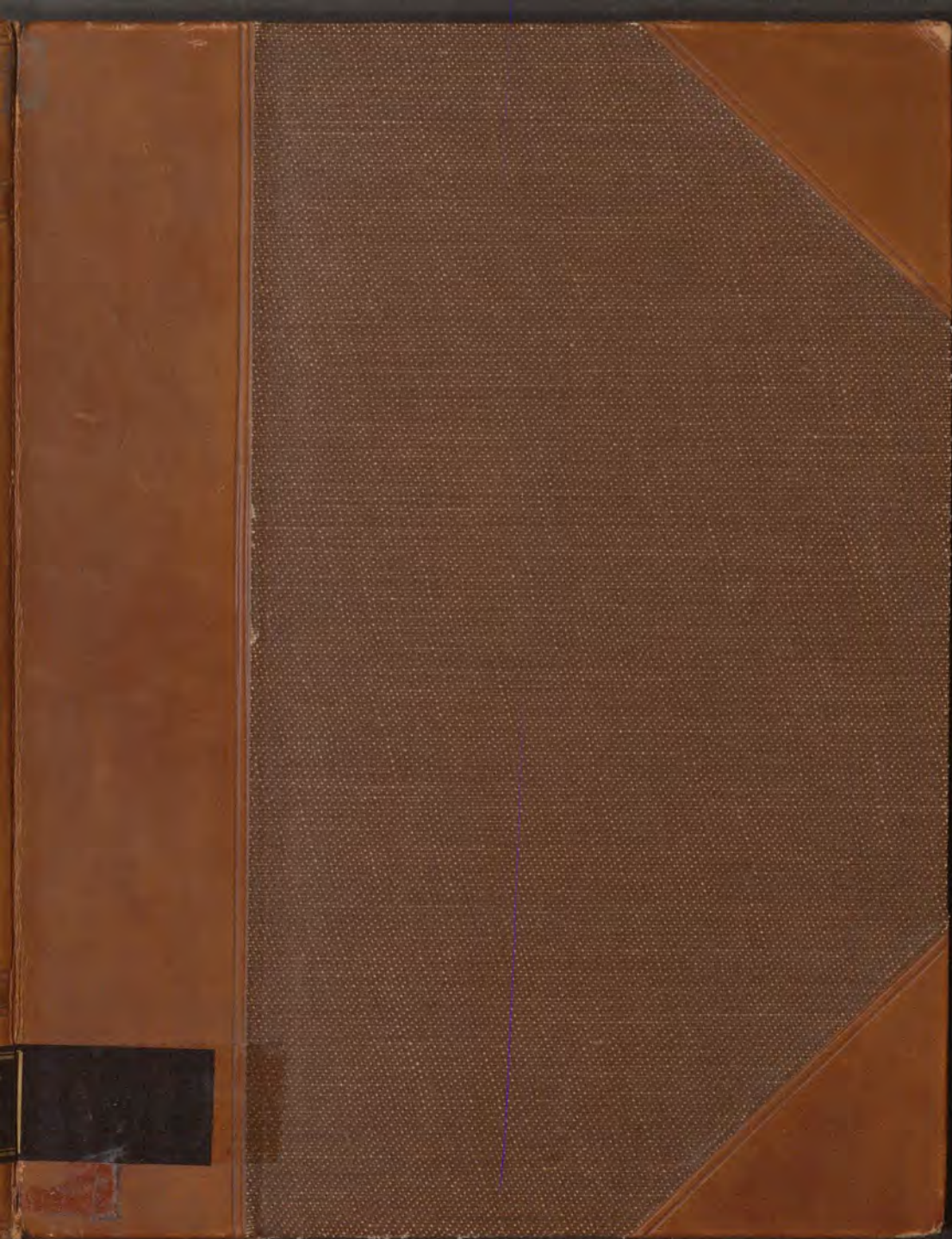


ELEMENTS OF ARCHITECTURE — WOTTON. 1624

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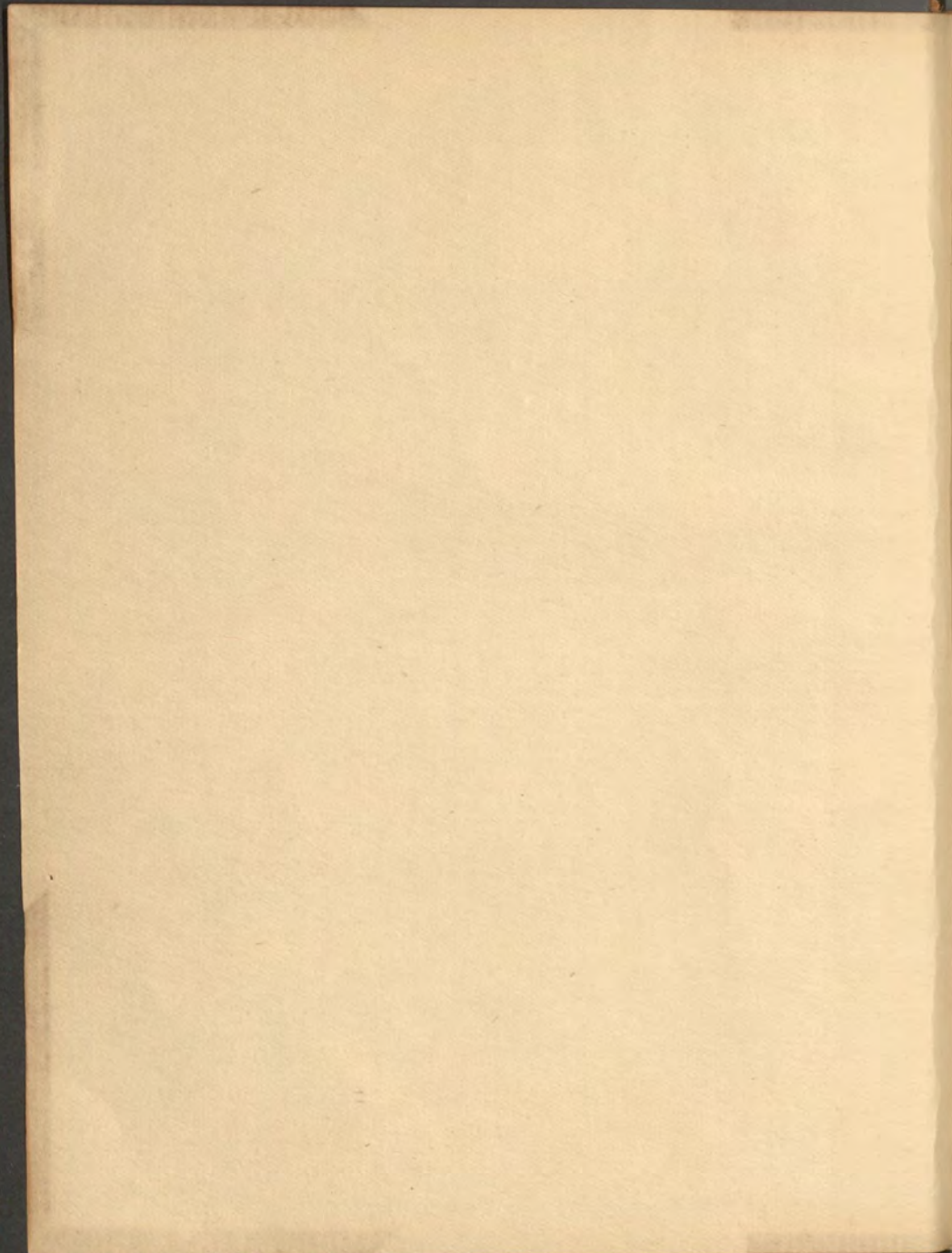
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THE
ELEMENTS
OF
ARCHITECTURE,

Collected by
HENRY WOTTON Knight,
from the best Authors
and Exam-
ples.

LONDON
Printed by JOHN BILL.
M.DC.XXIV.

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1751

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THE
ELEMENTS
OF
ARCHITECTURE

Collected by

Henry Wotton Knight

From the best Authors

and Examin-

ed

LONDON

Printed by Iohn Baul

MDCXXIV.

THE
PREFACE.

I Shall not neede (like
the most part of
Writers) to cele-
brate the Subject
which I deliuer. In that point I
am at ease. For Architecture,
can want no commendation, where
there are Noble Men, or Noble
mindes; I will therefore spend
this Preface, rather about those,
from whom I haue gathered my
knowledge; For I am but a ga-
therer and disposer of other mens
stufte, at my best value.

