the house will be more ample, commodious, healthy and pleasant. The stables with the hay lofts placed over them, and the coach houses should be separated from the mansion, and erected where the dung may be most easily carried into the gardens. If they are built on one side of the house, all the offices on the other side, except the cellars, will exactly correspond with them. Over each of them the servants rooms on either side should be placed suitable to their respective employments.

§. 4. The entrance or door of the house is generally in the middle of the front, sometimes, if the situation requires, in the middle of the side. From the door directly, or with some space intervening, we arrive at the entrance, and from thence proceed to the apartments. These in every house should be so contrived that they should be of similar figure and dimensions, and opposite each other; so that the windows on one side may correspond with those on the opposite side, and be of the same size and symmetry, and placed in the same horizontal line. The doors of the apartments should be made directly fronting each other, that when they are all open the view may be continued through the whole suite of rooms. The objection of Wootton, namely, that no room except the last would be private, an able architect may obviate: especially if he contrives with judgment the back stairs, which we call the servants stairs. The observance of the three last requisites, use, strength and beauty, alike require, and they should be observed

served in each particular story : in the combination of them, the fourth precept abovementioned should be attended to; namely, that void should be over void, and walling over walling.

§. 5. The chimney of every apartment, if it be placed in the middle of the side will be an ornament, but this is not necessary especially in a bed room; if it be placed in the corner of an apartment the room will be enlarged by it, and a common shaft with four funnels will accommodate as many chimnies.

Back stairs are useful in all houses; where there are half stories they are necessary. The principal staircase should be placed as we have before described; and it will be disposed to great advantage, if in the way to it the more beautiful parts of the house may be seen.

Much grandeur and elegance would also be added to the house by the erection of a pediment in the front; which, though less usual in England, will be found in the plate.

BOOK. II. CHAP. II.

OF THE VESTIBULUM, OECUS, CAVÆDIUM, ATRIUM AND PERISTYLIUM.

§. 1. **B**ESIDES the apartments just mentioned, in the palaces and noble edifices of the ancients the VESTIBULUM, OECUS, CAVÆDIUM, ATRIUM, and PERISTYLIUM were constructed. What is meant by the VESTIBULUM I cannot easily apprehend, so much do the writers of antiquity differ on this subject. Many moderns, with an appearance of reason, think it meant a void space between the public way and the doors of the house, as a kind of standing place for the visitors before they obtained admittance into the mansion. Those who render the word by LOGGIA, or a covered portico encompassed with columns, give us a better idea of the convenience

venience and grandeur of those houses. The Greeks termed the VESTIBULUM *προθύρα*, but prothyra among the Romans meant a bar or railing to keep the horses, carriages, &c. from the vestibule. The Greeks called the latter *διαθύρα*. To avoid confusion we shall render VESTIBULUM, LOGGIA, the void space before the door PROTHURON,* the rails DIATHYRON.†

The LOGGIA, if one, was placed in the middle of the front of the house; if two, at the sides. Their dimensions were made agreeable to the convenience and grandeur of the mansion, with this restriction, that their breadth should not be less than ten feet or greater than twenty.

P L A T E XXXII, XXXIII, XXXIV.

§. 2. The word OECUS, as we have said before, signifies a room of extraordinary size, though it very frequently means an entrance, hall, or dining room. Vitruvius mentions four kinds of them in such a way as to vary them into five species; he mentions the TETRASTYLON, two Corinthian ones, and adds to these also the Cyzicene and Ægyptian.

OECUS TETRASTYLOS is a room where four insulated columns support an upper story. It will be convenient to have the entrance of this construction; for the floor of the hall will thus be made more secure, and by the advantage of the columns the height of the entrance may be made to agree with the proportion of the other parts. See plate 32.

The Corinthian OECUS is a room which, according to Vitruvius, has single columns placed either on a poggio or base, or on the ground; that is, columns in a single row, and inserted in the wall, (see plate 33) either standing upon pedestals, as in the first figure, or standing on the ground, as in the second, and for the sake of distinction it is called Corinthian; each style is excellently adapted to a hall. The entabla-

* Prothuron in the Greek language signifying before the gate.

† Diathuron, in the same language signifies near to the gate, &c.

ture

ture may be made either of wainscot or stucco. The ceiling should be either semicircular, or curvature depressed to the third part of the breadth of the room. The most beautiful length will be that which exceeds the breadth by two thirds.

The CYZICENE * OECUS was not of Italian but of Grecian origin, nor does it differ so much from the Corinthian in figure and use, as in the situation, the doors and the windows. It looks towards the north, and into the gardens, and so capacious are its dimensions, that it would contain two triclinia placed opposite each other with their respective circuits. It has folding doors in the middle, and windows made to open like doors to command a view of the gardens.

The ÆGYPTIAN OECUS, far exceeding the others in beauty, (see plate 34) contains the height of two stories, so that it has two orders or rows of columns. The lower ones are insulated, with an architrave only placed upon them, according to Vitruvius, but to which Palladio properly adds a freeze and a cornice. On the corona of this rests an entire wall, in which is inserted a second order of columns; which are either half or three-quarter ones. They are placed directly over the insulated columns, and are a fourth part less; and in their intercolumniations are windows. In the part below, the wall stands off from the columns, but is connected by means of the story above; so that round the sides of the hall a walk is formed by the columns, covered with a floor open to the air, and with a ballustrade.

§. 3. Of the CAVÆDIUM we can say nothing certain. Varro by CAVÆDIUM and ATRIUM plainly means the same thing: Pliny the younger makes a manifest distinction between them: Palladio and Barbaro, who take Vitruvius for their guide, adopt the opinion of Varro. Mr. Perrault so far agrees with Pliny that he translates CAVÆDIUM *un cour de*

* Cyzicum, a beautiful Greek island, where noble banquetting houses were erected by the antients in the manner described above. It was situated between Asia and Europe. See Val. Flacc. B. iii. Ch. 60.

maison, and *atrium un vestibule*; in short, Vitruvius himself does not sufficiently explain his meaning, but makes use of *CAVÆDIUM* in the plural number, and divides it into five kinds. With respect to my own opinion, in a matter so doubtful every one should be left to his own judgment; but he who admits the following exposition will not, I think, be far from the meaning of Vitruvius. In the Roman houses there were generally an *atrium* and a *peristylum*; two areas open to the air, or at least open to the height of the house, around which the apartments were so arranged that each of the courts exhibited the appearance of a market place; and from the *atrium* into the *peristylum* the way lay through the *tablinum*, whose entrance fronting, and generally open, afforded an uninterrupted passage; the proportions of these three were adapted to the figure of the *atrium*. Vitruvius, I apprehend, called each of these a *CAVÆDIUM*, and divided them into five kinds, according as the figure of the *atrium* varied.

P L A T E XXXV—XXXIX.

§. 4. I call therefore an *atrium* a quadrangular area oblong in a certain proportion, all whose sides are surrounded by apartments. Its length should be five thirds of its breadth, or one and a half of it, or the diagonal of its square: the height corresponding to all of these should be the same; that is, three fourths of their length.

If the apartments arranged on each side are covered with shelving roofs, which are placed on the walls as not to extend into the area beyond the entablature; this kind of court will be called an *atrium displuviatum*.*

But if the eaves, as in plate 35, by the addition of beams, should project a little into the area, this is called a *Tuscan atrium*.

And if, as in plate 36, by the addition of other beams on

* See Vitruv. Lib. vi. Cap. 3.

each

each side, the projection should become greater, and the beams be supported by four insulated columns, it will be called an **ATRIUM TETRASTYLON**, and will have the two wings **A A** on each side opposite to each other.

N. B. "In every **ATRIUM** that has wings they should be equal and alike; each as wide as the sixth, seventh, eighth, ninth, or tenth part of the length, according as the length may be from 30 to 40, from 40 to 50, from 50 to 60, from 60 to 80, from 80 to 100 feet. The liminary or, as others call them, the liminary beams, that is, their architraves should be raised in such a manner on the top of the wall, as that the height of the wall should be equal to the breadth of the atrium." The lumen or aperture of the impluvium should not be more than a third or less than a fourth part of the breadth of the atrium, in order that the length of it may be made proportionate.

Moreover, if the two wings, as in plate 37, be ornamented with columns, this will be a **CORINTHIAN ATRIUM**, if likewise a colonnade walk be made in the inside lower than the roof of the apartments, and covered with a floor open to the air, and a ballustrade, this may be called for the sake of distinction a **CORINTHIAC ATRIUM**. See plate 38.

Lastly, if the whole area be covered, as in plate 39, with a testudo roof, it will be called **ATRIUM TESTUDINATUM**, and will receive the light through windows six feet high inserted in the crown of the wall which surrounds the court.

§. 5. What the room called the **TABLINUM** || signified we have already explained; with respect to its figure it should be square; and, to be proportionable to the **ATRIUM**, its side should be two thirds, or a half, or two fifths, of the breadth of the **ATRIUM**, according as its breadth may be from 20 to 30, from 30 to 40, from 40 to 60 feet. Let the height under

|| See tablinum B. 1. C. 7.

* G 2

the

the liminary beam be an eighth added to its breadth, and a third of the same breadth should be added above, in consideration of the ceiling.

PLATE XL.

OF THE PERISTYLIUM.

§. 6. The PERISTYLIUM (or, according to Julius Pollux,* PERICION, for the Greek word *περίων* signifies a column) seems analogous to the cloyster in a convent or college, for it is a quadrangular area, longer by a third part than it is broad, the middle of the area is open to the air, its sides forming a walk encompassed with columns, which are often insulated, and often likewise inserted, whose height is always equal to the breadth of the porticos. Sometimes the insulated columns are ranged over the inserted; sometimes there are three or more Orders, and a wall with windows occupies the intercolumniations, particularly of the upper order. By the combination of all these modes a great variety is given to the building. As the dimensions of the area are not laid down by any writer I have seen, I shall not pretend to define them; but that they had some certain proportion to the ATRIUM I have not the least doubt. With respect to its situation, it fronts the ATRIUM; at least according to Vitruvius, who describes its length as lying transversely, and its breadth as retiring inward. The difference between the peristylum and the atrium is obvious; as the wings only of the latter are adorned with columns.

By the due proportion and proper disposition of the ATRIUM, the TABLINUM and PERISTYLIUM, the CAVA ÆDIUM of Vitruvius beforementioned is, I apprehend, completed; and if the CAVA ÆDIUM of Pliny the younger should mean any else, (as it appears to do) it may perhaps be a name common to all quadrangular areas which are surrounded by apart-

* See his Onomasticon, or Dictionarium Rerum et Synonimorum, &c.

ments,

ments, and open within, but are of such figure and proportions as do not properly fall under the description of *ATRIA* or *PERISTYLIA*; such as for the most part are the quadrangles of colleges in the Universities.

PLATE XXXV, XXXVI.

§. 7. We will now, with Palladio as our guide, form the proportions of the Tuscan *CAVÆDIA*. Immediately from the vestibule we proceed to the atrium, whose length is to its breadth as three to two, and whose breadth is to the side of the tablinum as five to two. From the tablinum we enter the peristylum, which is longer across by a third part than its depth, and its porticos should be as wide as the columns are high. The other parts may be made as in plate 35, or varied according to the pleasure of the Architect, provided he adheres to the general rules,

The *TETRASTYLE CAVÆDIA* may be thus constructed, agreeable to the same writer. Through the vestibule we proceed to the atrium, whose length is to its breadth as five to three; the half of its breadth gives the side of the tablinum, the third of it the aperture of the impluvium. The eighth part gives the breadth of the wing; and the sixteenth part forms the diameter of the four columns, which are likewise of the Corinthian order. The peristylum is a third part longer crossways than in depth. It has two orders of columns; those below are Doric 16 feet high; the breadth of the porticos is the same. The columns above are Ionic, a fourth part more slender than the Doric; they rest on a base or pedestal entire two feet and three quarters high.

Of the *TESTUDINATED* and *CORINTHIAN ATRIOS* we shall treat more properly hereafter. Of the *DISPLUVIATED*, with Palladio, we shall say nothing.

BOOK II. CHAP. III.

OF THE PRIVATE CITY HOUSES OF OTHER NATIONS;

§. 1. **M**ANY nations, as they differ in climate and manners, vary likewise in their modes of building. It will be of singular advantage to the architect to be well acquainted with their particular plans, and diligently to study the antient models, more especially those of the Greek and Roman artists. We proceed therefore to treat of these; and as the designs of Mons. Perrault generally explain Vitruvius, and Palladio supplies the defects of M. Perrault, we will lay before the reader the plans of both, and mark the places described by each of them with the same letters.

PLATE XLI, XLII.

§. 2. A city house among the Greeks has no vestibule opposite the street Z, and no court in the entrance, but a narrow passage A, called in Greek *ὑποαίσιον* or gateway, on one side of which are the stables B, and on the other the porter's lodges C.

From thence you enter the peristylum, but improperly so called, as it has porticos only on three sides D, and in that part which faces the south there are two antæ, one on each side, forming an aperture to the space E retiring inward, which was called *πρόσας* and *πάσας*. These antæ * are separated by a considerable distance, being one and an half of the side of the building which runs back, on these piers the beams of the adjoining stories rest. On the right hand and left of these are three apartments on each side; two of a moderate size HH called the THALAMUS and ANTITHALAMUS; to

* The three words antæ, proſas and paſas mean the ſame things, viz. ſquare columns or piers; on each ſide an entrance or door way. The Reader by referring to the note on B. iii. Ch. 1. of Vitruvius, may inform himſelf of the various opinions concerning theſe terms,

each

each of which was annexed a larger antechamber, as G, and a smaller room behind T. Around the porticos in the inside were ranged the common rooms for dining K, bed rooms L, and servants rooms I. Beyond these antichambers, were larger rooms or halls F set apart for women and their employments, separated by an inner room O, and looking into the open courts Y. This part is called the GYNÆCONITIS.

More inward are the ANDRONITIDES, or men's apartments. In these the rooms are more spacious, the peristylum of greater extent, the porticos in the highest degree ornamented, the vestibules magnificent, and their doors of suitable grandeur. The porticos of this peristylum are four P N; all being either of the same height, or at least three of them, the fourth N which fronts the south may be higher than the rest. A peristylum having a portico of this latter kind is called Rhodian; the reason of its name is merely conjectural. In this court, toward the south are square halls T of so great an extent, that in each of them four TRICLINIA might be conveniently arranged, and sufficient space left for the attendance of the servants, and for games. In these the men feasted without the company of women. The dining rooms called CIZICENE, Q and rooms for pictures, fronted the north. The EXHEDRÆ* R fronted the west, and the libraries were placed toward the east.

Apart from these edifices on either side were the lodgings for strangers V, which were separated by passages or alleys X, called by the Greeks μεσσυλαιοι, and by the Latins improperly ANDRONES. The strangers' buildings have their separate gates, dining rooms, and bed-chambers; together with store rooms furnished with provisions, that they might after the first day's visit enjoy liberty and retirement. The guests were received the first day at the table of their host, who afterwards sent them eggs, chickens, olives, apples, and other produc-

* Rooms for the purposes of conversation or sleeping. See the Note on Vitruvius, B. vi, Ch. 5.

tions

tions of the country : hence pictures representing these presents were called *XENIA*.

PLATES XLIII, XLIV.

§. 3. In the entrance of Roman houses there is a vestibule V, called by Palladio a loggia, by Perrault *προδυσρον*. In the design of Perrault the *CAVÆDIUM* B follows contrary to the opinion of Vitruvius, who B. vi. Ch. 8. expressly says that in the city the courts are next to the gates, wherefore Palladio immediately next to the vestibule places the atrium C, which in this example is testudinated ; its length is equal to the diagonal of the square of its breadth, its height under the liminary beam equal to its breadth. In the design of Perrault it is Corinthian, with the wings as D.

In each of the designs the tablinum follows next E, then the peristylum F, both constructed according to the general rules. In the porticos of Palladio the apartments G have the same breadth with the porticos, and an equal altitude, with an addition of one third for the arching of the ceilings : H are Corinthian æci, or halls : I Tetrastyli, halls with four pillars ; K Ægyptian : L Cyzicene : M Square halls : N Exedrae : O Libraries : P Stables : Q Baths : X Shrubberies : Y Walks planted with trees.

The names of most of those things we have marked with letters, themselves explain their uses. Of the rest their purposes varied according to the pleasure of their possessor. The atria, or courts were adorned with the statues of the ancestors of the master of the mansion. In them “ likenesses taken in
“ wax were preserved in various cabinets, that on any family
“ deaths these representatives might accompany the funeral
“ ceremonies, (whence we may conjecture why the courts
“ were very near the gates) to which every person, who had
“ ever been connected with the family, repaired. On the
“ pictures of the deceased they drew out his pedigree. The
“ tablinum was filled with books and records of acts per-
“ formed

formed in his magistracy. The statues of conquered nations were erected without the walls, and round the confines of the mansions; the spoils of the enemy were annexed to them; nor was it lawful for any purchaser of the place to refix these trophies. Plin. Nat. Hist. 35. 2. But these were the manners of ancient times, more particularly whilst the Commonwealth flourished. But after the death of Augustus, Architecture with the other arts so far degenerated, that from that time to the latest period of the empire in proportion as works of art were modern they abounded in faults and bad taste. So far with respect to the private remains of ancient cities.

PLATE XLV, XLVI.

We should now treat of modern city houses peculiar to each nation: but since Architecture, restored in Italy, has not arrived at any perfection out of that country, we will add only three specimens taken from Palladio.

The first is of a monastery at Venice, which is called *IL CONVENTO DELLA CARITA*, or the Convent of Charity: Palladio in the design of it imitated the style of a palace in ancient Rome. He describes it in the Second Book of his Architecture, Chap. 6, as follows.

It is a Corinthian atrium, the length of which is the diagonal of its breadth squared. Each wing is a seventh part of its length wide. The columns are of the Composite Order, 35 feet long, and three and a half in diameter. The aperture of the impluvium is a third part of the breadth of the atrium. Not within but on the side of the atrium, instead of a tablinum is a sacristy; opposite to it is the Chapter House; the ceiling of each rests on a Doric cornice; and in each, columns support a middle wall, which divides the cells or chambers from the passages. In that part next the church is a staircase of an oval figure, open, and of equal beauty and utility. From the court you go directly into the peristylum, or, as it is commonly called, the cloister, which has three orders of pillars inserted in the wall, as in the plate.