THE PREFACE.

Our principall Master is Vitruuius and so I shall often call him; who had this felicitie, that he wrote when the Roman Empire was neere the pitch; Or at least, when Augustus (who favoured his endeauours) had some meaning (if he were not mistaken) to bound the Monarchie: This I say was his good happe; For in growing and enlarging times, Artes are commonly drowned in Action: But on the other side, it was in truth an unhappinesse, to expresse himselfe so ill, especially writing (as he did) in a season of the ablest Pennes; And his obscuritie had this strange fortune; That though he
were

Tacit. lib. 1.
Annal.

THE PREFACE.

were best practised, and best followed by his owne Countrymen; yet after the reuiuing and re-polishing of good Literature, (which the combustions and tumults of the middle Age had vnciuillized) he was best, or at least, first vnderstood by strangers: For of the Italians that tooke him in hand, Those that were Gramarians seeme to haue wanted Mathematicall knowledge; and the Mathematicians perhaps wanted Gramer: till both were sufficiently conioyned, in Leon-Battista Alberti the Florentine, whom I repute the first learned Architect, beyond the Alpes; But hee studied more indeede to
make

THE PREFACE.

make himsef an Author, then
to illustrate his Master. There-
fore among his Commenters, I
must (for my priuate conceite)
yeild the chiefe praise vnto the
French, in Philander; and to the
high Germans, in Gualterus Ri-
uius: who, besides his notes, hath
likewise published the most elabo-
rate translation, that I thinke is
extant in any vulgar speech of
the world: though not without be-
wayling, now and then, some de-
fect of Artificiall termes in his
owne; as I must likewise. For
if the Saxon, (our mother
tongue) did complaine, as iustly
(I doubt) in this point may the
Daughter: Languages, for the
most

THE PREFACE.

most part in tearmes of Art and Erudition, retaining their originall pouertie, and rather growing rich and abundant, in complementall phrases and such froth. Touching diuers moderne men that haue written out of meere practise, I shall giue them their due, upon occasion.

And now, after this short Censure of others, I would faine satisfie an Obiection or two, which seeme to lie somewhat heauily vpon my selfe; It will be said that I handle an Art, no way suteable either to my employments, or to my fortune. And so I shall stand charged, both with Intrusion, and with Impertinency.

A

To

THE PREFACE.

To the First of answers, that though by the ever acknowledged goodnesse of my most deare and gracious SOVERAIGNE; and by his long indulgent toleration of my defects. I haue borne abroad some part of his ciuill seruice; yet when I came home, and was againe resolued into mine owne simplicitie, I found it fitter for my Pen (at least in this first publique aduventure) to deale with these plaine compilements, and tractable Materials; then with the Laberyntes and Mysteries of Courts and States; And lesse presumption for mee, who haue long contemplated a famous Republique, to write now of Architecture;

THE PREFACE.

ecture; then it was anciētly for
*Hippodamus the Milesian, to
write of Republicques, who was
himselfe but an Architect.

* Aristot. 2.
lib. Politi.
cap. 6.

To the Second, I must shrinke
vp my shoulders, as I haue learn'd
abroad, and confesse indeed, that
my fortune is very vnable to ex-
emplifie, and actuate my Specu-
lations in this Art, which yet in
trueth, made mee the rather euen
from my very disabilitie, take en-
couragement to hope; that my pre-
sent Labour, would find the more
fauour with others, since it was un-
dertaken for no mans sake, lesse
then mine owne. And with that
cōfidence, I fel into these thoughts;
Of which, there were two wayes to

THE PREFACE.

be deliuered; The one Historical, by description of the principall workes, performed already in good part, by Giorgio Vassari in the liues of Architects: The other Logicall, by casting the rules and cautions of this Art, into some comfortable Methode: whereof I haue made choice; not onely as the shortest and most Elementall; but indeed as the soundest. For though in practicall knowledges, euery complete example, may beare the credite of a rule; yet peraduenture rules should preceed, that we may by them, be made fit to iudge of examples: Therefore to the purpose; for I will preface no longer.

OF



OF
THE ELEMENTS
OF
ARCHITECTURE.

The I. part.

IN *Architecture* as in all other *Operative Arts*, the *end* must direct the *Operation*.

The *end* is to build well.

Well building hath three Conditions.

Commoditie, *Firmitas*, and *Delight*.

A common division among the *Deliverers* of this *Art*, though I know not

A

how,

how, some what misplaced by *Vitruvius* himselfe *lib. 1. cap. 3.* whom I shall be willinger to follow, as a Master of *Proportion*, then of *Method*.

Now, For the attayning of these *Intentions*, wee may consider the whole *Subiect*, ynder two generall Heads.

The *Seate*, and the *Worke*.

Therefore first touching *Scituation*.

The *Precepts* thereunto belonging, doe either concerne the *Totall Posture*, (as I may tearm it) or the *Placing* of the *Parts*: wherof the first sort, howsoever vsually set downe by *Architeets* as a piece of their *Profession*: yet are in truth borrowed, from other *Learnings*: there being betweene *Arts* and *Sciences*, as well as betweene *Men*, a kinde of good fellowship, and communication of their *Principles*.

For you shall finde some of them, to be merely *Physicall*, touching the quality

litie and temper of the *Aire*: which being a perpetuall ambient, and ingredient, and the defects thereof, incorrigible in single *Habitations* (which I most intend) doth in those respects, require the more exquisite caution; That it be not too *grosse*, nor too *penetratine*; Not subiect to any foggy noysomnesse, from *Fenns* or *Marshes* neere adioyning; nor too *Mineral* exhalations, from the Soile it selfe. Not vndigested, for want of *Sunne*; Not vnexercised, for want of *Winde*: which wereto liue (as it were) in a *Lake*, or standing *Poole* of *Aire*, as *Alberti* the *Florentin Architect*, doth ingeniously compare it.

Some doe rather seeme a little *Astrological*, as when they warne vs from Places of malign *Influence*: where *Earthquakes*, *Contagions*, *Prodigious Births*, or the like, are frequent without any euident cause: whereof the Consideration is peradventure not altogether

vaine: Some are plainely *Oeconomical*;
 As that the *Seate* be well watered, and
 well fewelled, That it bee not of too
 steepe and incommodious *Acceſſe* to
 the trouble both of friends and *familie*.
 That it lie not too farre, from some
 nauigable *Riuer* or *Arme* of the *Sea*, for
 more ease of prouision and such other
Domestique notes.

Some againe may bee said to bee
Optical? Such I meane as concerne the
Properties of a well chosen *Proſpect*:
 which I will call the *Royaltie* of *Sight*.
 For as there is a *Lordſhip* (as it were)
 of the *Feete*, wherein the Master doth
 much ioy when he walketh about the
Line of his owne *Poſſeſſions*: So there
 is a *Lordſhip* likewise of the *Eye* which
 being a raunging, and Imperious, and
 (I might ſay) an *uſurping* *Sence*, can
 indure no narrow *circumſcription*; but
 muſt be fedde, both with extent and
 varietie. Yet on the other ſide, I finde
 vaſte and indefinite viewes which
 drowne

drowne all apprehensions of the vt-
 termost *Objects*, condemned, by good
 Authors, as if thereby some part of the
 pleasure (whereof we speake) did pe-
 rish. Lastly, I remember a priuate
Caution, which I know not well how
 to sort, vnlesse I should call it *Political*.
 By no meanes, to build too neere a
 great *Neighbour*; which were in truth
 to bee as vnfortunately seated on the
 earth, as *Mercurie* is in the Heauens, for
 the most part, euer in *combustion*, or *ob-*
scuritie, vnder brighter beames then his
 owne.

From these seuerall *Knowledges* as I
 haue said, and perhaps from some o-
 ther doe *Architects* deriue their Do-
 ctine about election of *Seats*: wherein
 I haue not beene so seuer, as a great
 Scholer of our time, who precisely re-
 strayneth a perfect *Situation*, at least for
 the maine point of health, *Ad locum*
contra quem Sol radios suos fundit cum sub
Ariete oritur, That is, in a word hee

* Ioannes
 Heurnius
 Instit: Me-
 dicin: lib. 7.
 cap. 2.

would haue the first *salutation* of the Spring. But such *Notes* as these, where-soeuer we finde them in graue or slight Authors, are to my conceite rather *wishes* then *Precepts*; and in that qualitie, I will passe them ouer. Yet I must withall say that in the *seating* of our selues (which as a kinde of *Marriage* to a *Place*) *Builders* should bee as circumspect as *Wooers*; lest when all is done that *Dooome* befall vs, which our Master doth lay vpon *Mitylene*: A *Towne* in truth (saith hee) *finely built, but foolishly planted*. And so much touching that, which I termed the *Total Posture*.