*H

Below

Below are Doric pillars projecting three parts in four; above these are Ionic, less by a fifth part; the highest of all are Corinthian, diminishing in the same proportion. The upper intercolumniations are filled up by a wall with windows in it: the lower ones are formed by open arches. In the highest order are the cells of the brothers, a space being left for passages. Left the ceilings should be too heavy for the walls, they are made of reeds, as we shall shew in its proper place. Beyond the peristylum is the Refectory, the length of which is double the breadth; the height, which is sesquialteral of the breadth, is carried to the third story of the peristylum; on each side is a portico; under it a store room or wine cellar, made in the same manner as cisterns are, that no water may enter. Adjacent to the refectory are the kitchen, ovens, the yard for poultry, wood house, laundry, garden, and other necessary offices. In this convent, rooms for strangers included, there are 44 apartments and 46 cells.

P L A T E X L V I I , X L V I I I .

§. 5. The second plan represents a house insulated, standing in the middle of the city of Vicentia near the market place, which therefore in the first order has shops together with mezzati or half stories. The entrance next to which is the vestibule is made projecting, and above the entrance the hall is as much larger as is the breadth of the vestibule. On each side also is an entrance, in which the columns supporting the story above them make the breadth of the portico proportionable to its height. In the middle of the building is a peristylum, (or rather a cavædium, as it is square) the lower porticos of which are of the Tuscan Order, the higher of the Composite. Opposite to the grand entrance is an æcus, which may be called Corinthian: in the angles are four octagon æci, capable on account of their form of being applied to various uses. The offices are partly in the higher stories. The store rooms, &c. under ground, for as the building is placed on an eminence, no apprehension of inconvenience from water can be entertained.

The

The next design, which casually offers itself, is taken from the third chapter of the same book. The lower rooms of this edifice are only subterraneous in part, being raised five feet above ground, so that they can receive no inconvenience from the neighbouring river, and the higher stories command a more extensive prospect. The apartments above ground consist of two stories; the lower order is Doric, the higher Ionic. In the lower a portico is extended through the whole of the front. All the apartments have their ceilings vaulted; in the larger ones, the height from the floor to the sagitta is an arithmetical mean between l and L . The middle sized rooms are of equal height with the others, with groined vaults. The lesser rooms have entersoles with winding staircases leading to them. In the second Order the hall is in the middle of the front, and on each side is a lofty vestibule. The height of these three rooms reaches to the roof. The hall is as much larger than the entrance, as is the breadth of the portico under it, and as it projects beyond the body of the building, the angles of it are supported by double columns.

B O O K II. C H A P. IV.

OF A VILLA OR COUNTRY HOUSE, AND OF A HOUSE BUILT
IN THE SUBURBS OF A TOWN OR CITY.

§. I. **T**HE term *VILLA*, taken in its full sense, means a country house with a farm annexed: but we shall here understand no more by it than a house built for rural retirement; in the size, situation, and structure of which the plan of a farm house is not to be lost sight of. This observation refers in some degree to the rules for the design, but gives no latitude to the meaning of the term.

With respect to the style of a villa, the antients agreed that it should be such that the estate and the villa might mutually accommodate each other. The situation most convenient to the

H 2

the

the house is in the middle of the farm ; and near, if possible, to a navigable river ; if not, at least near a flowing stream ; for a stagnated water should be avoided as a nuisance, especially if it be frequented by swallows. The ancients, before they determined on the spot of ground, examined the entrails of the cattle that fed on the soil, and if they found their livers of a livid colour, they immediately deserted the place. Attention is likewise to be given to the air, that it be pure and wholesome, and we should chuse an elevated situation, to have a free current of wind. We should avoid a valley enclosed by hills, for in such a spot both the sun and wind will be detrimental. If you are obliged to build your villa on a hill, let it have a temperate aspect, and let it be placed at a distance from any other higher hill or rock that may be opposite to it, lest it should be overshadowed by the hill, or from the reflection of the sun from the rock it should be scorched as it were with two suns. The nature of the soil should be enquired into, the healthiness of which, as well as of the air and water, may be discovered various ways ; but these are to be sought from adepts in natural history.

§. 2. The parts of a villa, according to Columella, are three ; first, the mansion, where the master lodges ; second, the rustic, in which the bailiff and labourers live, and where the instruments of husbandry are preserved ; third, the granaries, or places for storing the grain. The mansion house differs not materially in its design from a private house in a city. Let the granaries and rooms for labourers form one continued range, and be joined in such a manner to the mansion, that the master may walk through the whole premises under cover.

Let the bailiff lodge near the gate, and the labourers in a place where they may guard the villa. You should remove as far from the villa house as is convenient the oxen, horses, and all beasts of burden, on account of the ill smell occasioned
by

by their dung ; but let them be in a spot warm and open to a current of air. Breeding animals, such as fowls, hogs, doves, sheep, &c. should have situations suitable to their nature and use, which will vary and be determined according to the different manners and customs of the country.

Wine is of that delicate nature that nothing receives hurt sooner. A cellar should be dug where no noise, smell, heat, or moisture can reach ; and according to some writers where there are no roots of trees. The cellar should receive its light from the north or east ; the floor should sink in the middle, that if any wine should run out it may not be lost. Under cover near the cellars the vessels should be placed at such a height as that, when the wine in them shall have fermented, it may easily be conveyed into the barrels through pipes made of wood or leather.

Let the granaries front the north, as that aspect is cold and dry, and the weevil* will not breed there ; for which reason this situation is very favourable to the preservation of the grain. Let their floors be made with plaster or, if this cannot be done, with boards, but by no means with lime, which would materially injure the grain. Barns should have the same aspect as granaries, and for the same reasons. Let the hay-lofts be fronting the west, or rather the south ; for the sun will dry the hay, and prevent it from heating and catching fire, which it often does when laid up too moist. The places where the implements of husbandry are deposited should face the south, and be under cover.

The area constructed for the purpose of threshing should be placed in such a manner that it may be seen from the mansion, but so as that neither the dust may be blown towards the mansion, nor the chaff fly into the garden. It should be spacious, and have the advantage of the sun, and should be either pitched, or laid with flint. Varro moreover advises that it should

* A small worm or mite that feeds on corn and other grain.

62 OF THE ELEMENTS OF

be round, and swelling in the middle. It should have porticos on all sides, which in the heat will afford a shade, and a shelter against sudden showers.

PLATE XLIX.

The villa of the ancients is described by Vitruvius, B. vi. Ch. 9, which Palladio has explained by a diagram as follows. At the entrance is a vestibule whose aspect is towards the south. Near it, a passage only between, is the kitchen, which receives its light from above; it is square, and has a fire place in the middle, but no chimney in the side of it. On the left of it are stalls for oxen, with mangers, &c. fronting the east and the fire; by this expedient they prevented the oxen from looking rough and unsightly. On the same side the baths with other adjoining offices, projected towards the south as far as the vestibule, Opposite to these on the right hand the rooms for the wine presses answered the baths, and had the advantage of the south, east and west aspects. Behind these were the wine cellars, which received their light from the north, were removed at a distance from all noise, and the heat of the sun. Over these were built the granaries, which received their light from the same quarters. On each side of the peristyle or *cavædium* were placed the stables in the warmest spot, but not fronting the fire-place. The sheep pens, and the places for all other cattle; the hay and straw lofts and bakehouses were placed securely and at a distance from the fire. Behind all these is the mansion, whose front has the same aspect as the vestibule of the villa; for in a villa the atrium or court is placed backwards, contrary to its situation in a town house, where the court is next to the gate.

PLATE L.

§. 4. On the Brenta is a magnificent villa of Sieur Mocenico, a Venetian nobleman, erected by Palladio, which will serve as a specimen for a modern villa. Four porticos of a circular

circular form, and spreading out from the opposite angles of the mansion, seem to invite strangers to their embraces ; on the sides of which, and in the front, and near the river, are the stables, behind are the kitchens, and over these offices appertaining to them. In the middle of the front of the mansion is a loggia or vestibule of eight columns of the Composite Order, and forty feet high, whose intercolumniations in the middle are systyle, on each side pycnostyle. Behind these are pilasters two feet wide, and one and a quarter thick, which support an open gallery to the height of the first story ; on the sides are constructed two loggias of six columns each. Behind the vestibule, on each side of the entrance is a dining room or triclinium, 20 feet broad and 40 long ; on the side of each is an exhedra twenty feet in the square, whose height is sesquitertian of its side ; for a ceiling constructed with a schiffo, requires a third of its side for the height of the coving. Through the entrance you go into the great court, whether you call it peristyle or cavædium ; it has two orders of columns all round ; the higher are Corinthian, a fifth part smaller than the Ionic placed under them : the porticos are as wide as their columns are high, their diameter deducted, and the adjoining apartments are the same, in order that the roof may receive as much support as possible from the partition wall. In the inner portico, opposite the entrance, is the grand staircase, with a double ascent, as in plate 27 ; then is seen a larger saloon, or œcus, 30 feet broad, the length is double and sesquialteral of the breadth. It has wings with columns, by which the symmetry of the other parts is proportioned to the height. The hall above this has none, as its height reaches to the roof ; the apartments placed in the same story are as high only as they are broad. The remaining space to the height of the hall is left for enterfoles.

§. 4. A house built in the suburbs is of a middle nature, between the town house and the villa. In the construction of

of it neatness should be attended to, but retirement more ; its principal requisites are ease and repose. Its appearance is neater than the country house, and not so splendid as one in the city. It neither boasts of pastures, or sumptuous dining rooms ; content with a study, a garden, and extensive walks. It will be conducive to health if it be placed somewhat on an eminence, and to pleasure if it has a view of the city you have left behind you.

P L A T E S L I, L I I.

Palladio supplies us with the two following specimens of houses of this sort. In the former, which every way commands a fine prospect, there are four vestibules, and in the middle of the house a circular hall with four entrances, which rises above the roof, and receives its light from the top. The ground plot is inscribed in a square; the angular spaces are filled by four staircases for servants. These lead both to the entersoles, which are over the smaller rooms, and to the gallery, which goes round the hall to the height of the second story. The uppermost apartments are eight feet high; the offices are under ground.

The construction of the second edifice is elegant, and may be varied many ways. There are two vestibules, each of which is of the Ionic order, and the podium (the bottom part of the wall) projects at its lower extremity. The rooms above ground have two stories; small turrets are erected at the four angles. Palladio has described a villa as consisting of two areas, that in the front for the use of the master of the house, that backward for the purposes of country business. Without these the edifice would be suburban; without the turrets and vestibules it would become a smaller suburban house: and so also, if the rooms above ground have only one story, and the scite being changed, the entrance be made where the back door is, and a study be put in the place of the remaining vestibule, instead of a hall you substitute a saloon in the Ægyptian style, and erect watch towers in the angles.

P L A T E

PLATE LIII, LIV, LV.

§. 6. In these three plates we have described nine fronts of superb palaces, which at this time may[†] be seen in Rome.

The first is the palace of the King of England, built by Bramante de Urbino in the Borgho Nuovo, A. D. 1504. It was lately in the possession of Cardinal Hieron. Colonna.

The second is the palace of the Duke de Sora, in the Apparitors ward, commonly called Rione di Parione, which the same Bramante built for his friend the Cardinal Nicol. de Fieschi, A. D. 1505. But I imagine there was no turret annexed to it.

The third is the palace of SSri Caffarelli in the ward of St. Eustachio, but described only in part. The Architect was Rafaele d'Urbino, A. D. 1505.

The fourth is the house once belonging to Rafael himself, in the Borgho Nuovo, and was of his own construction, A. D. 1513. Wherefore we have here exhibited the plan without the absurd and useless ornaments it is now loaded with, which style was so repugnant to the taste of that celebrated artist, that the additions were no doubt made by some other architect. Raphael himself gave the plan of this building. The person at whose expence it was erected was Pope Leo X. The builder was Bramante.

The fifth is the Palace Alla Lungara, once belonging to Agost. de Chigi, a particular friend of Raphael. Here is preserved the celebrated picture of Galatea by Raphael, with some others. The Architect was Baldassare Peruzzi, A. D. 1518. Here Peruzzi painted a Xyst or portico with so much art, that the resemblance deceived even Titian, who had been previously informed of this wonderful work.

The sixth is the Palace of SSri Cenci in the aforementioned Ward of St. Eustachio, close by the Custom House. Julio Romano gave the design of it for his friend Paoli Staci, A. D. 1535.

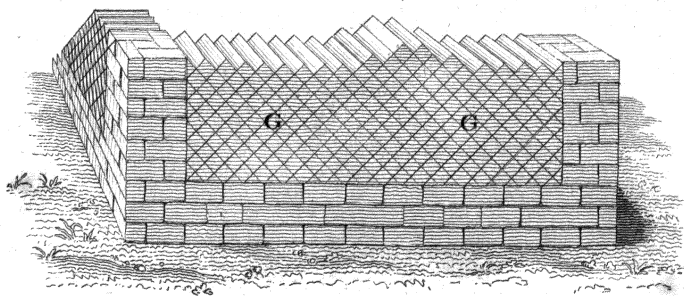
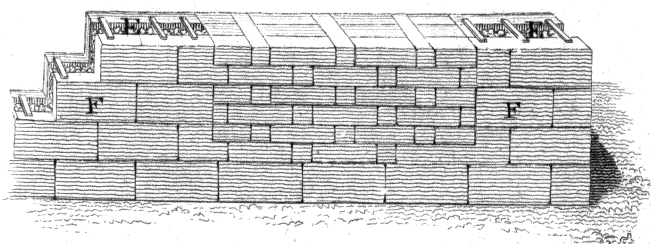
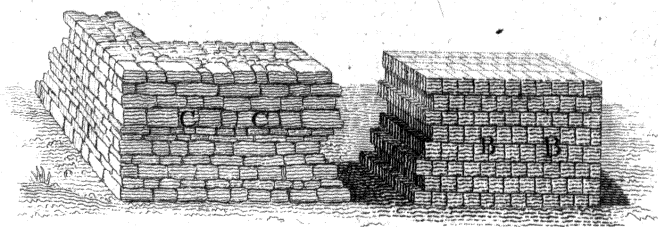
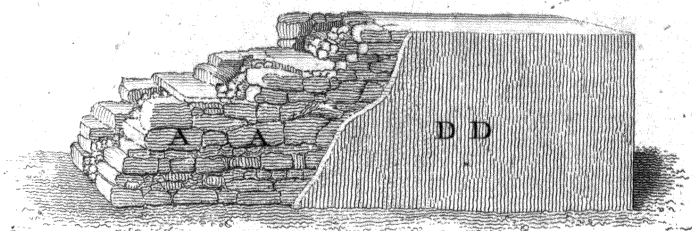
The seventh stands without the Flaminian Gate, commonly called La Porta del Popolo. The plan of this building was designed by Giacomo Barozzi da Vignola, A. D. 1553, during the pontificate of Julius III. The name of the Palace is Vigna di Papa Giulio III. The plate represents a part of the front as somewhat projecting.

The eighth was erected by P. Dominico Pacanelli da Faenza, the mathematician, for Cardinal Alexander, A. D. 1585. This edifice is in the ward commonly called Rione di Monti, and fronts the Forum or La Piazza de Apostoli.

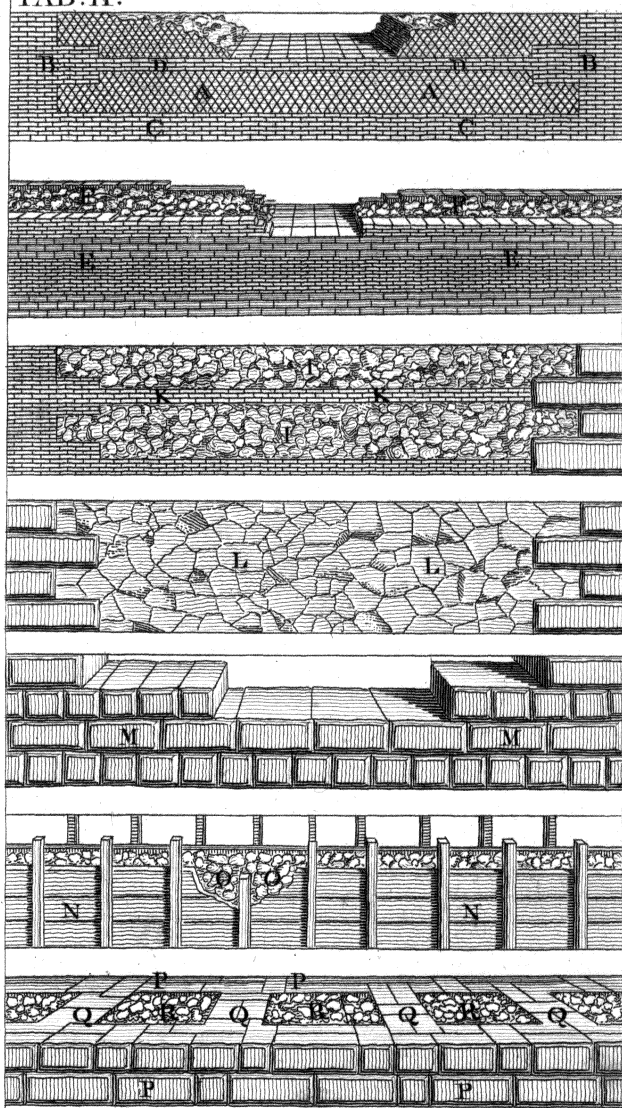
The ninth is the Palace of the Torrian family, commonly called SSri di Torres, built by Pirro Ligorio for a Neapolitan nobleman, A. D. 1560. This edifice stands in the Circus where games were celebrated, it is now called La Piazza Navona. To the merit of Pirro Ligorio every one bears ample testimony, who professes any knowledge of Architecture, and of the arts connected with it, or makes any pretensions to antiquarian researches.

I have exhibited these specimens for the benefit of young students, which they may imitate with equal pleasure and advantage, either by varying them in some particulars, or copying from them in others. Different tastes will of course approve different models: by an Englishman it has been deemed most proper to select those, which he apprehended would suit best the English manners. We here conclude our account of private edifices.

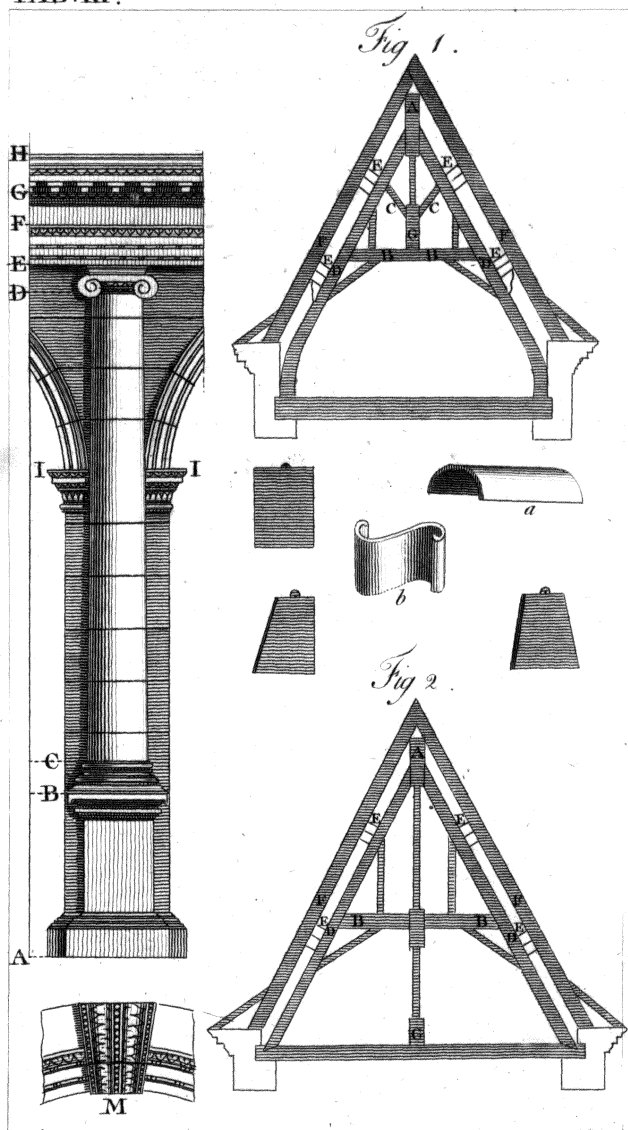
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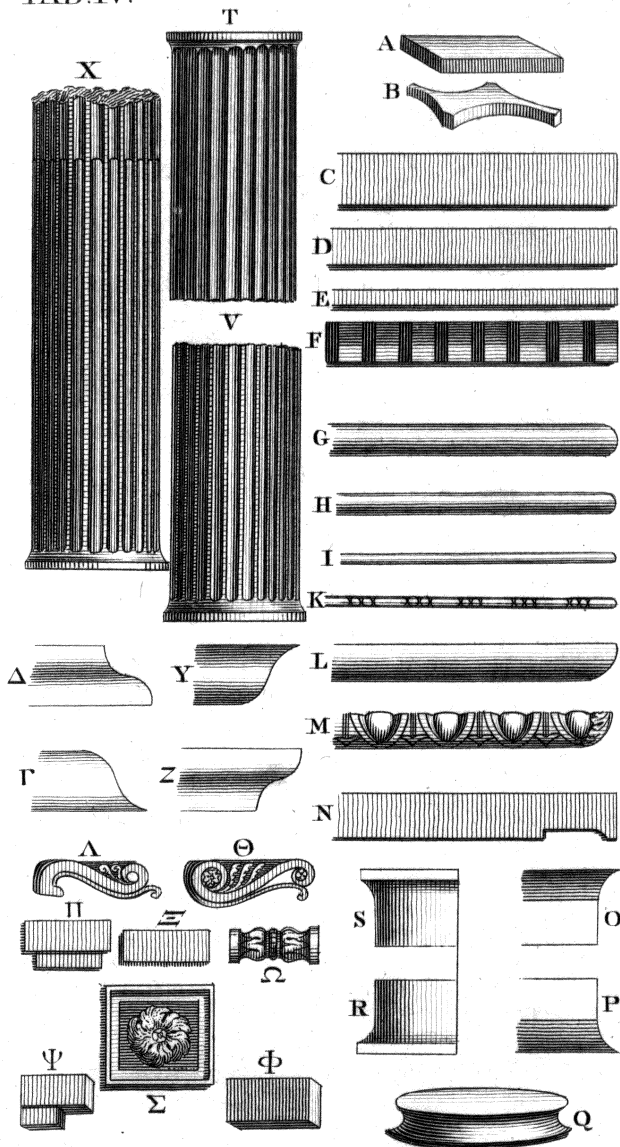
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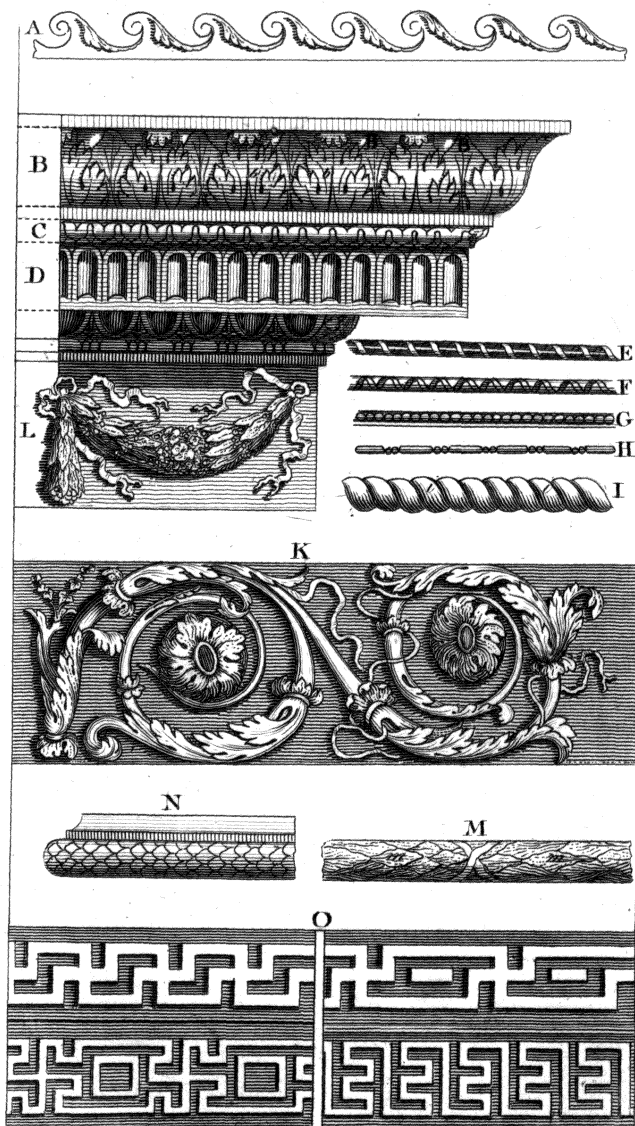
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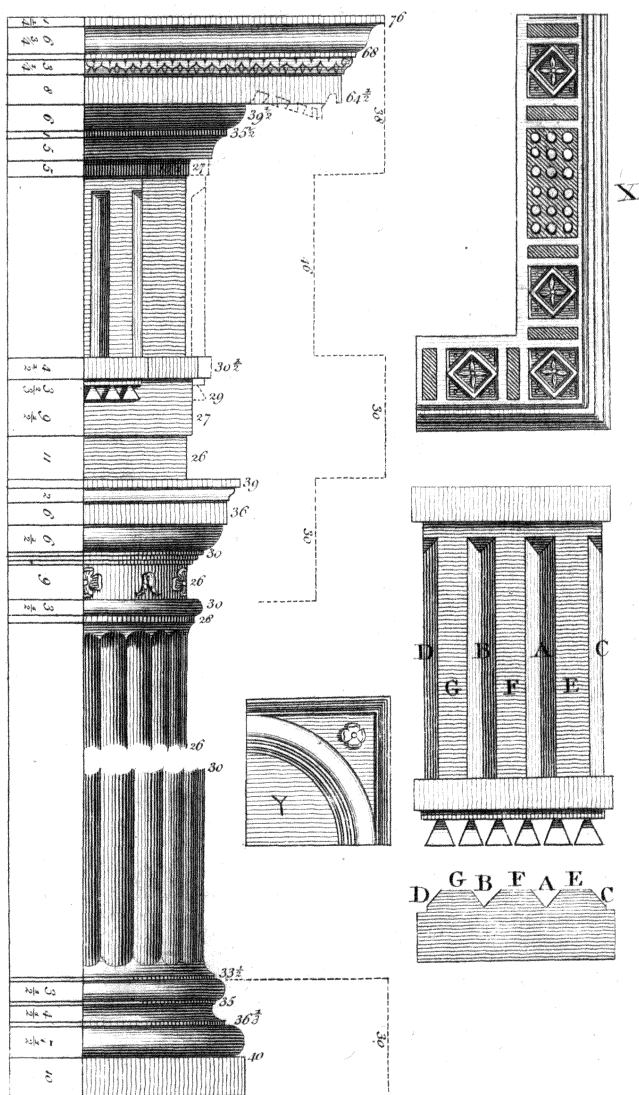
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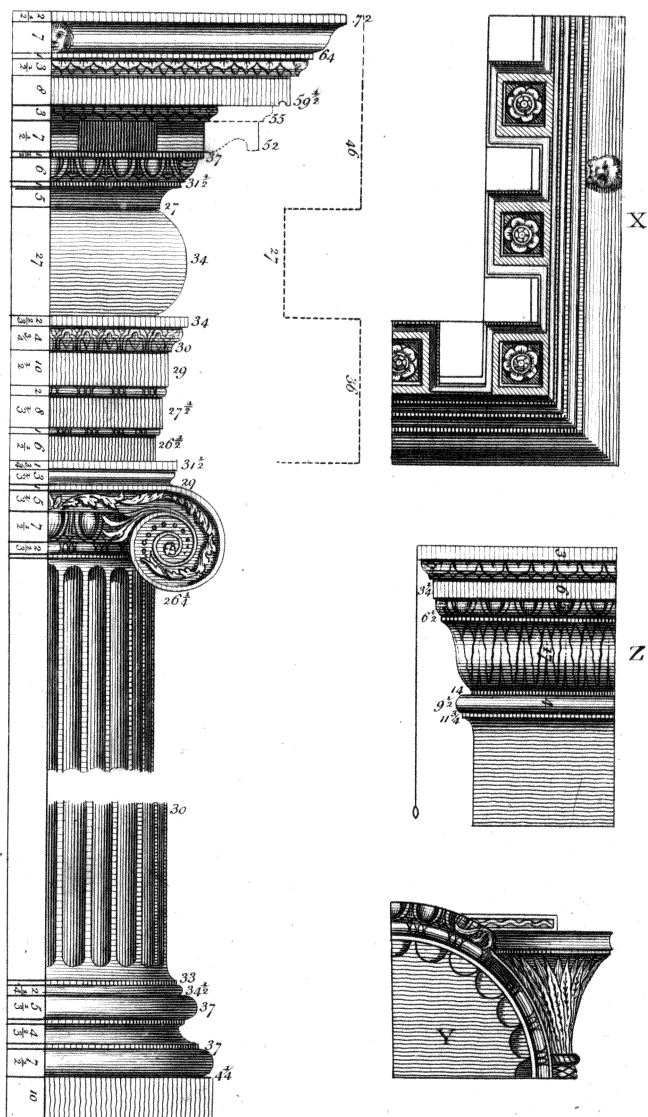
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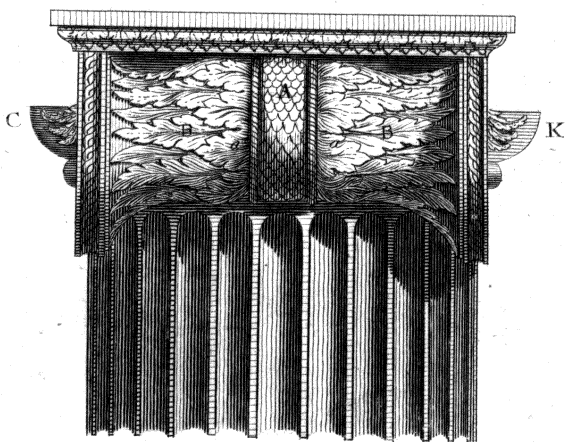
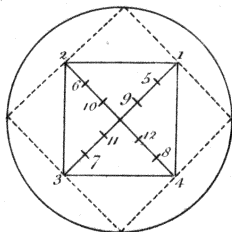
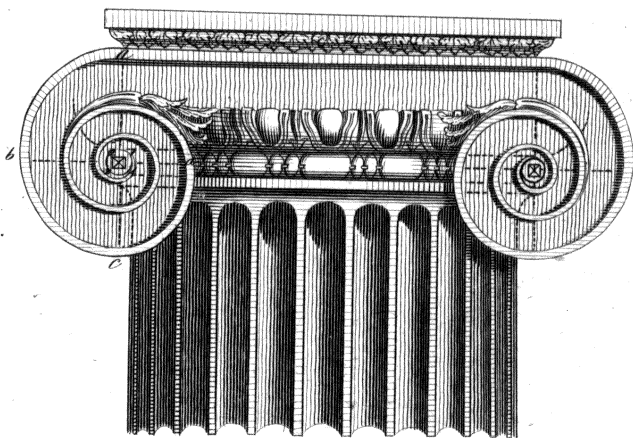
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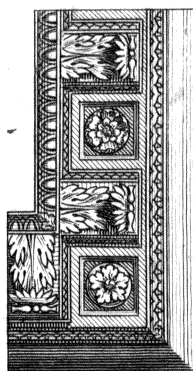
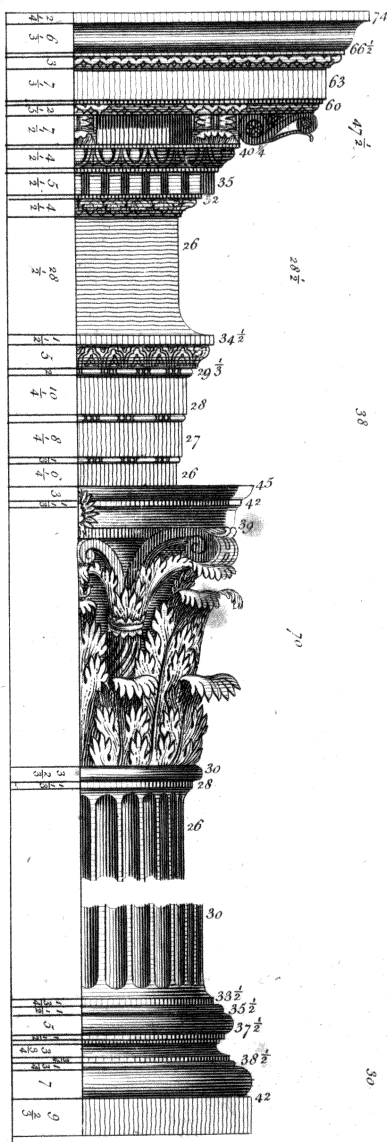
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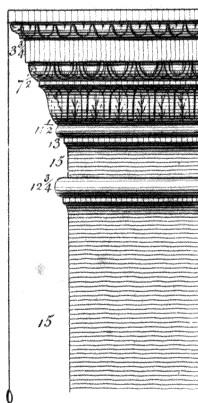
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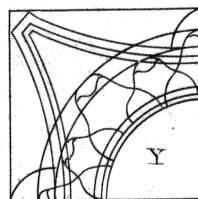
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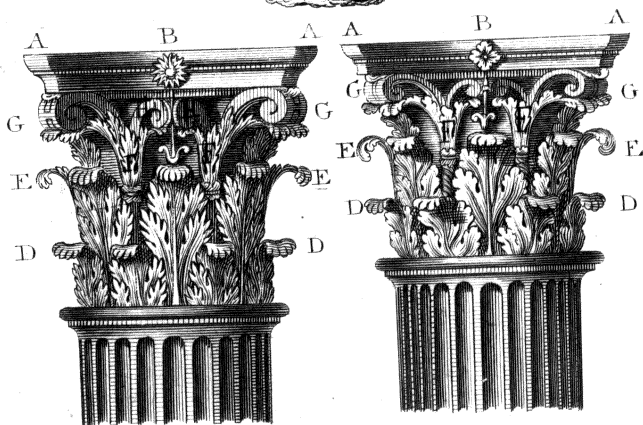
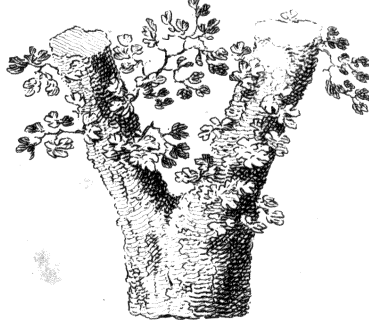
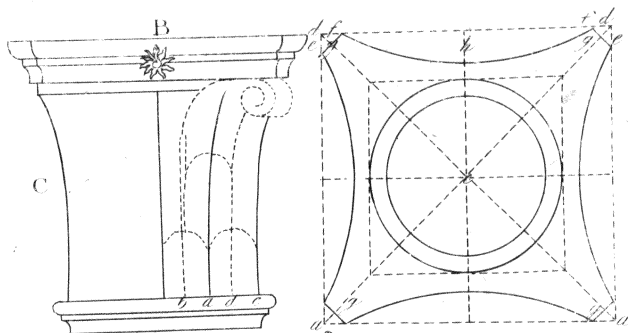


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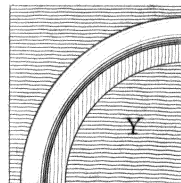
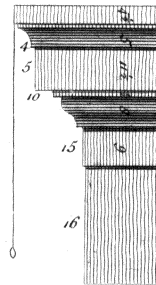
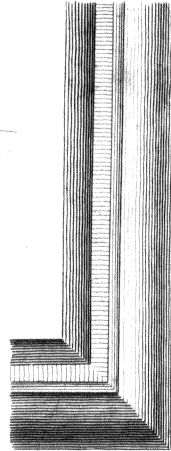
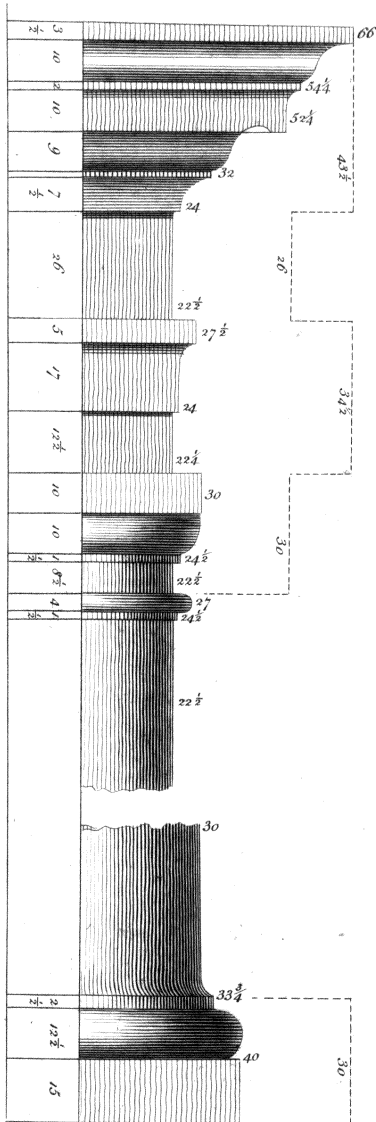