*Opidum
quidem
adificatum
elegantior
sed impru-
dentior
positum.*

The next in Order is the placing of the *Parts*; About which (to leaue as little as I may in my present labour, vnto *Fancie*, which is wilde and irregular) I will propound a Rule of mine owne Collection, vpon which I fell in this maner. I had noted, that all *Arte* was then in truest perfection, when it

might

might bee reduced to some naturall Principle. For what are the most iudicious *Artisans* but the *Mimiques* of *Nature*? This led me to contemplate the Fabrique of our owne Bodies, where in the *Higb Architect* of the world, had displaid such skill, as did stupifie, all humane reason. There I found the *Hart* as the fountaine of Life placed about the Middle, for the more equall communication of the vitall spirits. The *Eyes* seated aloft, that they might describe the greater Circle within their view. The *Armes* projected on each side, for ease of reaching. Briefly (not to loose our selues in this sweet speculation) it plainely appeareth, as a Maxime drawne from the Diuine light; That the *Place* of euery part, is to be determined by the *Vse*.

So then, from naturall *structure*, to proceed to Artificiall; and in the rudest things, to preferue some *Image* of the excellentest. Let all the principall chambers

chambers of *Delight*, All *Studies* and *Libraries*, be towards the *East*: For the Morning is a friend to the *Muses*. All Offices that require heat, as *Kitchens*, *Stillatories*, *Stoves*, roomes for *Baking*, *Brewing*, *Washing*, or the like, would be *Meridionall*. All that need a coole and fresh temper, as *Cellers*, *Pantries*, *Butteries*, *Granaries*, to the *North*. To the same fidelikewise, all that are appointed for gentle Motion, as *Galleries*, especially in warme Climes, or that otherwise require a steadie and vnuariable light, as *Pinacothecia* (saith *Vitruvius*) by which he intendeth, (if I may guesse at his Greeke, as wee must doe often euen at his Latine) certaine *Repositories* for workes of rarity in Picture or other Arts, by the Italians called *Studioli*, which at any other Quarter, where the course of the *Sunne* doth diuersifie the *Shadowes*, would loose much of their grace. And by this Rule hauing alwayes regarde to the

Use,

Use, any other Part may bee fitly accommodated.

I must here not omit to note that the Ancient *Grecians*, and the *Romanes* by their example in their buildings abroad, where the *Seat* was free, did almost Religiously scituate the *Front* of their houses, towards the South; perhaps that the Masters *Eye*, when hee came home, might not be dazeled, or that being illustrated, by the *Sunne*, it might yeeld the more gracefull *Aspect*; or some such reason. But from this, the Moderne *Italians* doe varie; whereof I shall speake more in another place. Let thus much suffice at the present for the *Position* of the severall *Members*, wherein must bee had as our Author doth often insinuate, and especially *lib. 6. cap. 10.* a singular regard, to the nature of the *Region*: Every Nation, being tyed aboue al Rules whatsoeuer, to a discretion, of providing against their owne *Inconueniences*: And there-

fore a good *Parler* in *Ægypt* would perchance make a good *Celler* in *England*.

There now followeth the second Branch of the generall *Section* touching the *Worke*.

In the *Worke*, I will first consider the principall parts, and afterwards the Accessorie, or *Ornaments*; And in the Principall, first the Preparation of the *Materials*, and then the Disposition, which is the *Forme*.

Now, concerning the *Materiall* part, Although surely, it cannot disgrace an *Architect*, which doth so well become a *Philosopher*, to looke into the properties of *Stone* and *Wood*: as that Firre Trees, Cypresses, Cedars, and such other *Aereall* aspiring *Plants*, being by a kinde of naturall rigour (which in a Man I would call pride) inflexible downewards are thereby fittest for *Posts* or *Pillars* or such vpright vse, that

on the other side, Oake, and the like true hartie Timber being strong in all positions, may bee better trusted in crosse and trauerse worke, for *Summers*, or guirding and binding *beames*, as they tearme them. And so likewise to obserue of *Stone*, that some, are better within, and other to beare *Weather*: Nay, to descend lower euen to examine *Sand* and *Lyme*, and *Clay* (of all which things *Vitruuius* hath discoursed, without any daintines, & the most of new Writers) I say though the *Speculative* part of such knowledge be *liberall*: yet to redeeme this Profession, and my present paynes, from indignitic; I must heere remember that to choose and sort the *materials*, for euery part of the *Fabrique*, is a Dutie more proper to a second *Superintendent*, ouer all the *Vnder Artisans* called (as I take it) by our Author, *Officinator lib. 6. cap. 11.* and in that Place expressely distinguished, from the *Architect*, whose glory doth

more consist, in the Designement and *Idea* of the whole *Worke*, and his truest ambition should be to make the *Forme*, which is the nobler Part (as it were) triumph ouer, the *Matter*: whereof I cannot but mention by the way, a forreigne Paterne, namely the Church of *Santa Giustina* in *Padoua*: In truth a sound piece of good Art, where the *Materials* being but ordinarie stone, without any garnishment of sculpture, doe yet rauish the Beholder, (and hee knowes not how) by a secret *Harmony* in the *Proportions*. And this indeede is that end, at which in some degree, we should ayme euen in the priuatest workes: whereunto though I make haste, yet let me first collect, a few of the least triuiall cautions, belonging to the *Materiall Provision*.

Leon Batista Alberti, is so curious, as to wish all the *Timber*, cut out of the same *Forrest*, and all the *Stone*, out of the same *Quarrie*.

Philibert

Philibert de l'Orme the French Architect goes yet somewhat further, and would haue the *Lyme* made of the very same *Stone*, which wee intend to imploy in the *Worke*; as belike imagining that they will sympathize and ioyn the better, by a kinde of *Originall* kindred. But such conceits as these seeme somewhat too fine among this *Rubbage*, though I doe not produce them in sport. For surely the like agreements of nature, may haue oftentimes a discreet application to Art. Alwayes it must be confessed, that to make *Lyme* without any great choyce of refuse stuffe, as we commonly do, is an *English* error, of no small moment in our Buildings. Whereas the *Italians* at this day, and much more the *Ancients* did burne their firmest *stone*, and euen fragments of *Marble* where it was copious, which in time became almost *Marble* againe, or at least of indissoluble duritie, as appeareth in the standing *Theaters*.

Ant. to w. sup. mole
will appear

ters. I must here not omit, while I am speaking of this part, a certain forme of *Bricke* described by *Daniele Barbaro Patriarch* of *Aquileia*, in the largest Edition of his Commentary vpon *Vitruuius*. The Figure triangular, euey side a foot long, and some inch and a halfe thicke, which he doth commend vnto vs for many good conditions: As that they are more commodious in the management, of lesse expence, of fayrer show, adding much beautie & strength to the *Murall Angles*, where they fall gracefully into an indented *Werke*: so as I should wonder that wee haue not taken them into vse, being propounded by a man of good authoritie in this knowledge; but that all Nations doe start at *Nouelties*, and are indeede married to their owne *Moulds*. Into this place might aptly fall a doubt, which some haue wel moued; whether the ancient *Italians* did burne their *Bricke* or no; which a passage or two in *Vitruuius* hath

hath left ambiguous. Surely where the *Naturall* heat is strong enough, to supply the *Artificiall*, it were but a curious folly to multiply both *Labour* and *Expence*. And it is besides very probable, that those *Materials* with a kindly and temperate heate would proue fairer, smoother, and lesse distorted, then with a violent: Onely, they suffer two exceptions. First, that by such a gentle drying much time will bee lost which might otherwise bee employed in compiling. Next, That they will want a certaine sucking and soaking *Thirstinesse*, or a fiery appetite to drinke in the *Lime*, which must knit the *Fabrique*. But this question may be confined to the *South*, where there is more *Sunne* and patience. I will therefore not hinder my course, with this incident scruple, but close that part which I have now in hand, about the *Materialls*, with a principall

caution: That sufficient *Stuffe* and *Money* bee euer ready before we beginne: For when wee build now a piece, and then another by *Fits*, the *Worke* dries and sinkes vnequally, whereby the *Walles* growe full of *Chinques*, and *Crenices*; Therefore such pawfings are well reprooued by *Palladio*, *lib. 1. cap. 1.* and by all other. And so hauing gleaned these few remembrances, touching the preparation of the *Matter*, I may now proceede to the *Disposition* thereof, which must forme the *Worke*. In the *Forme*, as I did in the *Seate*, I will first consider the generall *Figuration*, and then the seuerall *Members*.

Figures are either *simple* or *Mixed*. The simple be either *Circular* or *Angular*. And of *Circular*, either *Complate*, or *Deficient*, as *Ouals*, with which kindes I will bee contented, though the *Distribution* might bee more curious.

Now

Now the exact *Circle* is in truth a Figure, which for our purpose hath many fit and eminent properties; as fitnessse, for Commodity and Receipt, being the most capable; fitnessse for strength and duration, being the most vnited in his parts; Fitnessse for beautie and delight, as imitating the celestiall *Orbes*, and the vniuersall *Forme*. And it seemes, besides, to haue the approbation of *Nature*, when shee worketh by *Instinct*, which is her secret Schoole: For birds doe build their nests *Spherically*: But notwithstanding these Attributes, it is in truth a very vnprofitable Figure in priuate *Fabriques*, as being of allover the most chargeable, and much roome lost in the bending of the *Wall*, when it comes to bee diuided: besides an ill distribution of light, except from the *Center* of the *Roofe*. So as anciently it was not vsual, saue in their *Temples* and *Amphi-Theaters*, which needed no

Compartitions. The *Ovals* and other imperfect circular *Formes*, haue the same exceptions, and lesse benefite of capacity: So as there remaines to be considered in this generall suruey of *Figures*, the *Angular*, and the *Mixed* of both. Touching the *Angular*, it may perchance sound somewhat strangely, but it is a true obseruation, that this *Art* doth neither loue many *Angles* nor few. For first, the *Triangle* which hath the fewest sides and corners, is of all other the most condemned, as being indeed both incapable and infirme (wherof the reason shall be afterwards rendred) and likewise vnresoluable into any other regular *Forme* then it selfe, in the inward *Partitions*.

As for *Figures* of five, six, seuen, or more *Angles*; They are surely fitter for *Militar Architecture*, where the *Bulworks* may be layed out at the *Corners*, and the sides serue for *Curtaines*, then for ciuill vse; though I am not ignorant.

rant of that famous Piece at *Caprarola*, belonging to the house of *Farnese*, cast by *Baroccio* into the forme of a *Pentagone*, with a *Circle* inscribed, where the *Architect* did ingeniously wrestle with diuers inconueniences in disposing of the *Lights*, and in sauing the vacuities. But as designes of such nature doe more ayme at *Rarity*, then *Commoditie*: so for my part I had rather admire them, then commend them.

These things considered, we are both by the *Precepts* and by the *Practise* of the best Builders, to resolute vpon *Rectangular Squares*, as a meane between too few, and too many *Angles*; and through the equall inclination of the sides (which make the right *Angle*) stronger then the *Rhombe*, or *Lozenge*, or any other irregular *Square*. But whether the exact *Quadrat*, or the long *Square* be the better, I finde not well determined, though in mine

owne conceit I must preferre the latter; provided that the *Length* doe not exceede the *Latitude* aboute one third part, which would diminish the beauty of the *Aspect*, as shall appeare when I come to speake of *Symmetry* and *Proportion*.

Of mixed Figures, partly *Circular*, and partly *Angular*, I shall neede to say nothing; because hauing handled the simple already, the mixed according to their composition, doe participate of the same respects. Onely against these, there is a proper *Obiection*, that they offend *Uniformity*: Whereof I am therefore opportunely induced to say somewhat, as farre as shal concerne the outward *Aspect*, which is now in Discourse.

In *Architecture*, there may seem to be two opposite affectations, *Uniformitie* and *Varietie*, which yet will very well suffer a good recõcilement, as we may see in the great *Paterne of Nature*, to
which

which I must often resort: For surely there can be no *Structure*, more vni-forme, then our *Bodies* in the whole *Figuration*: Each side, agreeing with the other, both in the number, in the qualitic, and in the measure of the Parts: And yet some are round, as the *Armes*, some flat, as the *Hands*, some prominent, and some more retired: So as vpon the Mater, wee see that *Diuerfitie* doth not destroy *Vniformitie*, and that the *Limmes* of a noble *Fabrique*, may bee correspondent enough, though they be various; Prouided alwayes, that we doe not runne into certaine extra-uagant Inuentions, whereof I shall speake more largely, when I come to the parting and casting of the whole *Worke*. We ought likewise to auoyde *Enormous* heights of sixe or seuen *Stories*, as well as irregular *Formes*; and the contrary fault of low-distended *Frones*, is as vnseemely: Or againe, when the *Face* of the Building, is nar-

row and the *Flank* deepe; To all which extreames, some particular Nations, or Townes, are subiect; whose Names may be ciuilly spared: And so much for the generall *Figuration*, or *Aspect* of the *Worke*.

Now concerning the Parts in Seueraltie. All the parts of euery *Fabrique*, may be comprised vnder fiue Heads, which Diuision I receiue from *Batista Alberti*, to doe him right. And they be these.

The *Foundation*.

The *Walles*.

The *Appertions* or *Ouertures*.

The *Compartition*.

And the *Couer*.

About all which I purpose to gather the principall Cautions, and as I passe along, I will touch also the naturall Reasons of *Art*, that my discourse may be the lesse *Mechanicall*.

First then concerning the *Foundation*, which requireth the exactest care; For
if

if that happen to dance, it will marre all the mirth in the House: Therefore, that wee may found our Habitation firmly, we must first examine the *Bed of Earth* (as I may tearme it,) vpon which we will Build; and then the vnderfillings, or *Substruction*, as the Ancients did call it: For the former, we haue a generall precept in *Vitruuius* twice precisely repeated by him, as a point indeed of mayne consequence, first *lib. 1. cap. 5.* And againe more fitly *lib. 3. cap. 3.* in these words as *Philander* doth well correct the vulgar Copies.

Substructionis Fundationes fodiantur (saith he) *si queant inueniri ad solidum, & in solido.* By which words I conceiue him to commend vnto vs, not onely, a diligent, but euen a ieaalous examination what the *Soile* will beare: aduising vs, not to rest vpon any appearing *Soliditie*, ynlesse the whole *Mould* through which wee cut, haue likewise beene *solid*; But how deepe wee should goe

in this search, hee hath no where to my remembrance determined, as perhaps depending more vpon *Discretion*, then *Regularitie*, according to the weight of the *Worke*; yet *Andrea Palladio* hath fairely aduentured to reduce it into Rule: Allowing for that *Ca-uazione* (as he calleth it) a sixt part of the *height* of the whole *Fabrique*, vnles the Cellers be vnder ground, in which case hee would haue vs, (as it should seeme) to found somewhat lower.

*Vnderdig-
ing, or Hol-
lowing of
the Earth.*

Some *Italians* doe prescribe, that when they haue chosen the *Floore*, or *Plot*, and laid out the Limits of the *Worke*, wee should first of all Digge *Wels* and *Cesternes*, and other vnder-conducts and conueiances, for the *Suillage* of the House, whence may arise a double benefit, for both the Nature of the *Mould* or *Soile*; would thereby be safely searched, and moreouer those open vents, will serue to discharge such *Vapours*, as hauing otherwise no issue might

might peradventure shake the Building. This is enough for the naturall *Grounding*, which though it bee not a part of the solid *Fabrique*, yet here was the fittest place to handle it.