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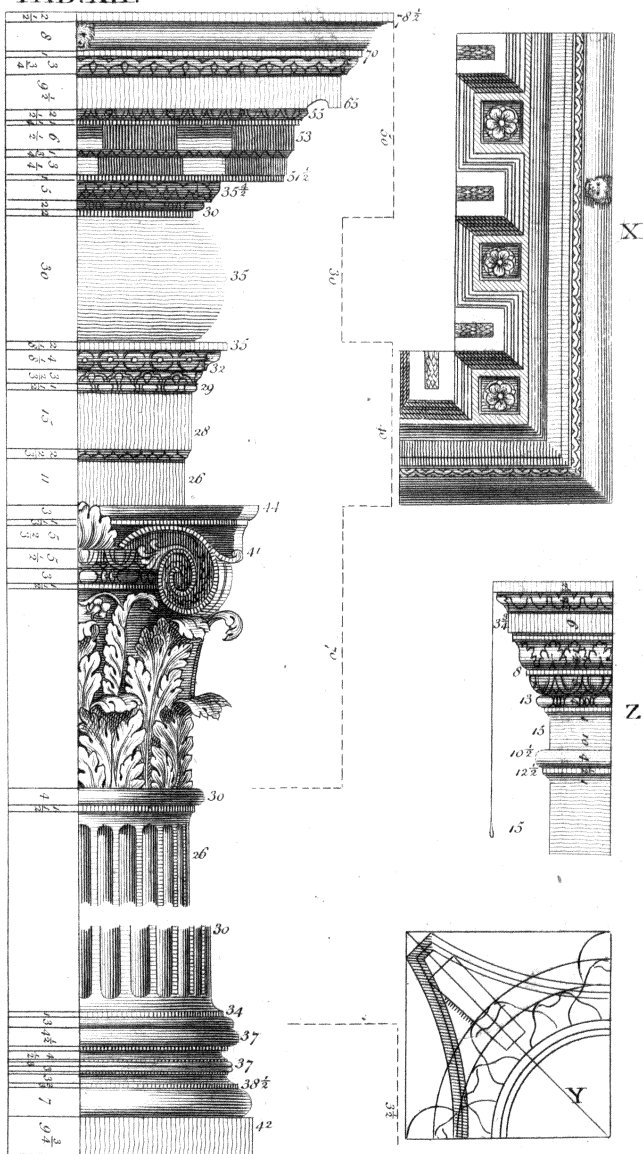
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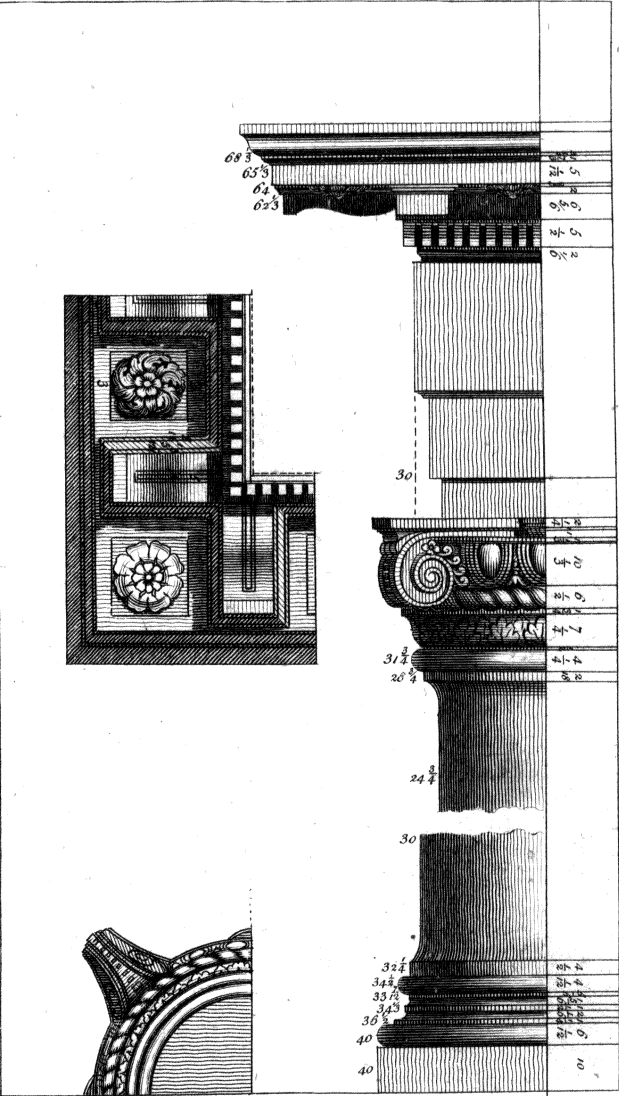
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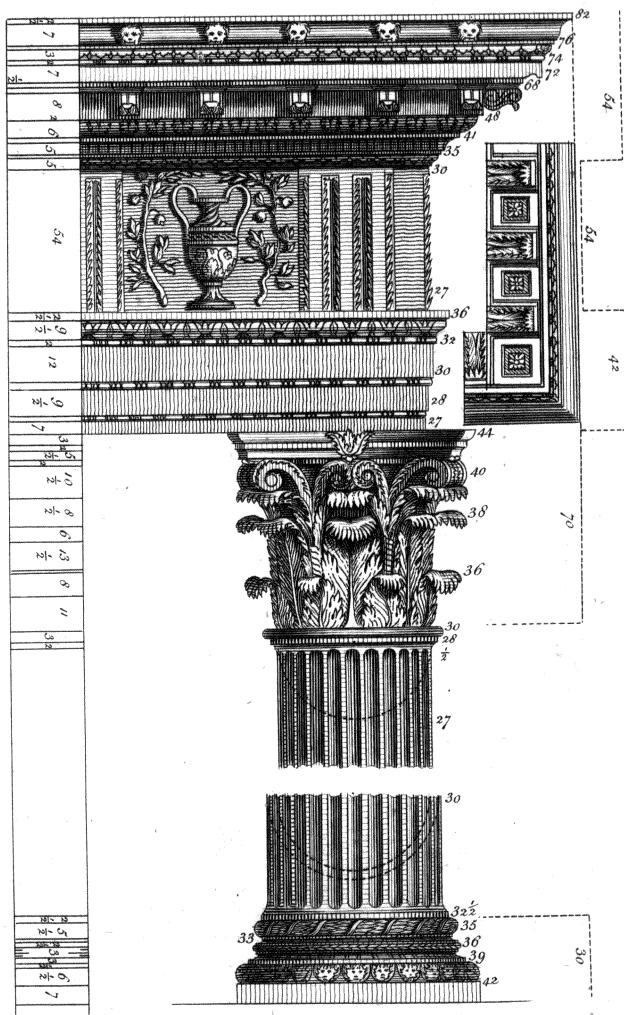
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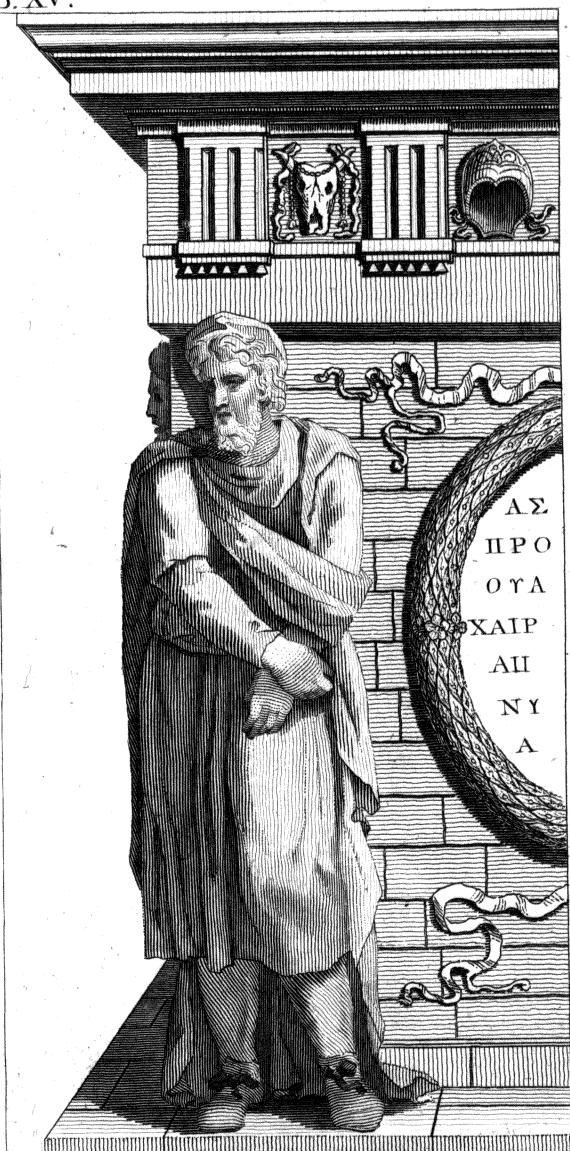
TAB. XIII.



TAB. XIV.



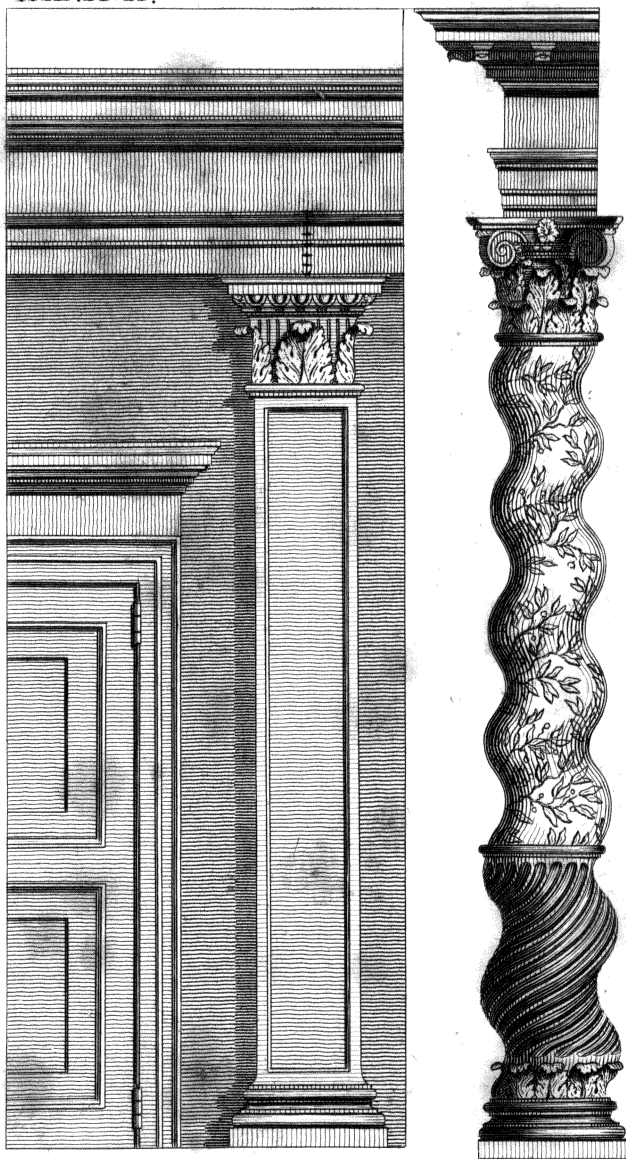
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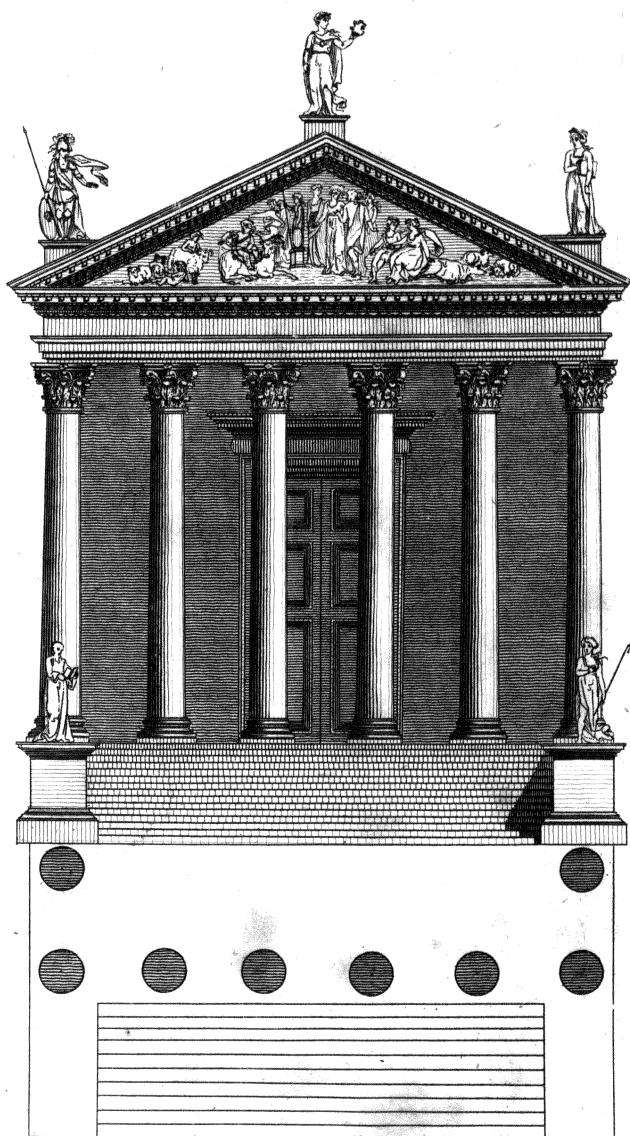
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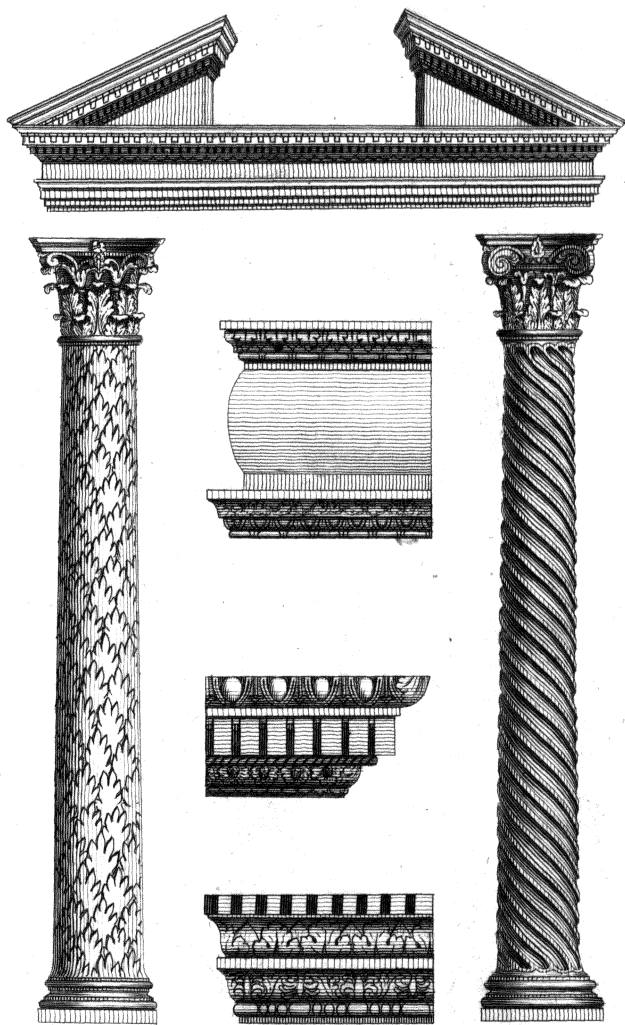
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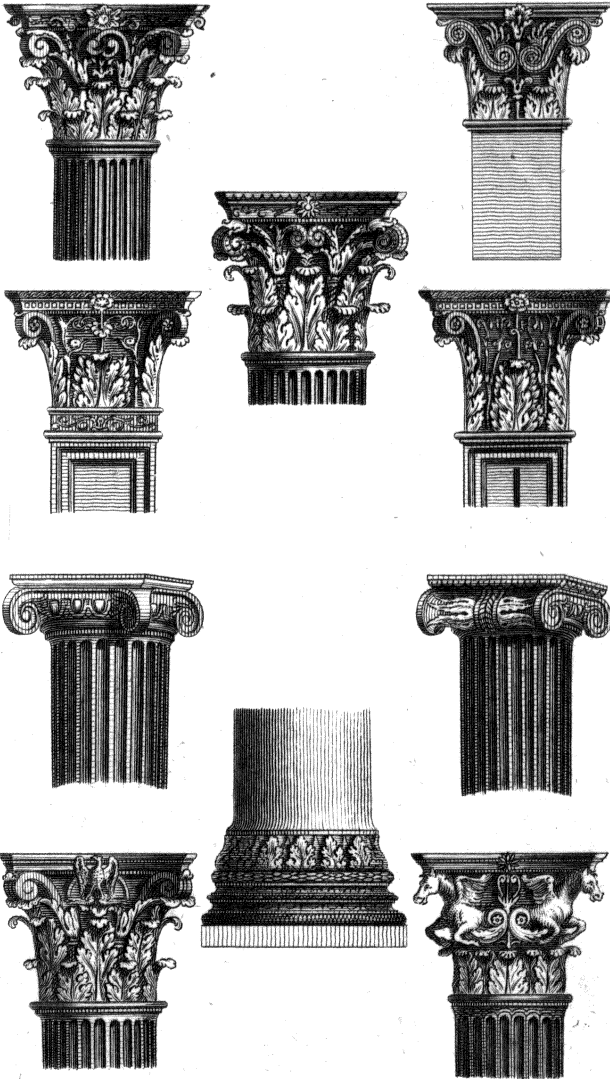
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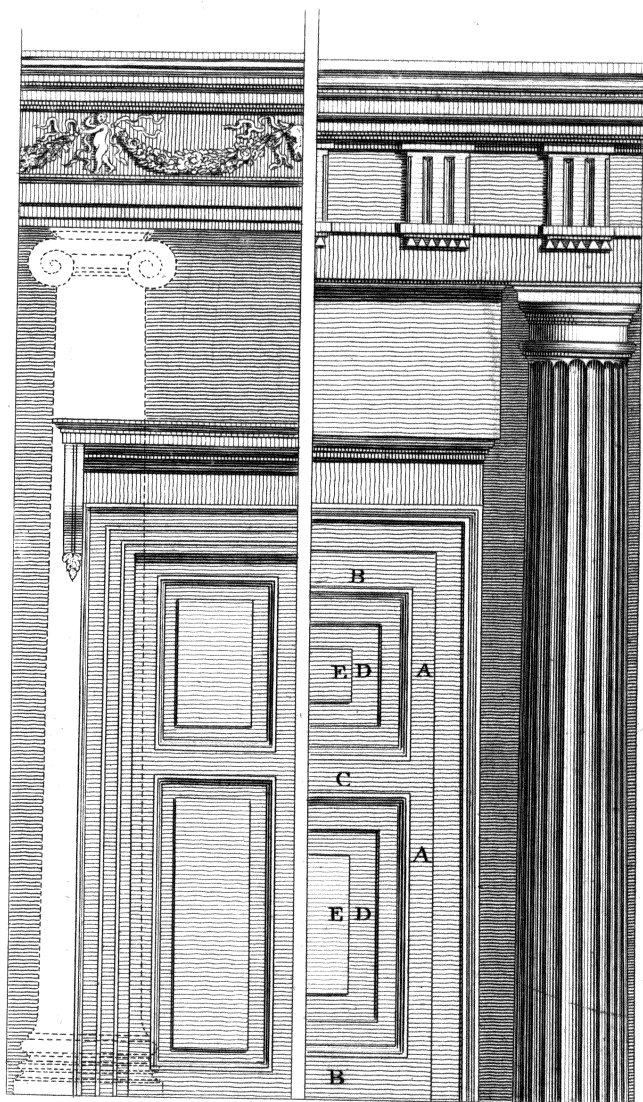
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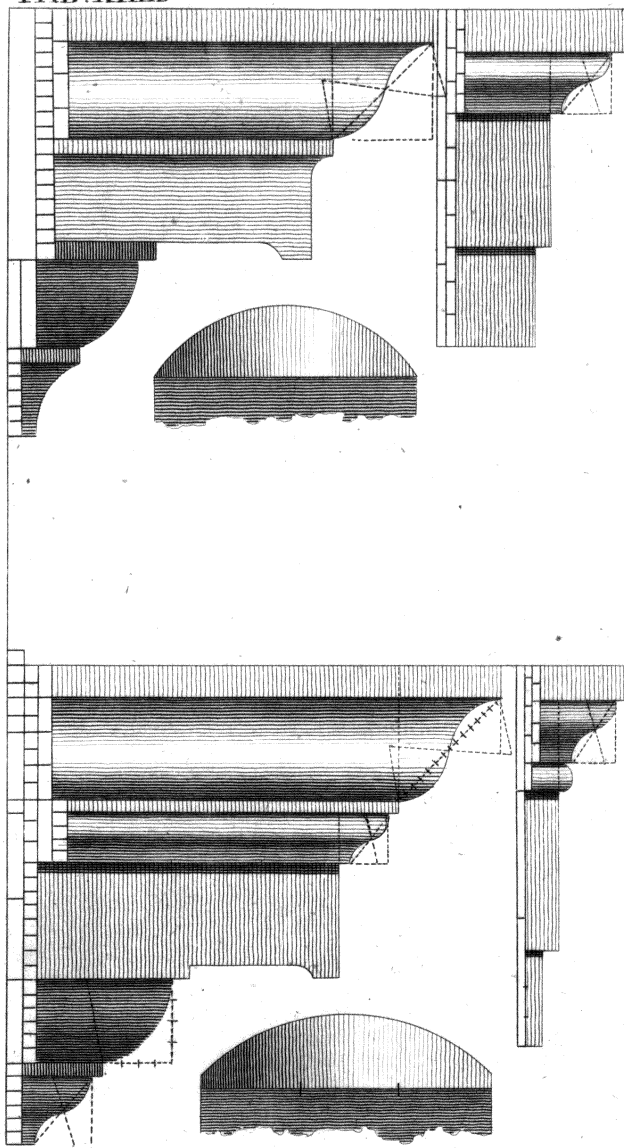
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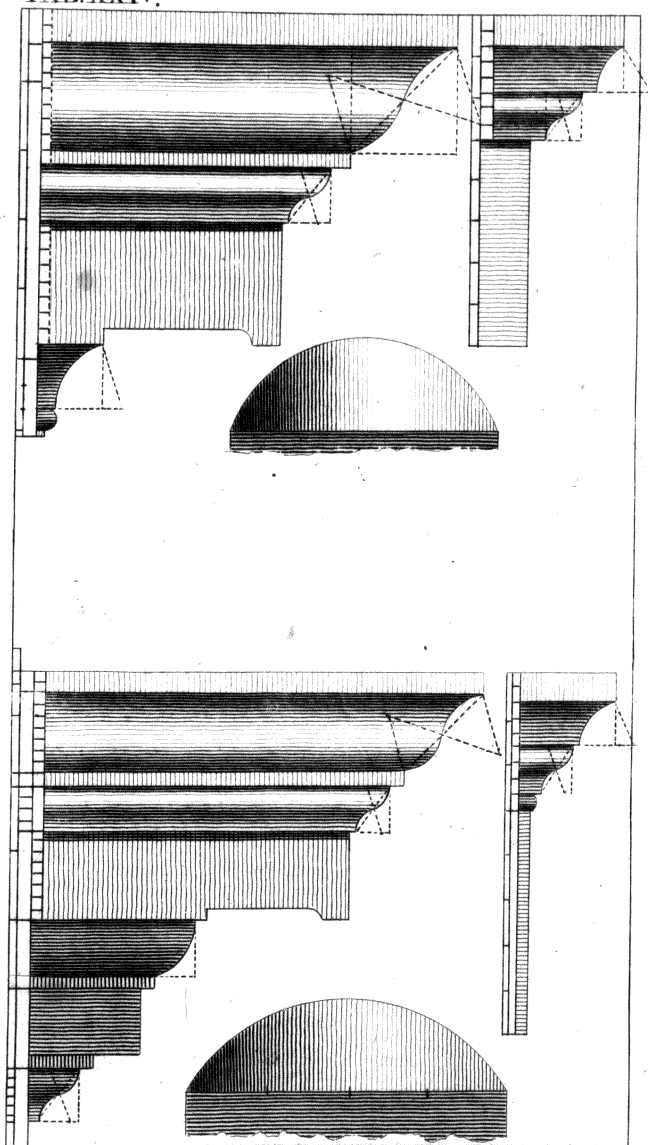
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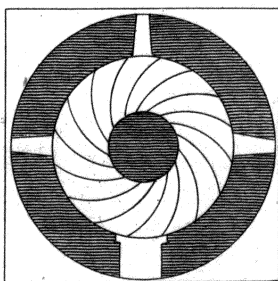
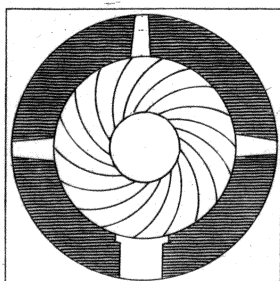
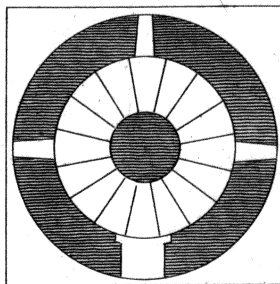
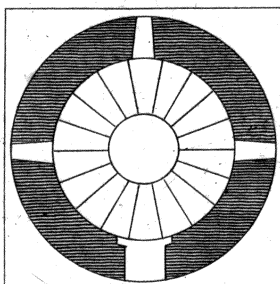
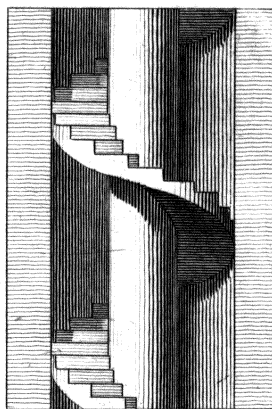
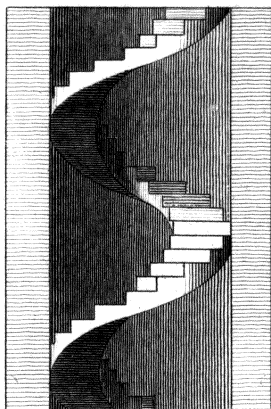
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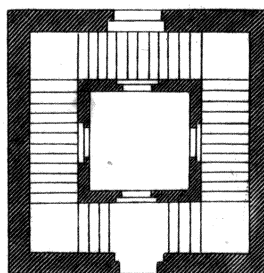
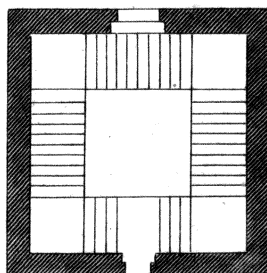
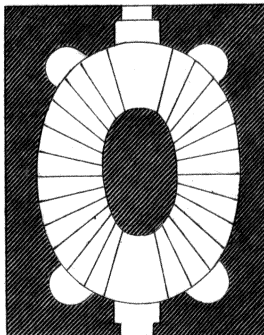
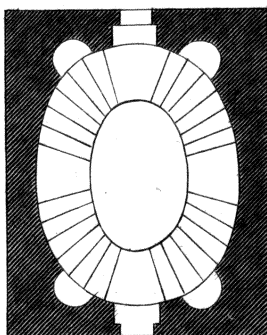
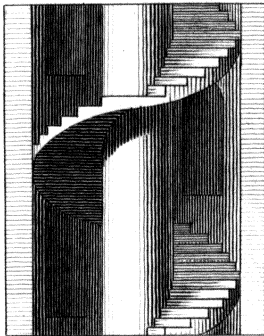
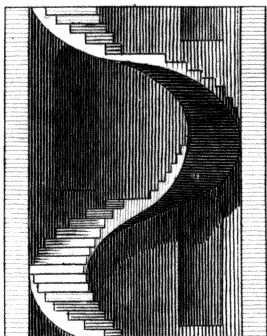
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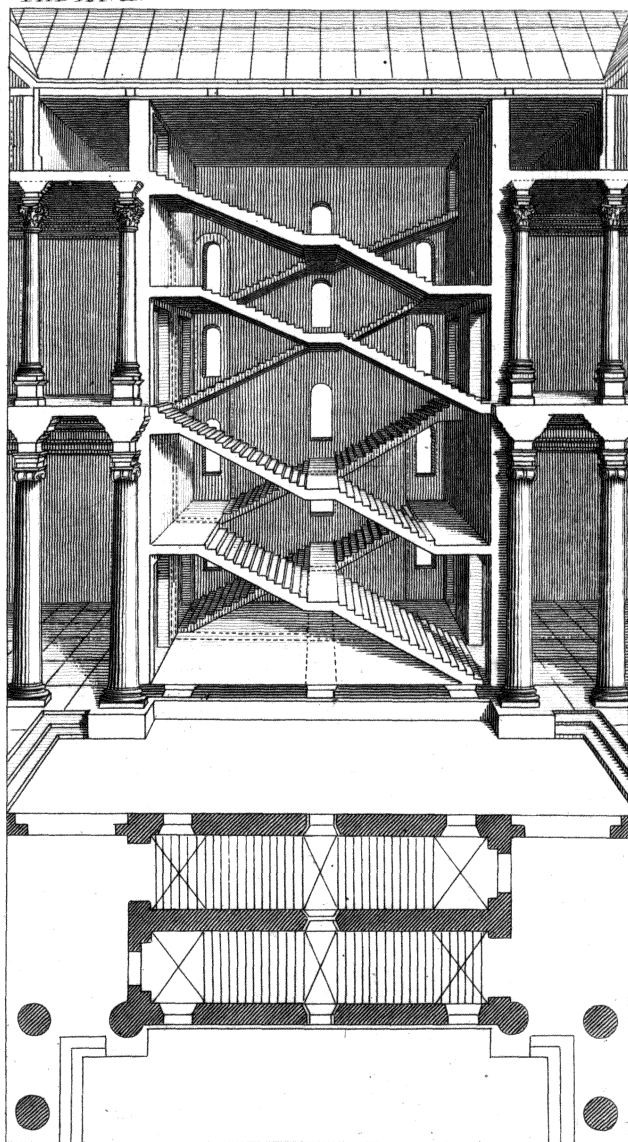