There followeth the *Substruction*, or Ground-worke of the whole *Edifice*, which must sustaine the *Walles*; and this is a kinde of *Artificiall* foundation, as the other was *Natural*. About which these are the chiefe Remembrances. First, that the bottome be precisely leuell, where the *Italians* therefore commonly lay a platforme of good Bord; Then that the lowest *Ledge* or *Row* be meerely of *Stone*, and the broader the better, closely layd without *Morter*, which is a generall caution for all parts in Building, that are contiguous to *Bord* or *Timber*, because *Lime* and *Wood* are insociable, and if any where unfit confiners, then most especially in the *Foundation*. Thirdly, that the bredth of the *Substruction* bee at least

double to the *insistent Wall*, and more or lesse, as the weight of the *Fabrique* shall require; for as I must againe re-
 peate, *Discretion* may be freer then *Art*. Lastly, I finde in some a curious pre-
 cept, that the *Materials* below, be layd as they grew in the *Quarrie*, supposing them belike to haue most strength in their *Naturall* and *Habituall* Posture. For as *Philippe de l'Orme* obserueth, the breaking or yeelding of a stone in this part, but the bredth of the backe of a knife, will make a *Cleft* of more then half a foot in the *Fabrique* aloft, So important are *Fundamentall errors*. Among which notes I haue sayd nothing of *Pallification*, or *Pyling* of the *Groundplot*, commanded by *Vitruuius*, when we build vpon a moist or marshy soile, because that were an error in the first choyce. And therefore all *Seats* that must vse such prouision below (as *Venice* for an eminent example) would perhaps vpon good enquiry, be found

to haue beene at first chosen by the counsell of *Necessity*.

Now the *Foundation* being searched, and the *Substruction* layd, wee must next speake of the *Wals*.

Wals are either entire and continuall, or intermitted; and the *Intermissions* be either *Pillars* or *Pylasters*; for here I had rather handle them, then as some others doe, among *Ornaments*.

The entire *Muring* is by Writers diuersly distinguished: By some, according to the quality of the *Materials*, as either Stone or Brick, &c. where, by the way, let me note, that to build *Wals* and greater Workes of *Flint*, whereof wee want not example in our *Iland*, & particularly in the *Prouince* of *Kent*, was (as I conceiue) meerly vnknown to the *Ancients*, who obseruing in that *Materiall*, a kinde of *Metallicall* Nature, or at least a *Fusibility*, seeme to haue resolued it into nobler vse; an Art now vtterly lost, or perchance kept vp by a few *Chymicks*.

micks. Some againe doe not so much consider the quality, as the *Position* of the sayd *Materials*: As when Bricke or squared stones are laid in their lengths with sides and heads together, or their points conjoynd like a *Networke* (for so *Vitruuius* doth call it *reticulatum opus*) of familiar vse (as it should seeme) in his Age, though afterwards growne out of request, euen perhaps for that subtile speculation which hee himselfe toucheth; because so layd, they are more apt in swagging down, to pierce with their points, then in the iacent Posture, and so to creuice the *Wall*: But to leaue such cares to the meaner Artificers, the more essentiall are these.

That the *Walls* bee most exactly perpendicular to the *Ground-worke*: for the right *Angle* (thereon depending) is the true cause of all *Stability*; both in Artificiall and Naturall positions; A man likewise standing firmest,

mest, when he stands vprightest. That the massiest and heauiest *Materials* bee the lowest, as fitter to beare, then to be borne. That the *Worke* as it riseth, diminish in *thicknesse* proportionally, for ease both of weight, and of expence. That certaine courses or *Ledges* of more strength then the rest, be interlayed like *Bones*, to sustaine the *Fabrique* from totall ruine, if the vnder parts should decay. Lastly, that the *Angles* bee firmly bound, which are the *Nerues* of the whole *Edifice*, and therefore are commonly fortified by the *Italians*, euen in their Brickebuildings, on each side of the corners, with well squared stone, yeelding both strength and grace And so much touching the entire or solid *Wall*.

The intermissions (as hath beene sayd) are either by *Pillars*, or *Pylasters*.

Pillers which we may likewise call *Columnes* (for the word among Artificers is almost naturallized) I could

distinguish into *Simple & Compounded*. But (to tread the beaten and plainest way) there are five *Orders* of Pillers, according to their dignity and perfection, thus marshalled:

The *Tuscan*.

The *Dorique*.

The *Ionique*.

The *Corinthian*.

And the *Compound Order*, or as some call it the *Roman*, others more generally the *Italian*.

In which five *Orders* I will first consider their *Communities*, and then their *Proprieties*.

Their *Communities* (as farre as I obserue) are principally three. First, they are all *Round*; for though some conceiue *Columna Atticurges* mentioned by *Vitruuius*, lib. 3. cap. 3. to haue beene a squared Pillar, yet wee must passe it o-uer as irregular, neuer receiued among these *Orders*, no more then certaine o-ther licentious inuentions, of *Wrea*
thed

thed, and Vined, and Figured Columnnes, which our Author himselfe condem-
neth, being in his whole Booke a pro-
fessed enemy to *Fancies*.

Secondly, they are all *Diminished*,
or *Contracted* insensibly, more or lesse,
according to the proportion of their
heights, from one third part of the
whole *Shafte* vpwards, which *Philander*
doth prescribe by his owne precise
measuring of the Ancieut remainders,
as the most gracefull *Diminution*. And
here I must take leaue to blame a pra-
ctice growne (I know not how) in
certaine places too familiar, of making
Pillars swell in the middle, as if they
were sicke of some *Tympany*, or *Drop-
sie*, without any Authentique Paternie
or Rule, to my knowledge, and vn-
feemely to the very iudgement of
sight. True it is that in *Vitruuius*, lib.
3. cap. 2. wee finde these words, *De ad-
iectione, que adijcitur in medijs Columnis,*
que apud Grecos Επιμοις *appellatur, in ex-
tremo*

extremo libro erit formatio eius; which passage, seemeth to haue giuen some countenance to this error. But of the promise there made, as of diuerse other elsewhere, our Master hath fayled vs, either by slip of uemory, or iniury of time, and so wee are left in the darke. Alwayes sure I am, that besides the authority of example which it wanteth, It is likewise contrary to the Originall and Naturall *Type*, in *Trees*, which at first was imitated in *Pillars*, as *Vitruuius* himselfe obserueth, *lib. 5. cap. 1.* For who euer saw any *Cypresse*, or *Pine*, (which are there alledged) small below and aboue, and tumerous in the middle, vnlesse it were some diseased Plant, as Nature (though otherwise the comliest *Mistresse*) hath now and then her deformities and *Irregularities*.

Thirdly, they haue all their *Vnder-settings*, or *Pedistals*, in height a third part of the whole *Columnne*, comprehending the *Base* and *Capitall*; and their
 vpper

Upper Adjuncts, as *Architraue*, *Frize*, and *Cornice*, a fourth part of the sayd Pillar; which rule of singular use and facility I find settled by *Jacobo Baroccio*, and hold him a more credible Author, as a man that most intended this piece, then any that vary from him in those *Dimentions*.

These are their most considerable *Communities* and agreements.

Their *Proprieties* or *Distinctions* will best appeare by some reasonable description of them all, together with their *Architraues*, *Frizes*, and *Cornices*, as they are vsually handled.

First therefore the *Tuscan* is a plain, massie, rurall Pillar, resembling some sturdy well-limmed Labourer, homely clad, in which kinde of comparisons *Vitruuius* himselfe seemeth to take pleasure, *lib. 4. cap. 1.* The length thereof shall be six *Diameters*, of the grossest of the Pillar below. Of all proportions, in truth, the most naturall;

Author tells vs, *lib. 3. cap. 1.* that the foote of a man is the fixt part of his bodie in ordinary measure, and *Man* himfelfe, according to the faying of *Protagoras* (which *Aristotle* doth fometimes vouchsafe to celebrate) is ἡ ἀπὸ τοῦ ἀνθρώπου μέτρον πάντων as it were the Prototype of all exact Symmetrie, which we haue had other occafion to touch before: This *Column* I haue by good warrant called *Rurall*, *Vitru. cap. 2. lib. 3.* And therefore we need not confider his rank among the reft. The diftance or *Intercolumniation* (which word Artificers doe vfuallly borrow) may be neere foure of his owne *Diameters*, becaufe the *Materials* commonly layd ouer this Pillar, were rather of wood then ftone; through the lightneffe whereof the *Architrave* could not fuffer, though thinnely fupported, nor the *Column* it felfe being fo fubftanti-
 The *Contraction* aloft fhall be
 (according to the moft receiued practice)

tice) one fourth part of his thicknesse below. To conclude, (for I intend on-ly as much as shall serue for a due Di-stinguishment, and not to delineate every petty member) the *Tuscan* is of all the rudest Pillar, and his principall Character *Simplicity*.

The *Dorique Order* is the grauest that hath beene receiued into ciuill vse, preserving, in comparison of those that follow, a more *Masculine Aspect*, and litle trimmer then the *Tuscan* that went before, saue a sober garnishment now and then of *Lions heads* in the *Cornice*, and of *Triglyphs* and *Metopes* alwayes in the *Frize*. Sometimes like-wise, but rarely, chaneled, and a litle slight sculpture about the *Hypotrache-lion*, or *Necke* vnder the *Capitall*. The length, seuen *Diameters*. His ranke or degree, is the lowest by all *Congruity*, as being more massie then the other three, and consequently abler to sup-port. The *Intercolumniation*, thrice as

much as his thicknesse below. The *Contraction* aloft, one fift of the same measure. To discerne him, will bee a peece rather of good *Heraldry*, then of *Archicecture*: For he is best knowne by his place, when he is in company, and by the peculiar ornament of his *Frize* (before mentioned) when he is alone.

The *Ionique Order* doth represent a kinde of Feminine slenderesse, yet saith *Vitruvius*, not like a light Housewife, but in a decent dressing, hath much of the *Matrone*. The length eight *Diameters*. In degree as in substantialnesse, next above the *Dorique*, sustayning the third, and adorning the second Story. The *Intercolumniation* two of his owne *Diameters*. The *Contraction* one sixt part. Best knowne by his trimmings, for the bodie of this *Colunne* is perpetually chaneled, like a thicke plighted Gowne. The *Capital* dressed on each side, not much vnlike womens Wires, in a spirall wrea-
thing.

thing, which they call the *Ionian Voluta*. The *Cornice* indented. The *Frize* swelling like a pillow; And therefore by *Vitruvius*, not vnelegantly tearmed *Pulvinata*. These are his best Characters.

The *Corinthian*, is a *Columnne*, laciuiously decked like a *Curtezane*, and therein much participating (as all Inuentions doe) of the place where they were first borne: *Corinthe* hauing been without controuersie one of the wantonest Townes in the world. This *Order* is of nine *Diameters*. His degree, one Stage aboue the *Ionique*, and alwaies the highest of the simple *Orders*. The *Intercolumniation* two of his *Diameters*, and a fourth part more, which is of all other the comeliest distance. The *Contraction* one seuenth Part. In the *Cornice* both *Dentelli* and *Modiglioni*. The *Frize*, adorned with all kinds of *Figures* and various *Compartments* at Pleasure. The *Capitall*, cut into the

Our Artizans call them Teeth and Car-tonzes.

beautifullest leafe, that Nature doth yeeld, which surely next the *Aconitum Pardalianches* (reiected perchance as an ominous Plant) is the *Acanthus* or *Branca Vrsina* though *Vitruvius* doe impute the choice thereof vnto Chance, and wee must be contented to belecue him: In short, As Plainenesse did Characterize the *Tuscan*, so must *Delicacie* and *Varietie* the *Corinthian* Pillar, besides the height of his Ranke.

The last is the *Compounded Order*: His name being a brieve of his Nature. For this Pillar is nothing in effect, but a *Medlie*, or an *Amasse* of all the precedent *Ornaments*, making a new kinde, by stealth, and though the most richly tricked, yet the poorest in this, that he is a borrower of all his Beautie. His length, (that he may haue somewhat of his owne) shalbe of ten *Diameters*. His degree should, no doubt, bee the highest by reasons before yeelded.

But

But few Palaces Auncient or Moderne exceede the third of the Ciuill Orders. The *Intercolumniation*, but a *Diameter* and an halfe, or alwayes somewhat lesse then two. The *Contraction* of this Pillar must be one eight Part lesse aboue then belowe. To know him will be easie by the verie mixture of his *Ornaments*, and *Cloathing*.

And so much touching the five Orders of *Columnes*, which I will conclude with two or three, not impertinent *Cautions*:

First, that where more of these Orders then one, shalbe set in seuerall *Stories* or *Contignations*, there must bee an exquisite care, to place the *Columnes* precisely, one ouer another, that so, the *solid* may answere to the *solid*, and the *vacuities* to the *vacuities*, as well for *Beautie*, as strength of the *Fabrique*. And by this Caution the Consequence is plaine, that when wee speake of the *Intercolumniation* or *distance*, which is due

due to each *Order*, we meane in a *Doricque*, *Ionick*, *Corinthian Porch*, or *Cloister*, or the like of one *Contignation*, and not in *Storied buildings*.

Secondly, let the *Columnes* aboue be a fourth part lesse then those below, saith *Vitruuius*, *lib. 5. cap. 1.* A strange Precept, in my opinion, and so strange, that peraduenture it were more suitable, euen to his owne Principles, to make them rather a fourth Part greater, For *lib. 3. cap. 2.* where our Master handleth the *Contractions* of Pillars, wee haue an *Optique Rule*, that the higher they are, the lesse should be alwayes their diminution aloft, because the *Eye* it selfe, doth naturally contract all *Obiects* more or lesse, according to the *Distance*; which consideration, may, at first sight, sceme to haue beene forgotten in the Caution wee haue now giuen; but *Vitruuius* (the best Interpreter of himselfe) hath in the same place of his fifth Booke, well acquitted his

his memorie by these words: *Columnae superiores quarta parte minores, quam inferiores, sunt constituendae; propterea quod, operi ferendo quae sunt inferiora, firmitiora esse debent*; preferring like a wise Mechanick, the naturall Reason, before the Mathematicall, and sensible conceits before abstracted. And yet *lib. 4. cap. 4.* he seemeth againe, to affect *Subtiltie*, allowing pillars the more they are chanelled, to bee the more slender; because while our Eye (saith hee) doth as it were distinctly measure, the eminent and the hollowed Parts, the Totall Object appeareth the bigger, and so as much as those excauations, doe subtract, is supplied by a *Fallacie* of the Sight: But here mee thinks, our Master should likewise haue rather considered, the naturall Inconuenience; for though Pillars by chaneling, bee seemingly ingrossed to our Sight, yet they are truely weakened in themselves; and therefore ought perchance

in sound reason not to bee the more slender, but the more Corpulent, vnlesse apparances preponder truths, but *Contra Magistrum, non est disputandum.*

A third Caution shalbe that all the *projected* or *lutting* Parts (as they are tearmed) be very moderate, especially, the *Cornices* of the lower *Orders*, for whilest some thinke to giue them, a beautifull and royall Aspect, by their largeness, they sometimes hinder both the Light within, (whereof I shall speake more in due place) and likewise detract much from the viewe of the *Front* without, as well appeareth in one of the principall Fabriques at *Venice*, namely the Palace, of the Duke *Grimani* on the *Canal Grande*, which by this magnificent errour, is somewhat disgraced: I neede now say no more concerning *Columnes* & their *Adiuncts*, about which Architects make such a noyse in their Bookes, as if the very tearmes of *Architraves*, and *Frizes*,
and

and *Cornices*, and the like, were enough to graduate a Master of this *Art*; yet let me before I passe to other matter, preuent a familiar Obiection; It will perchance bee said, that all this Doctrine touching the five *Orders*, were fitter for the *Quarries* of *Asia* which yeelded 127 *Columnes* of 60 *Foote* high, to the *Ephesian Temple*, or for *Numidia* where *Marbles* abound; then for the *Spirits* of *England*, who must be contented with more ignoble *Materials*: To which I answer, that this neede not discourage vs: For I haue often at *Venice* viewed with much pleasure, an *Atrium Græcum* (we may translate it an *Anti porch*, after the Greeke manner) raised by *Andrea Palladio*, vpon eight *Columnes* of the *Compounded Order*; The *Bases* of Stone, without *Pedistals*, The *shafts* or *Bodies*, of meere Brick; three foote and an halfe thicke in the *Diameter* below, and consequently thirty five foote high, as

each of the Capital
 is of the same
 height

ignous

himselfe hath described them in his second Booke; Then which, mine Eye, hath neuer yet beheld any *Columnes*, more stately of Stone or Marble; For the Bricks, hauing first beene formed in a *Circular Mould*, and then cut before their burning into foure quarters or more, the sides afterwards ioyne so closely, and the points concenter so exactly, that the *Pillars* appeare one entire Peece; which short description, I could not omit, that thereby may appeare, how in truth, wee want rather *Art* then stuffe, to satisfie our greatest *Fancies*.

After *Pillars*, the next in my distribution, are *Pylasters*, mentioned by *Vitruuius*, *lib. 5. cap. 1.* and scant any where else vnder the name of *Parastates*, as *Philander* conceiueth, which *Grammaticall* point (though perchance not very cleere) I am contented to examine no farther. Alwayes, what we meane by the thing it selfe, is plaine
enough

enough in our owne vulgar; Touching which, I will briefly collect the most considerable notes.