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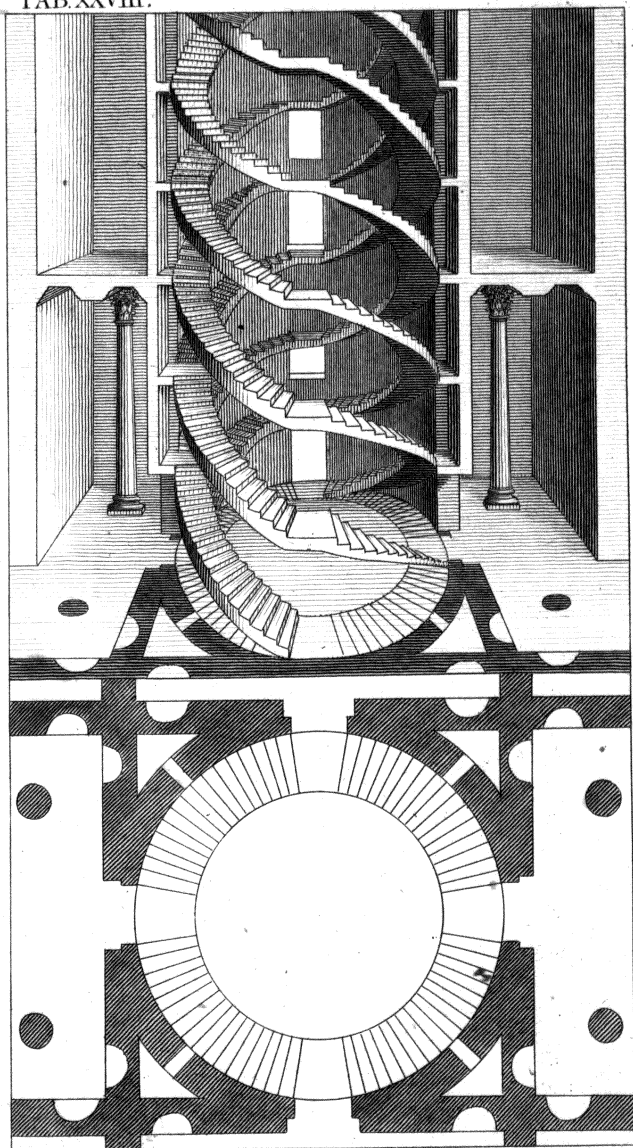
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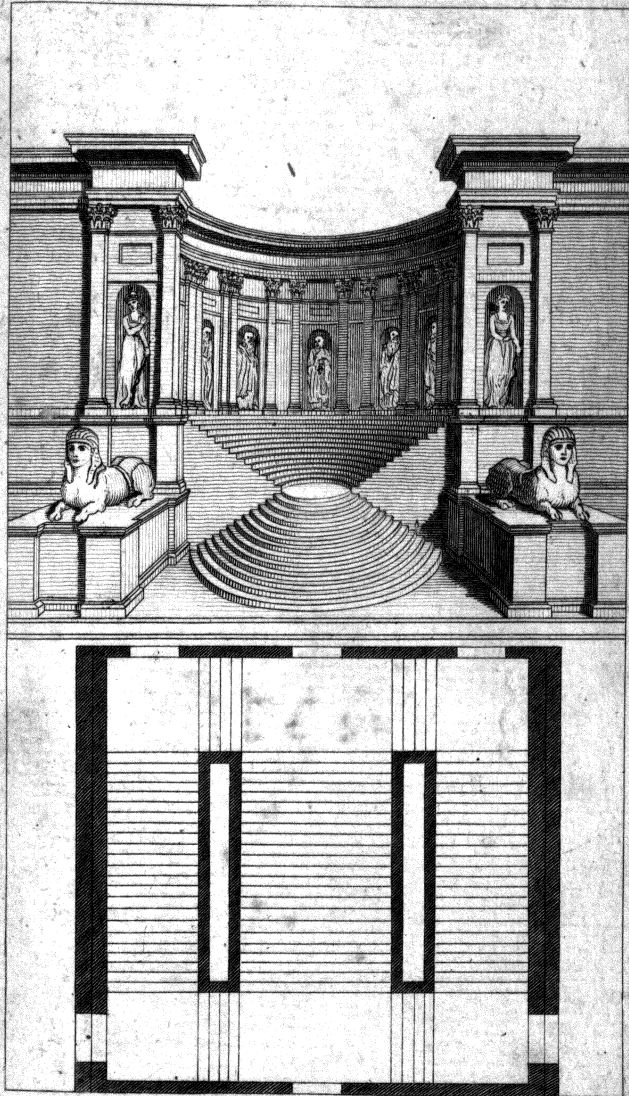
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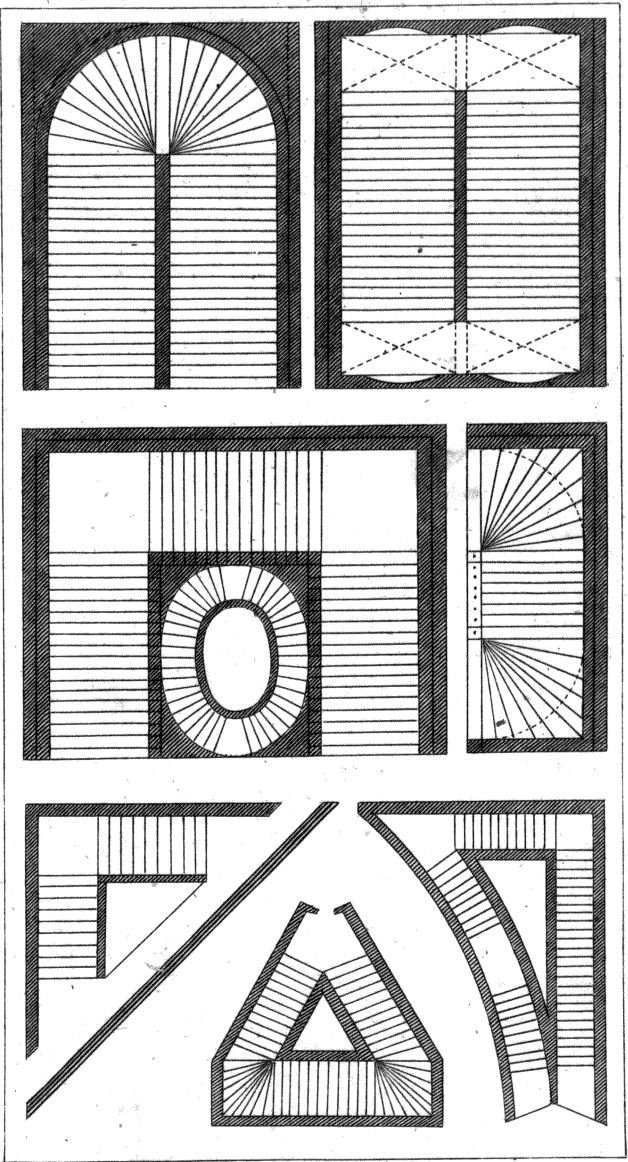
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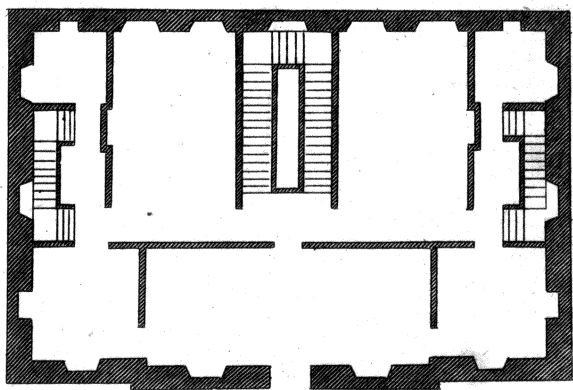
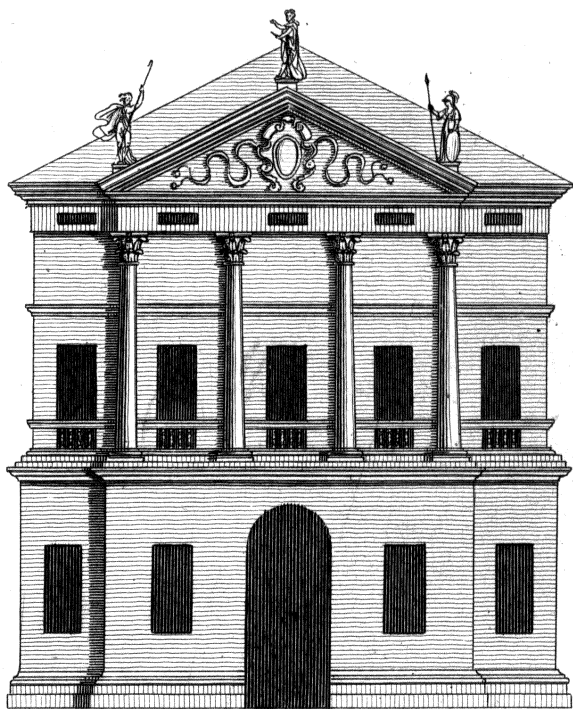
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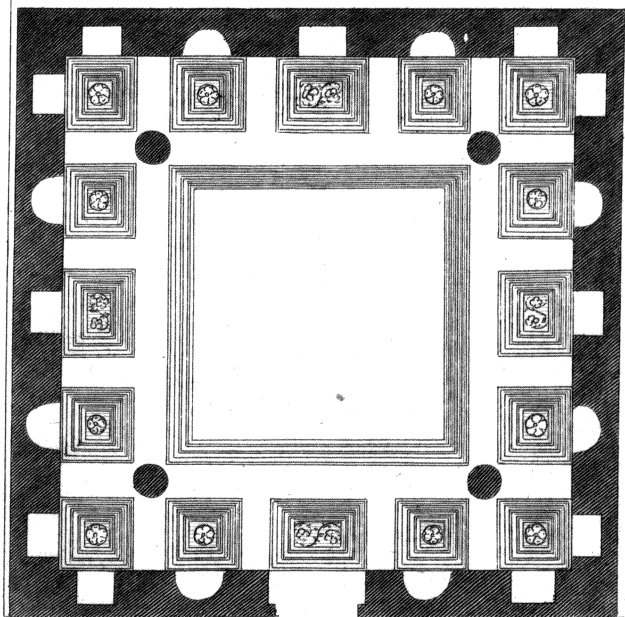
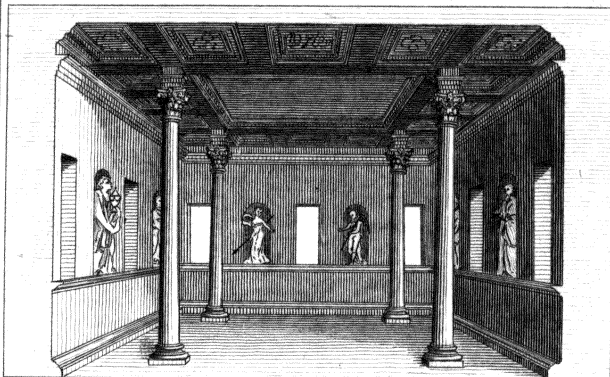
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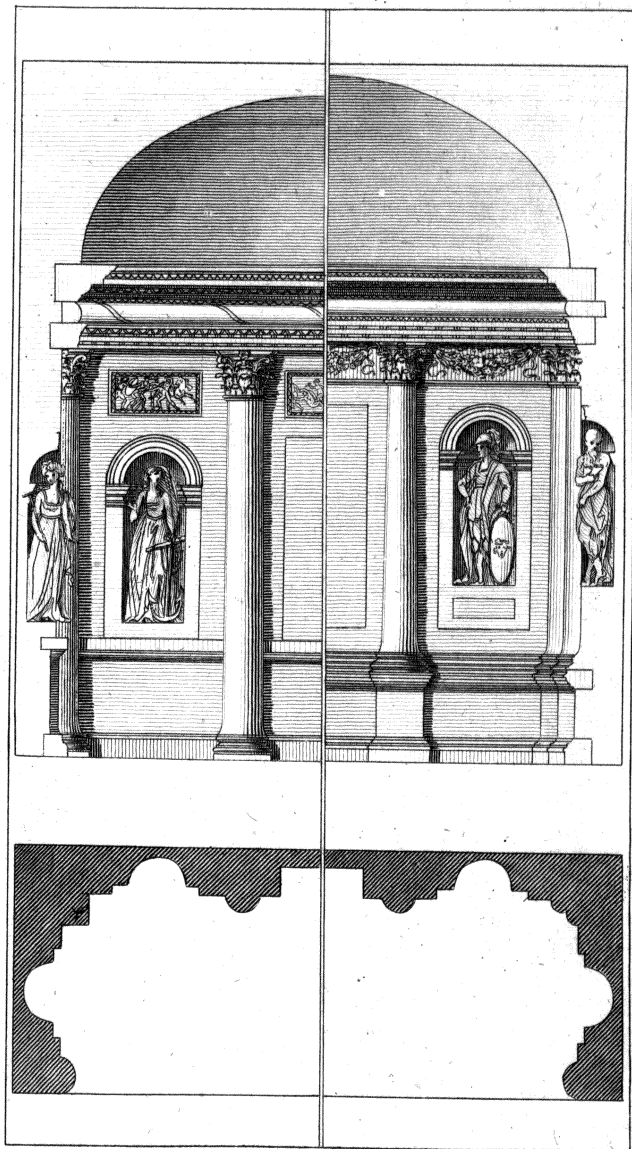
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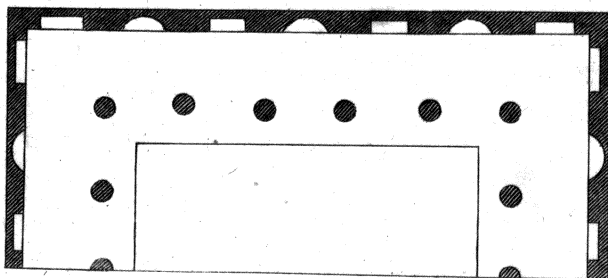
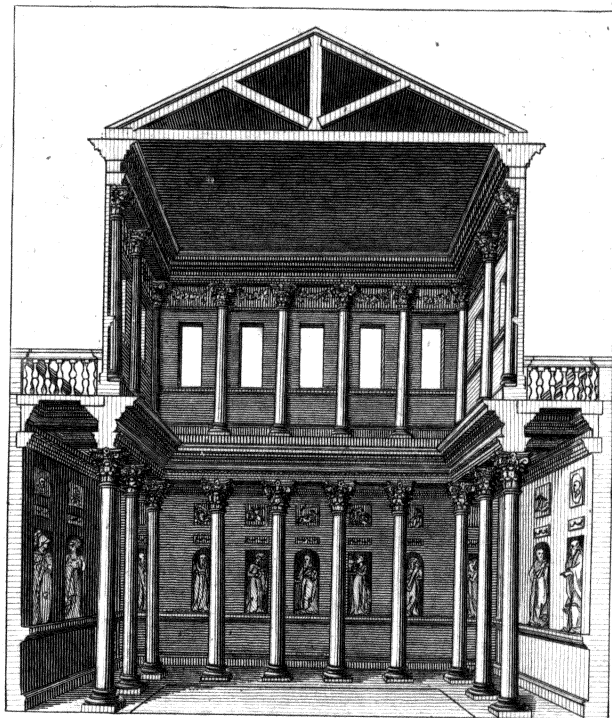
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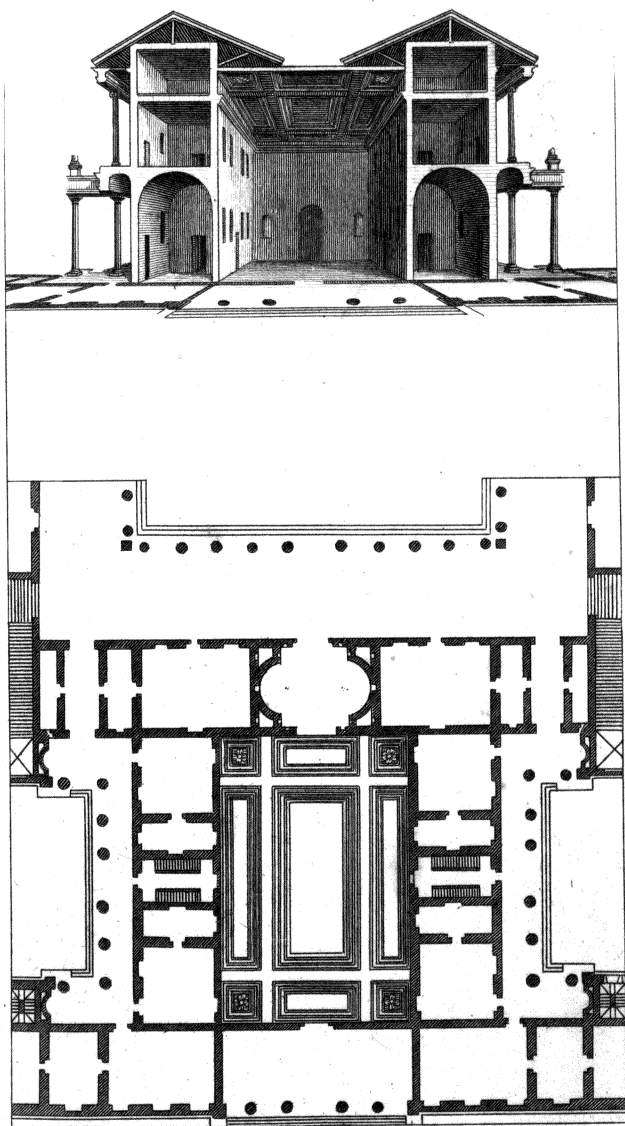
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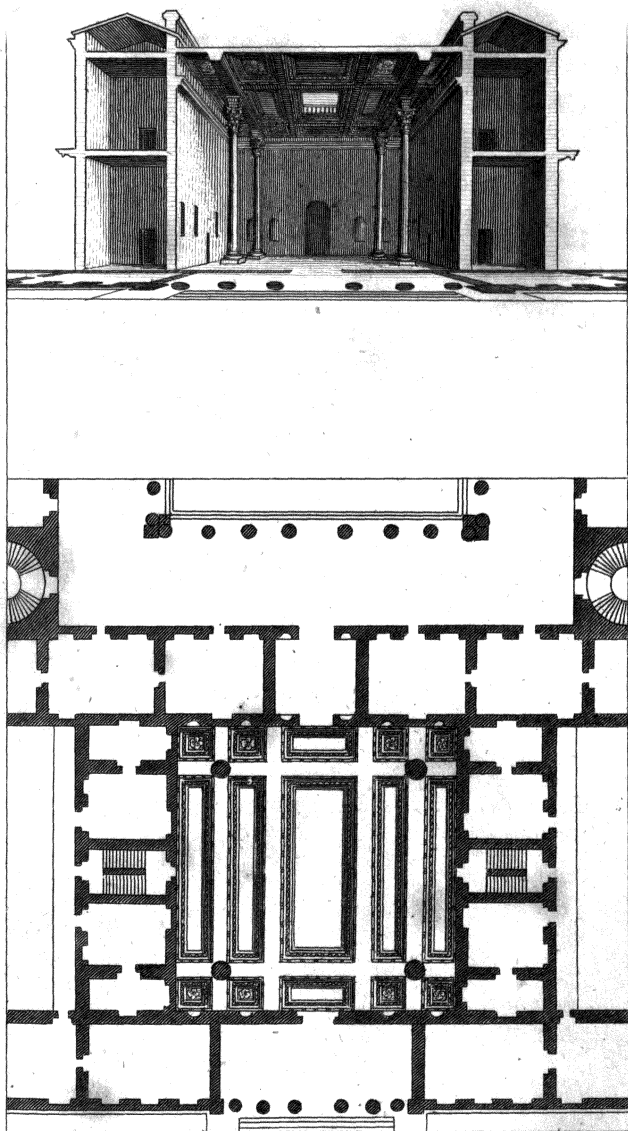
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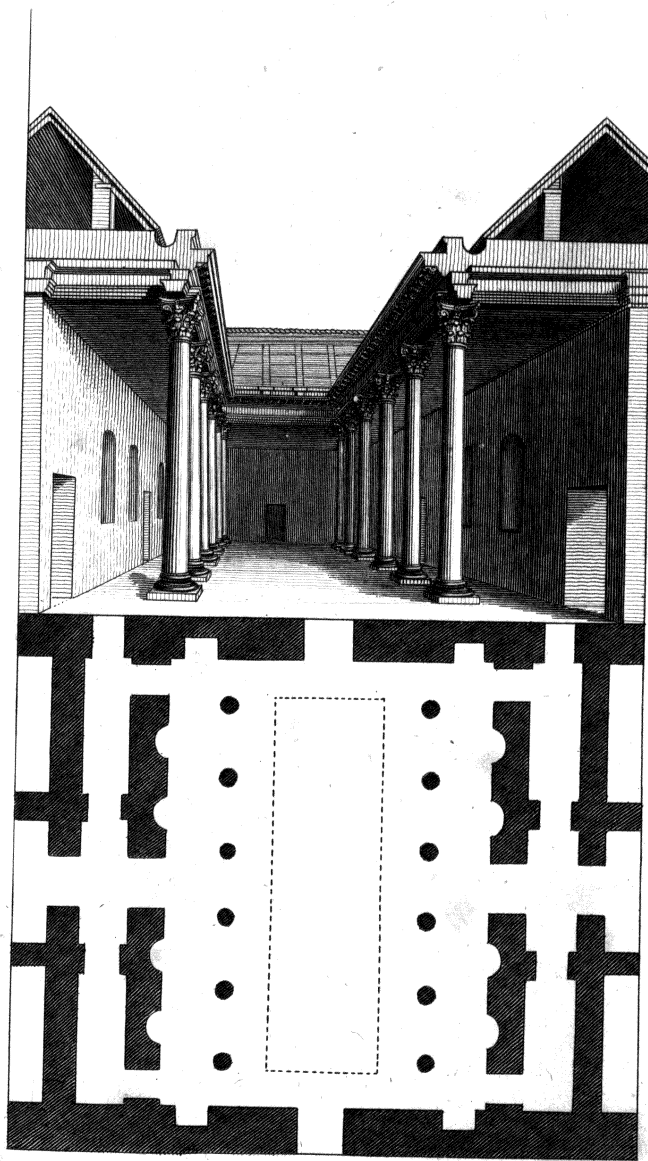
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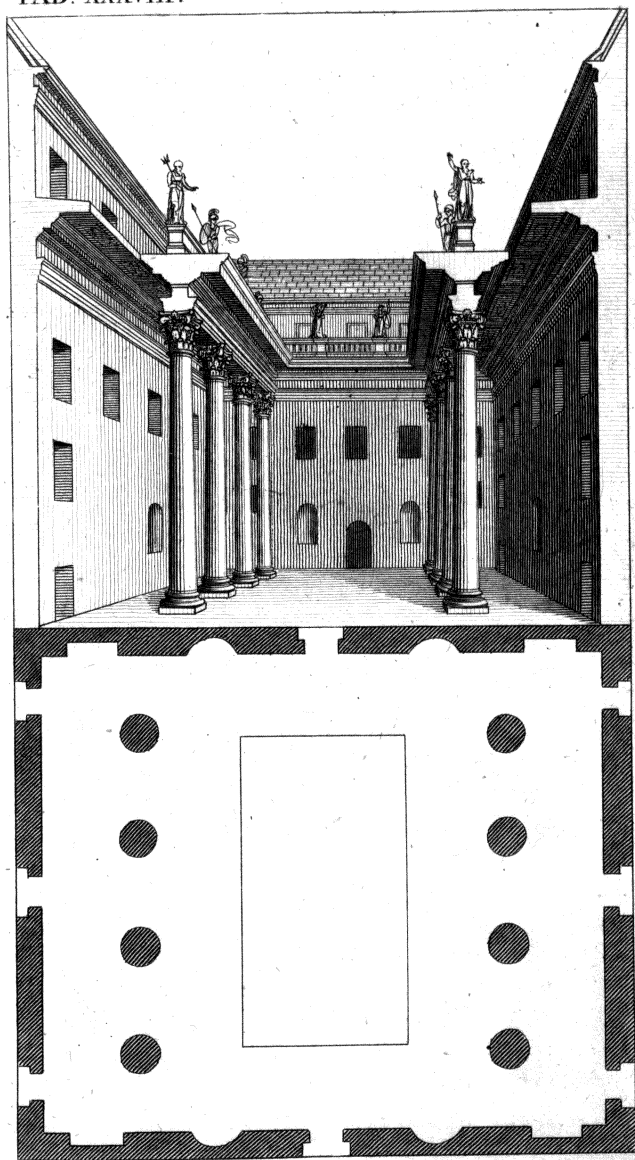
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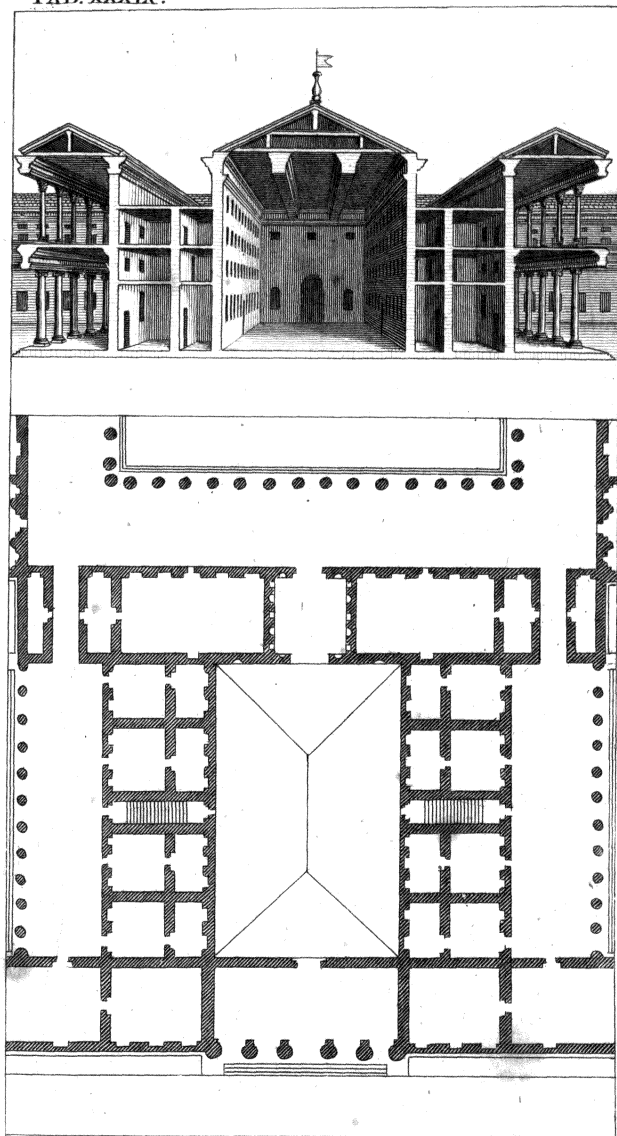
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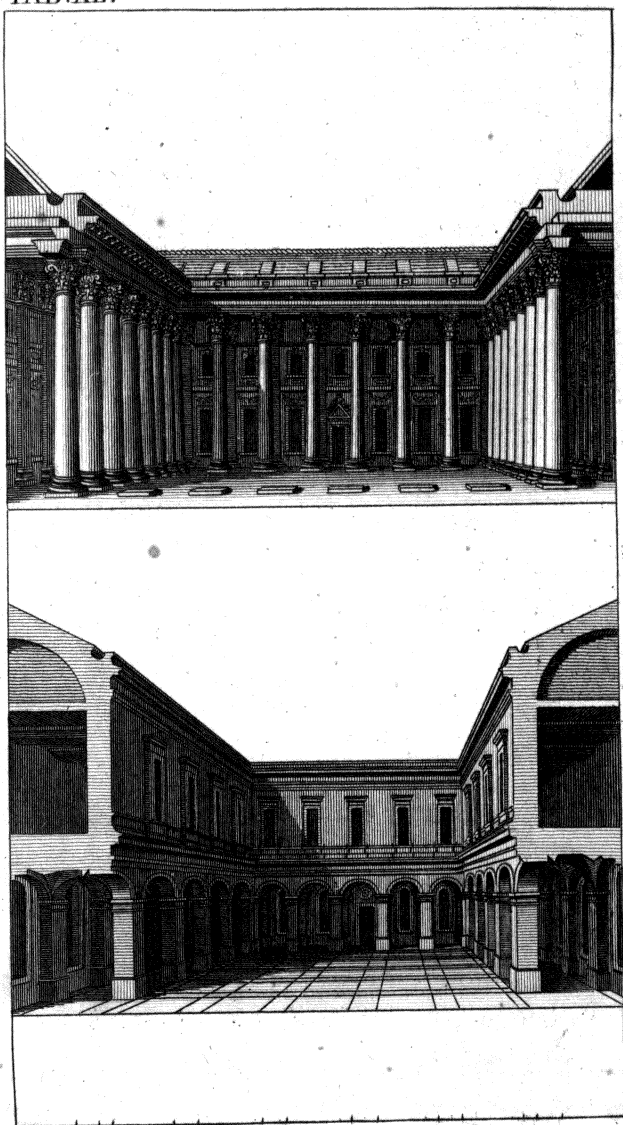