Pylasters, must not bee too tall and slender, least they resemble *Pillars*, nor too *Dwarfish* and grosse, least they imitate the *Piles* or *Peeres* of Bridges: Smoothnesse doth not so naturally become them, as a *Rusticke Superficies*, for they ayme more at *State & Strength*, then *Elegancie*. In priuate Buildings they ought not to be narrower, then one Third, nor broader then two parts of the whole Vacuity, betweene *Pylaster* and *Pylaster*; but to those that stand at the *Corners*, may be allowed a little more Latitude by discretion, for strength of the *Angles*: In *Theaters* and *Amphi-theaters*, and such weighty Workes, *Palladio* obserueth them, to haue beene as broad as the halfe, and now and then as the whole *Vacuitie*: Hee noteth likewise (and others consent with him) that their

true *Proportion*, should bee an *exact Square*; But for lessening of expence, and inlarging of roome, they are commonly narrower in *Flanke*, then in *Front*: Their principall *Grace* doth consist in halfe or whole *Pillars*, applied vnto them; in which case it is well noted by Authors, that the *Columnes* may bee allowed somewhat aboue their ordinary length, because they leane vnto so good *Supporters*. And thus much shall suffice touching *Pilasters*, which is a cheape, & a strong, and a noble kinde of *Structure*.

Now because they are oftner, both for Beauty and Maicsty, found *Arched*, then otherwise; I am heere orderly led to speake of *Arches*, and vnder the same head of *Vaults*: for an *Arch* is nothing indeed but a contracted *Vault*, and a *Vault* is but a dilated *Arch*: Therefore to handle this Piece both compendiously, and fundamentally, I will resolute the whole businesse into a few *Theoremes*. The-

Theoreme 1.

All solid *Materials* free from impediment, doe descend *perpendicularly* downewards, because *ponderosity* is a naturall inclination to the *Center* of the World, and *Nature* performeth her motions by the shortest lines.

Theoreme 2.

Brickes moulded in their ordinary *Rectangular* forme, if they shall be layd one by another in a leuell row, betwene any Supporters sustayning the two ends, then all the pieces between, will necessarily sinke, euen by their owne naturall *Gravity*, and much more if they suffer any depression by other waight aboue them, because their sides being *parallell*, they haue roome to descend *perpendicularly*, without impeachment, according to the former *Theoreme*; Therefore to make them stand, wee must either change their *Posture*, or their *Figure*, or both.

If

Theorme 3.

If Bricks moulded, or Stones squared *Cuncatim* (that is, *Wedge wise*, broader above then below) shall be layd in a *Row leuell*, with their ends supported, as in the precedent *Theoreme*, pointing all to one *Center*; then none of the pieces betweene can sinke till the *Supporters* giue way, because they want roome in that *Figuration*, to descend *perpendicularly*. But this is yet a weak piece of *Structure*, because the *Supporters* are subiect to much impulsion, especially if the line be long; for which reason this *Forme* is seldome vsed, but ouer *Windows*, or narrow *Doores*. Therefore to fortifie the *Work* as in this third *Theoreme* wee haue supposed the *Figure* of all the *Materials* different from those in the second: So likewise wee must now change the *Posture*, as will appear in the *Theoreme* following.

Theorme 4.

If the *Materials* figured as before
Wedge-

of Architecture. 49

Wedge-wise, shall not be disposed levelly, but in forme of some Arch, or portion of a Circle, pointing all to the same Center: In this case neither the pieces of the sayd Arch, can sinke downwards, through want of roome to descend* perpendicularly: Nor the *Sup-* By the first
porters or *Butments* (as they are tear- Theor.
 med) of the sayd Arch can suffer so much violence, as in the precedent flat Posture, for the roundnesse will alwayes make the Incumbent waight, rather to rest vpon the *Supporters*, then to shoue them; whence may be drawn an euident *Corolary*; that the safest of all *Arches* is the *Semicircular*, and of all *Vaults* the *Hemisphere*, though not ab- which is
 solutely exempted from some naturall prerogative the sole
 weakenesse,* as *Barnardino Baldi* Abbot of perp-
 of *Guastalla*, in his Commentary vpon acicular
Aristotles *Mechaniques*, doth very well lines and
 prooue; where let me note by the way, right Ang
 gles.
 that when any thing is *Mathematically*
 demonstrated weake, it is much more

Mechanically weaker Errors euer occurring more easily in the management of *Grosse Materials*, then *Lineall Designs*.

Theoreme 5.

As *Semicircular Arches*, or *Hemispherical Vaults*, being raised vpon the totall *Diameter*, bee of all other the roundest, and consequently the securest, by the precedent *Theoreme*: So those are the gracefullest, which keeping precisely the same height, shall yet bee distended, one fourteenth part longer then the sayd entire *Diameter*; which addition of distent will conferre much to their *Beauty*, and detract but little from their *Strength*.

This obseruation I finde in *Leon-Batista Alberti*; But the practice how to preferue the same height, and yet distend the *Armes* or ends of the *Arch*, is in *Albert Durers Geometry*, who taught the *Italians* many an excellent *Line*, of great vse in this *Art*.

Vpon

Vpon these five Theoremes, all the skill of Arching and Vaulting is grounded: As for those Arches, which our Artizans call of the third and fourth point; And the Tuscan writers *di terzo*, and *di quarto acuto*; because they alwayes concurre in an acute Angle, and doe spring from diuision of the Diameter, into three, foure, or more parts at pleasure; I say, such as these, both for the naturall imbecility of the sharpe Angle it selfe, and likewise for their very *Vncomelineffe*, ought to bee exiled from judicious eyes, and left to their first inuentors, the Gothes or Lumbards, amongst other Reliques of that barbarous Age.

Thus of my first Partition of the parts of euery Fabrique, into five Heads, hauing gone through the two former, & been incidently carried into this last doctrine touching Arches and Vaults. The next now in order are the Apertions; vnder which tearme I

doe comprehend *Doores*, *Windowes*, *Staire-cases*, *Chimnies*, or other *Conducts*: In short, all *Inlets* or *Outlets*; To which belong two generall *Cautions*.

First, That they bee as few in number, and as moderate in Dimension, as may possibly consist with other due respects: for in a word, all *Openings* are *Weakenings*.

Secondly, That they doe not approach too neere the *Angles* of the *Wals*; for it were indeed a most essentiall *Solecisme* to weaken that part, which must strengthen all the rest: A precept well recorded, but ill practised by the *Italians* themselves, particularly at *Venice*, where I haue obserued diuerse *Pergoli*, or *Meniana* (as *Vitruuius* seemeth to call them, which are certaine ballised out-standings to satisfie curiosity of sight) very dangerously set forth, vpon the very point it selfe, of the *Murall Angle*.

Now,

Now, Albeit I make haste, to the casting and comparting of the whole *Worke*, (being indeede the very Definitive Summe of this *Art*, to distribute vselfully and gracefully a well chosen *Plot*) yet I will first vnder their severall Heads, collect briefly some of the choicest notes, belonging to these particular *Overtures*.

Of Doores and Windows.