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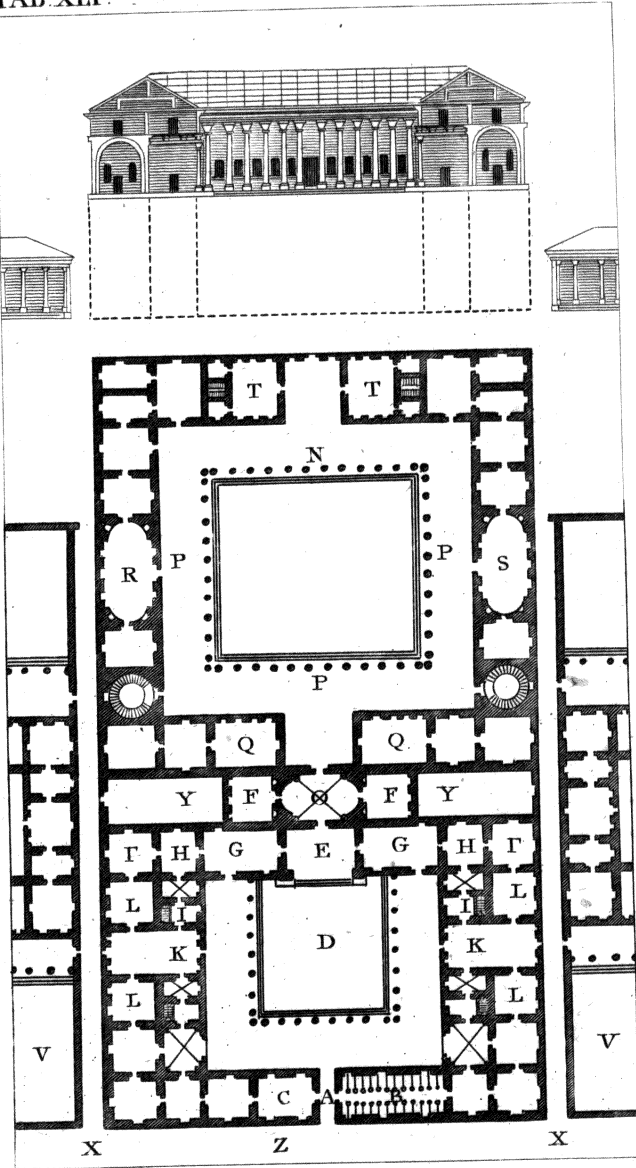
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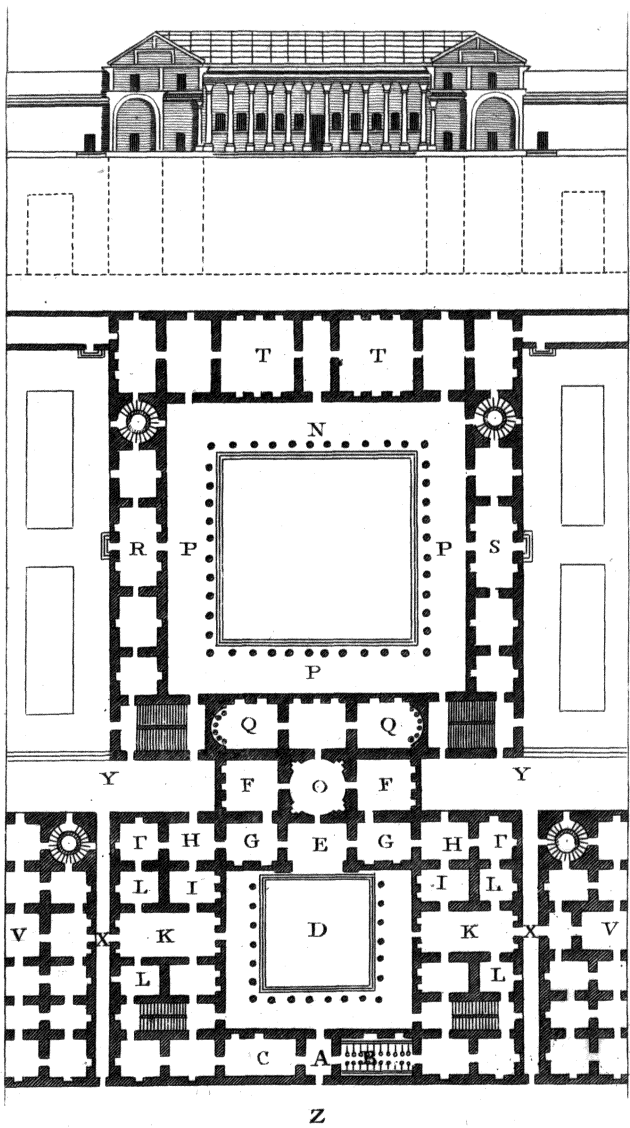
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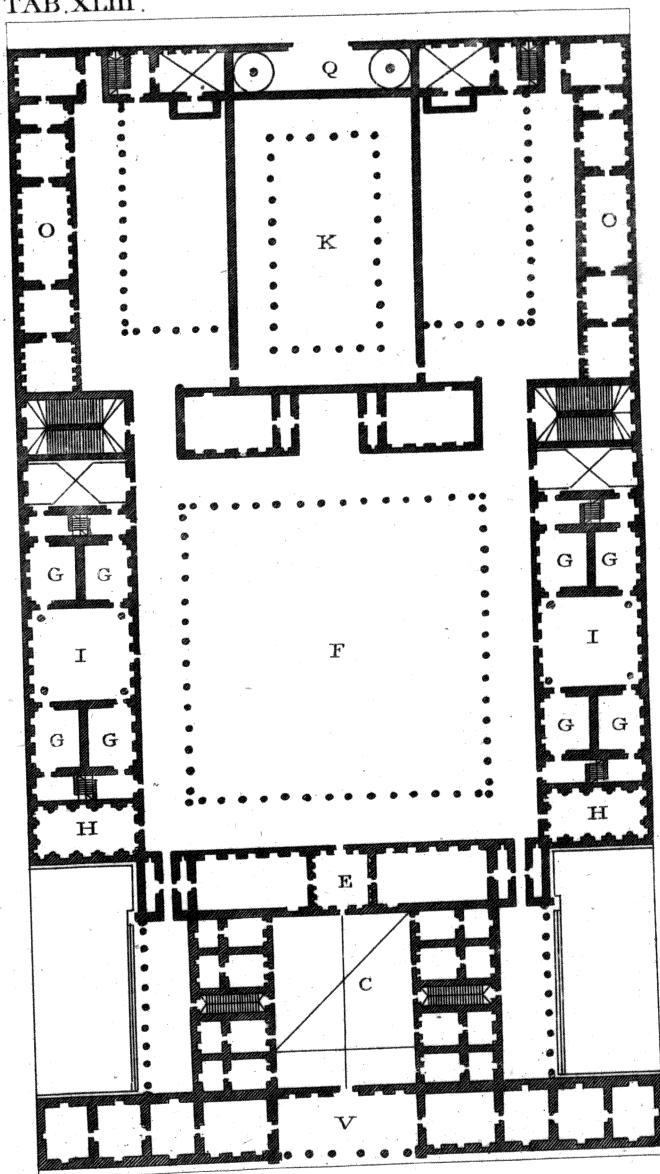
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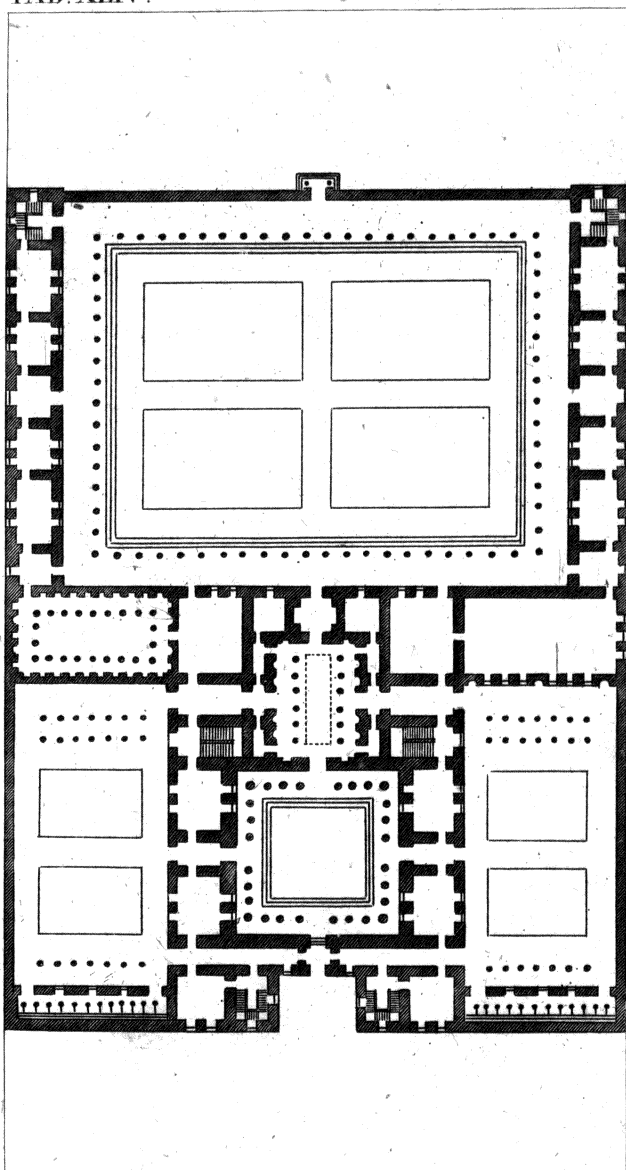
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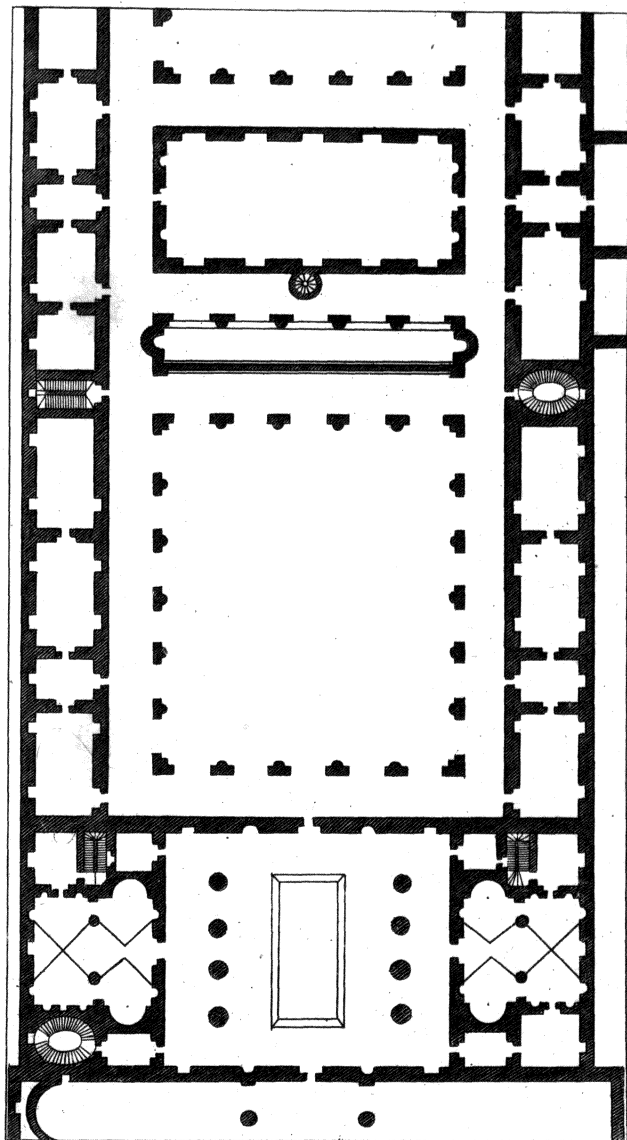
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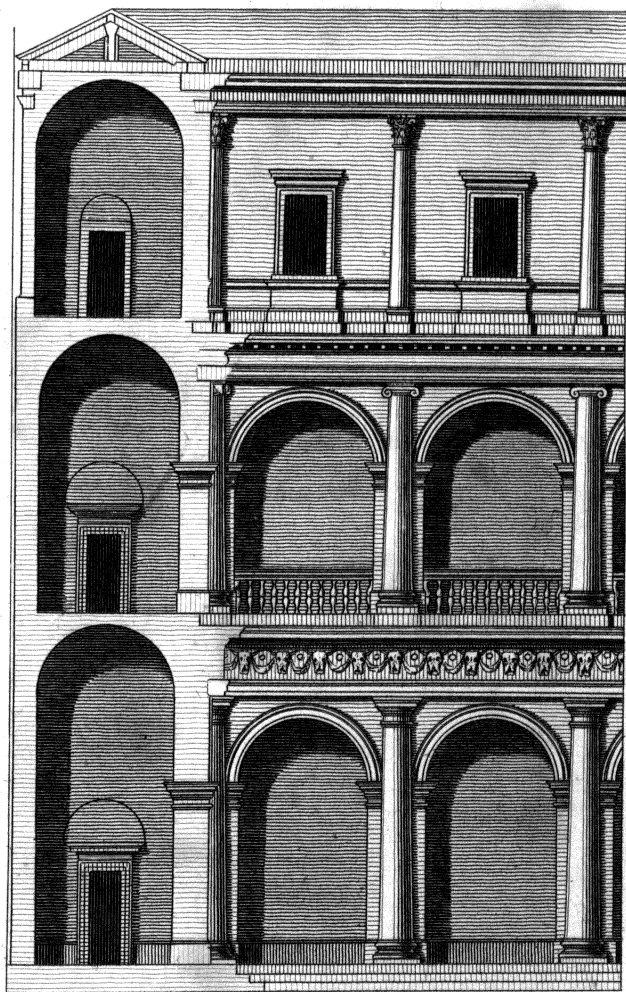
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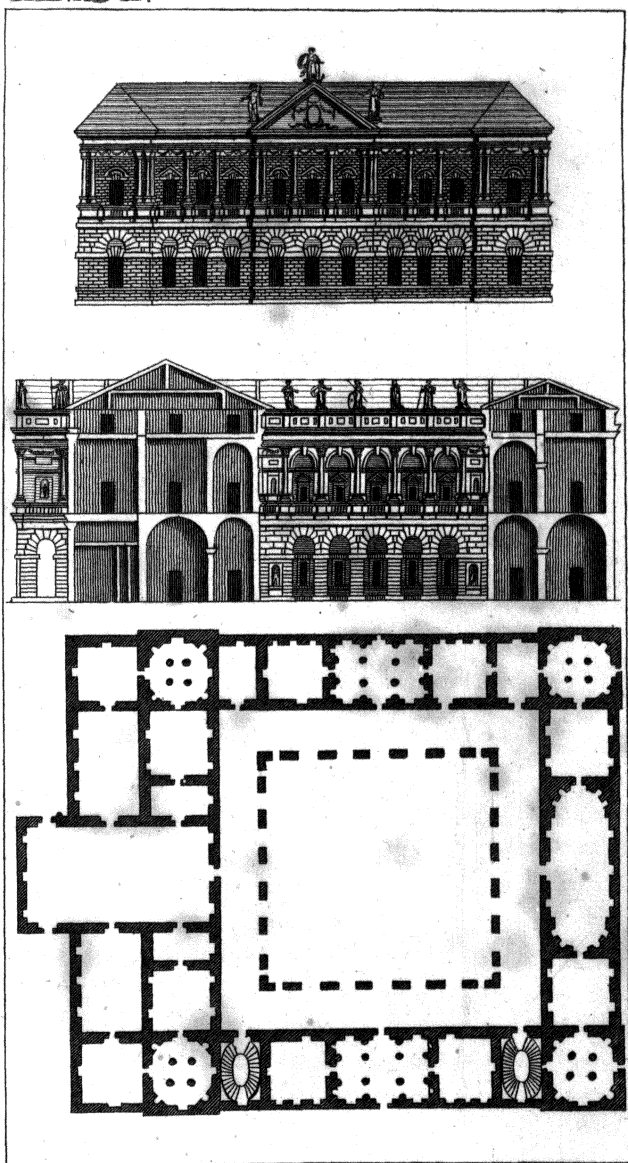
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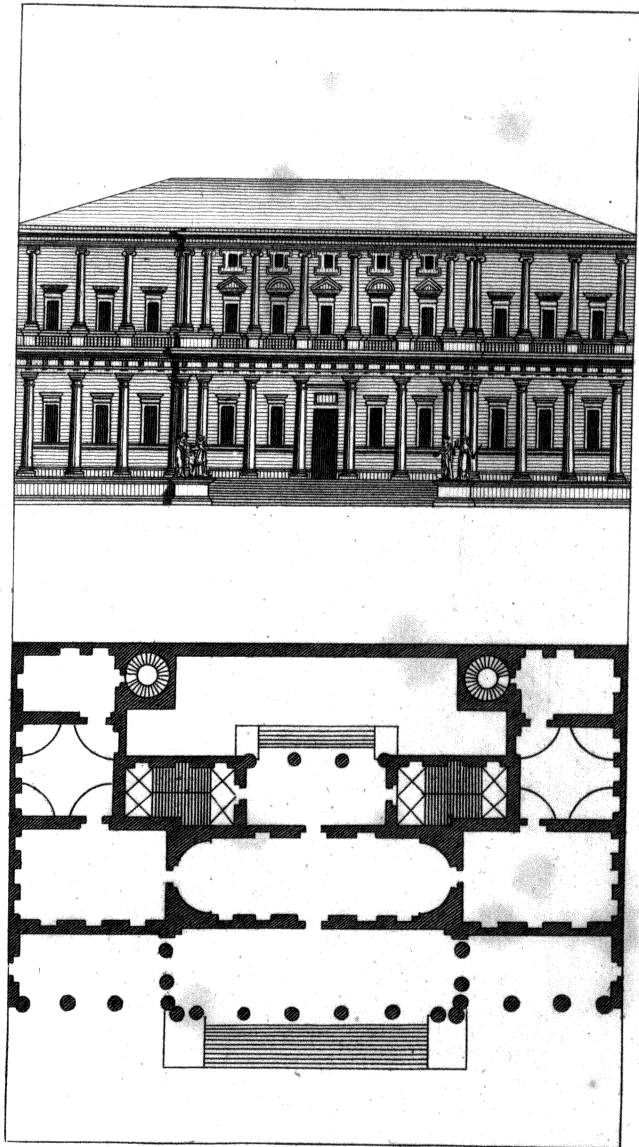
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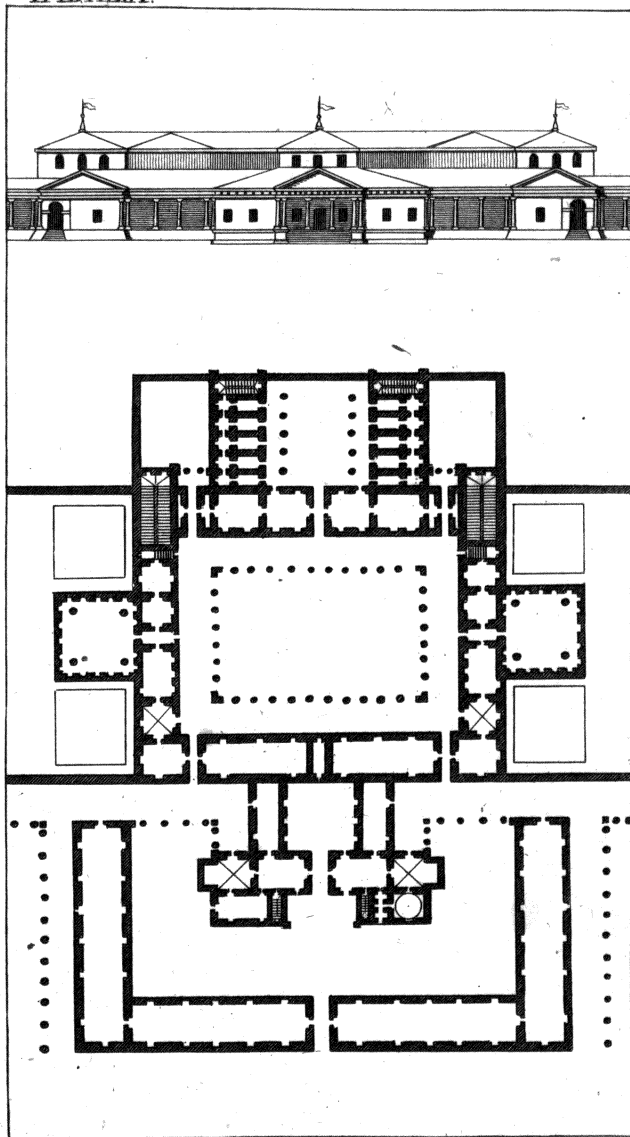
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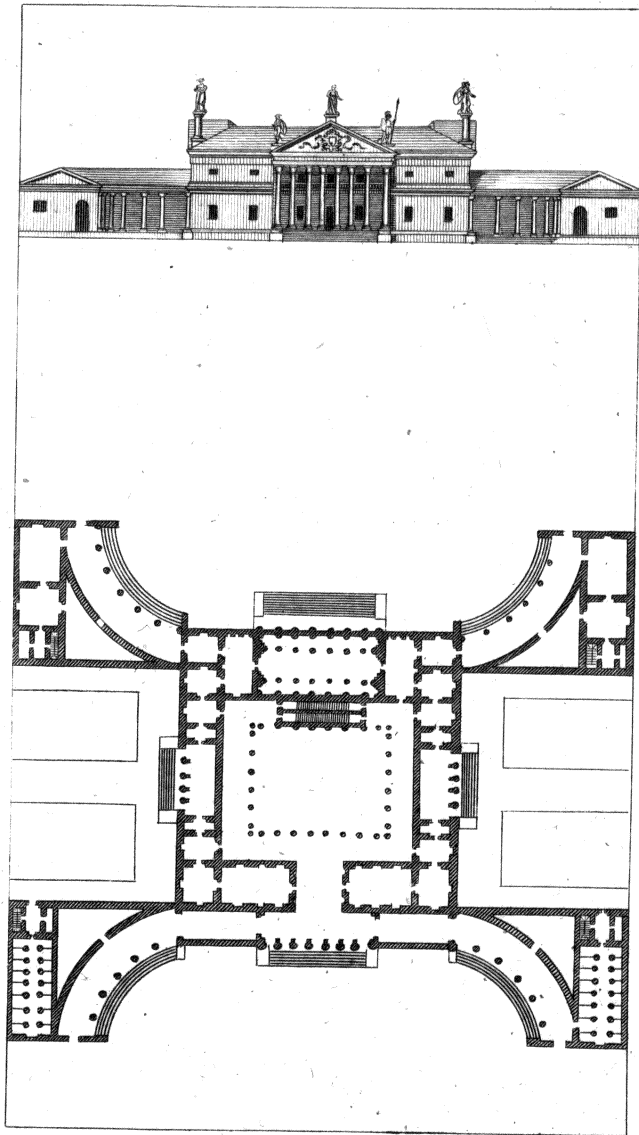
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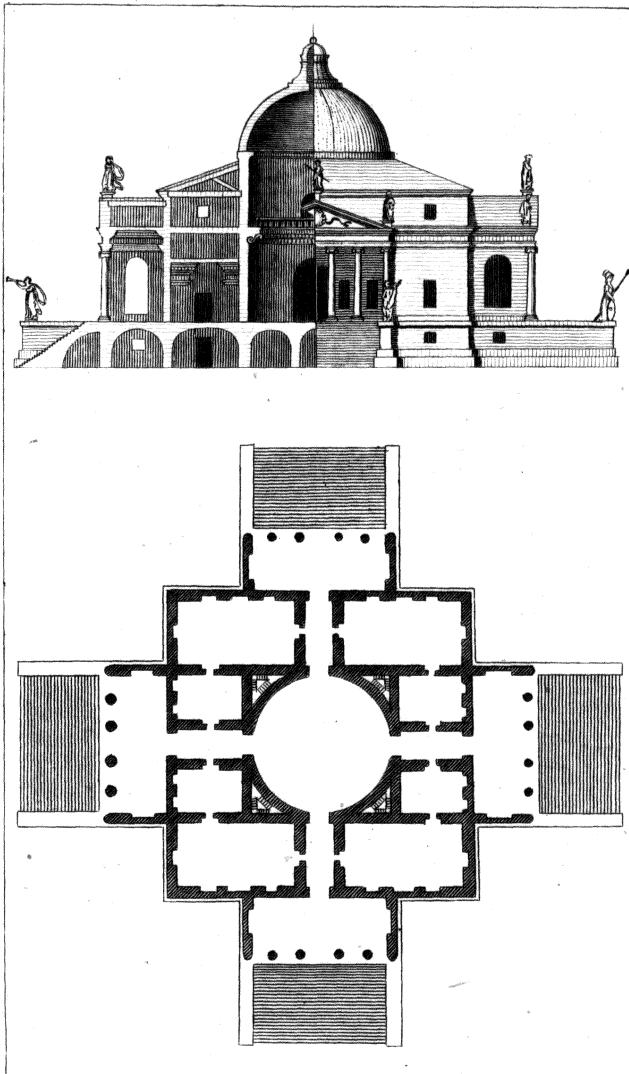
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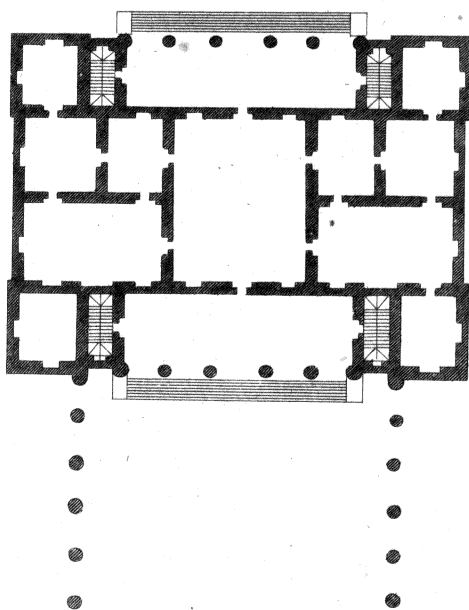
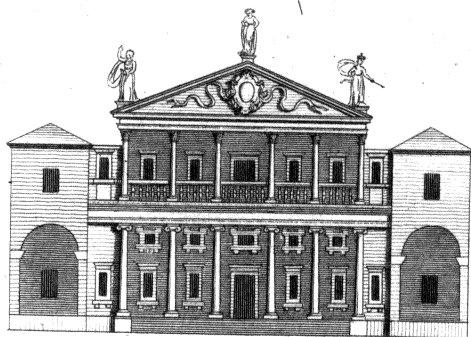
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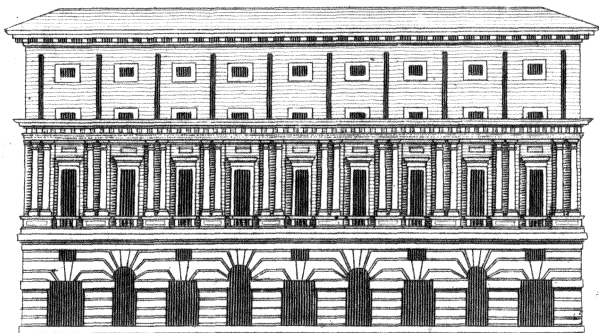
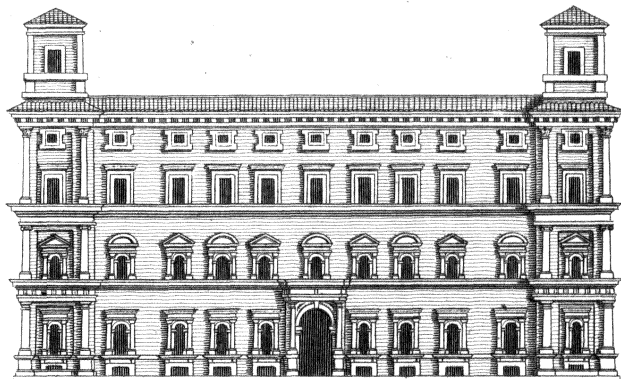
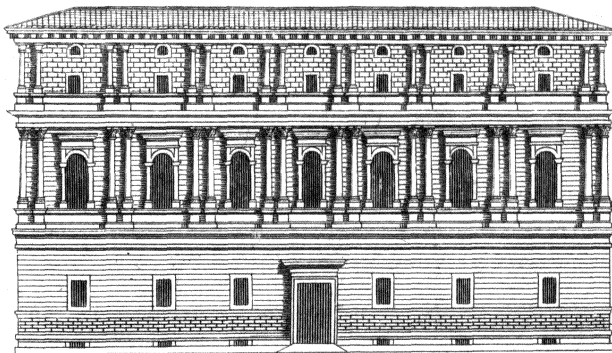
TAB. LI



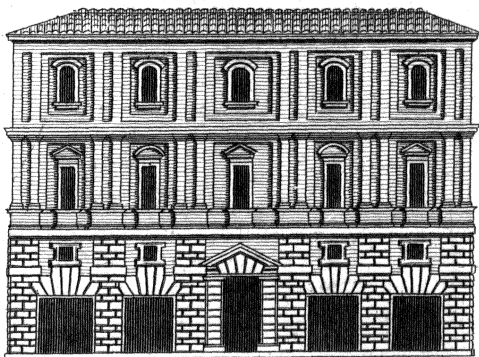
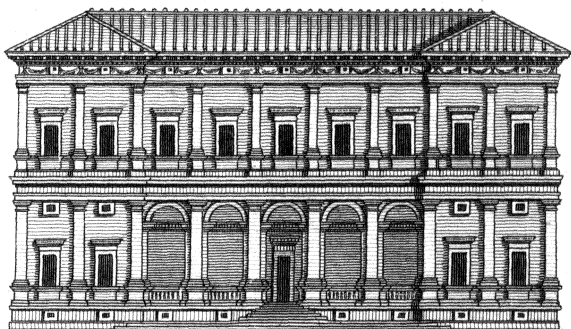
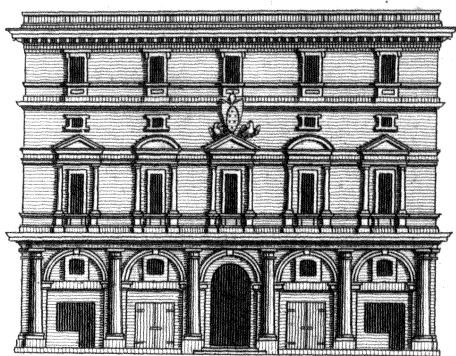
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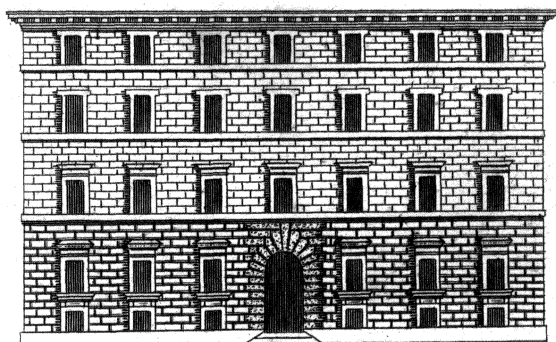
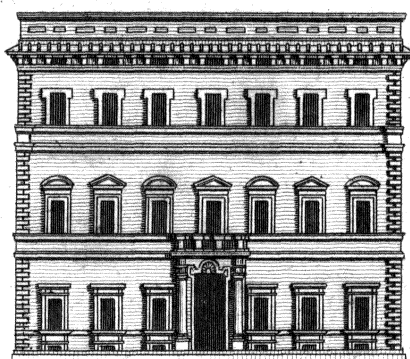
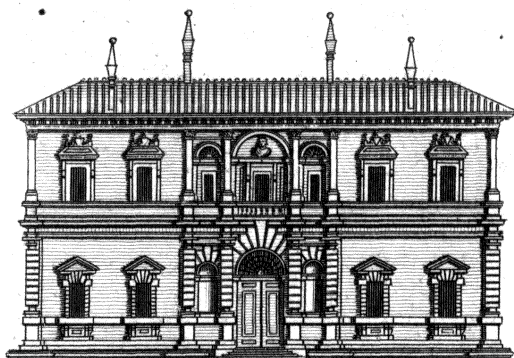
TAB. LIII.



TABLIV.



TAB. LV.



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