THESE *In lets* of *Men* and of *Light*, I couple together, because I find their due Dimensions, brought vnder one Rule, by *Leone Alberti* (a learned Searcher) who from the Schoole of *Pythagoras*. (where it was a fundamentall *Maxime*, that the *Images* of all things are latent in *Numbers*) doth determine the comeliest Proportion, betweene breadths and heights; Reducing *Symetrie* to *Symphonie*, and the *harmonie* of *Sounde*, to a kinde of *harmonie* in *Sight*, after this manner: The two
G 3 principall

principall *Consonances*, that most rauish the Eare, are by consent of all Nature, the *fift*, and the *Octau*; whereof the first riseth radically, from the proportion, betweene *two* and *three*. The other from the double *Intervalle*, betweene *One* and *Two*, or betweene *Two* and *Four* &c. Now if we shall transport these proportions, from Audible to visible *Obiects*; and apply them as they shall fall fittest (the nature of the Place considered) Namely in some *Windowes*, and *Doores*, the *Symmetrie* of *Two* to *Three*, in their Breadth and Length; In others the double as aforesaid; There will indubitably result from either, a gracefull and *harmonious* contentment, to the Eye; Which speculation though it may appear vnto vulgar *Artizans*, perhaps too subtile, and too sublime, yet wee must remember, that *Vitruuius* himselfe doth determine many things in his profession; by *Musicall* grounds, and much commendeth

commendeth in an *Architect*, a *Philosophical Spirit*; that is, he would haue him (as I conceaue it) to be no superficiall, and floating *Artificer*; but a *Diuer* into *Causes*, and into the *Mysterie*s of *Proportion*; Of the *Ornaments*, belonging both to *Doores* and *Windowes*, I shall speake in other place; But let mee heere adde one obseruation; That our *Master* (as appeareth by diuers passages, and particularly *lib. 6. cap. 9*) seemes to haue beene an extreame Louer of *Luminous Roomes*; And indeede I must confesse that a Franke Light, can misbecome noe *Edifice* whatsoeuer, *Temples* onely excepted; which were anciently darke, as they are likewise at this day in some *Proportion*. *Deuotion more requiring collected then defused Spirits*. Yet on the other side we must take heede to make a House (though but for ciuill vse) all *Eyes*, like *Argus*; which in *Northerne Climes* would be too cold; In *Southerne*, too hot: And therefore the matter

*Lumen est
diffusum
sui & alieni.*

matter indeede importeth more then a merry comparifon. Besides, There is no part of *Structure* either more expencefull, then *Windowes*; or more ruinous; not onely for that vulgar reason, as being exposed to all violence of weather; but because consisting of so different and vnsociable pieces, as *Wood, Iron, Leade, and Glasse*, and those small and weake, they are easily shaken; I must likewise remember one thing, (though it be but a *Grammatical* note) touching *Doores*. Some were *Fores*, & Some were *Value*. Those (as the very word may seeme to import) did open *outwards*, These *inwards*; And were commonly of two *Leaves* or *Panes*, (as we call them) thereby requiring indeed, a lesser *Circuit* in their *vnfolding*; And therefore much in vse among *Italians* at this day; But I must charge them with an Imperfection, for though they let in as well as the former, yet they keepe out worse.

Of Staire-cases.

TO make a compleate *Staire-case*, is a curious peece of *Architecture*: The vulgar Cautions are these.

That it haue a very liberall *Light*, against all Casualtie of *Slippes*, and *Falles*.

That the space about the *Head*, bee large and *Airy*, which the *Italians* vse to call *Vn bel sfogolo*, as it were good *Ventilation*, because a man doth spend much breath in mounting.

That the *Halfe-paces* bee well distributed, at competent distances, for reposing on the way.

That to auoyd *Encounters*, and besides to gratifie the beholder, the whole *Staire-case* haue no niggard *Latitude*, that is, for the principall *Ascent*, at least ten foot in *Royall Buildings*.

That the breadth of euery single *Step* or *Staire* bee neuer lesse then one
H foote,

foote, nor more then eighteen inches.

That they exceede by no meanes halfe a foot in their height or thicke-
nesse; for our *Legges* doe labour more
in *Elevation*, then in *Distention*: These
I say are familiar remembrances, to
which let me adde,

That the steps bee layd where they
joyne *Con vn tantino di scarpa*; we may
translate it somewhat *sloaping*, that so
the foot may in a sort both ascend and
descend together, which though ob-
serued by few, is a secret and delicate
deception of the paines in mounting.

Lastly, to reduce this doctrine to
some *Natural*, or at least *Mathematicall*
ground, (our *Master*, as we see, *lib. 9.*
cap. 2.) borroweth those proportions,
that make the sides of a *Rectangular*
Triangle, which the Ancient Schoole
did expresse in lowest tearmes, by the
numbers of 3 . 4. and 5. That is, *Three*
for the *Perpendicular*, from the *Staire-*
head to the ground; *Foure* for the
Ground

Ground-line it selfe, or *Recession* from the wall; And *Five* for the whole *Inclination* or slopenesse in the ascent, which proportion, saith he, will make *Temperatas graduum librationes*. Hitherto of *Staire-cases* which are direct: There are likewise *Spirall*, or *Cockle staires*, either *Circular*, or *Ouall*, and sometimes running about a *Pillar*, sometimes vacant, wherein *Palladio*, (A man in this point of singular felicity) was wont to diuide the *Diameter*, of the first sort into three parts, yeelding one to the *Pillar*, and two to the *Steps*; Of the second into foure, whereof he gaue two to the *Staires*, and two to the *Vacuitie*, which had all their light from aboue, And this in exact *Oualls*, is a Master-piece.

OF CHIMNIES.

IN the present businesse, *Italians* (who make very frugall fires, are perchance not the best Counsellors.) Therefore

from them we may better learne, both how to raise faire *Mantels* within the roomes, and how to disguise gracefully the shafts of *Chimnies* abroad (as they vse) in sundry formes (which I shall handle in the latter part of my labour) and the rest I will extract from *Philippe del Orme*: In this part of his *Worke* more diligent, then in any other, or, to doe him right, then any man else.

First, hee obserueth very soberly, that who in the disposition of any Building will consider the nature of the *Region*, and the *Winds* that ordinarily blow, from this, or that *Quarter*; might so cast the roomes, which shall most need fire; that hee should little feare the incommodity of *Smoake*, and therefore hee thinkes, that inconuenience, for the most part to proceede from some inconsiderate beginning. Or if the error lay not in the *Disposition* but in the *Structure* it selfe; then hee makes

makes a *Logicall* enquiry; That either the *Winde* is too much let in aboue, at the mouth of the *Shafte*, or the *Smoke* stifeled below; If none of these, Then there is a repulsion of the *Fume*, by some higher *Hill* or *Fabrique*, that shall ouertoppe the *Chimney* and worke the former effect: If likewise not this, Then he concludes, that the Roome which is infested, must bee necessarily both little and close, so as the smoke cannot issue by a naturall *Principle*, wanting a succession and supply of new *Ayre*.

Now, In these cases he suggesteth diuers Artificiall remedies; of which I will allow one, a little *Description*, because it sauoureth of *Philosophie*, and was touched by *Vitruuius* himse'fe, *lib. 1 cap. 6.* but by this man ingeniously applied to the present vse: Hee will haue vs prouide two hollow *brasse Balles* of reasonable capacitie, with little holes open in both, for reception of

H 3

Water,

Water, when the Aire shall be first sucked out; One of these wee must place with the hole vpwards, vpon an yron Wire, that shall trauerse the *Chimney*, a little aboue the *Mantell*, at the ordinary height of the sharpest heate or flames, whereof the water within being rarified, and by rarification resolued into *Winde*, will breake out, and so force vp the smoke, which otherwise might linger in the *Tunnell*, by the way, and oftentimes reuert; With the other, (saith he) wee may supply the place of the former, when it is exhausted, or for a neede blow the *Fire* in the meane while; Which Inuention I haue interposed for some little intertainment of the Reader; I will conclude with a note from *Palladio*, who obserueth that the *Ancients* did warme their Roomes, with certaine secret *Pipes* that came through the *Walles*, transporting heate (as I conceiue it) to sundry parts of the House, from one
common

common *Furnace*; I am ready to baptize them *Caliducts*, as well as they are rearmed *Venti-ducts*, and *Aqua-ducts* that conuey Winde and Water; which whether it were a custome or a delicacie, was surely both for thrift, and for vse, far beyond the German *Stoues*; And I should preferre it likewise before our owne fashion, if the very sight of a fire, did not adde to the Roome a kinde of *Reputation*,* as old *Homer* doth

αἰδοῦμαι ἢ πρὸς
ἐπὶ νεφεγερρεῖς
αἵματι δὲ δῖος.

Hom. Epig.

teach vs in a verse, sufficient to prooue that himselfe was not blinde, as some would laie to his charge.

Touching *Conducts* for the *Suillage* and other necessities of the House, (which how base soeuer in vse, yet for health of the Inhabitants, are as considerable, and perhaps more then the rest) I finde in our Authors, this Counsell; That *Art* should imitate *Nature*, in those ignoble conueyances; and separate them from Sight, (where there wants a running Water) into the
most

most remote, and lowest, and thickest part of the *Foundation* : with secret vents passing vp through the Walles like a *Tunnell* to the wilde Aire aloft: which all Italian Artizans commend for the discharge of noysome vapours, though else-where to my knowledge little practised.

Thus hauing considered the precedent *Appertions*, or *Ouertures*, in seuerallie according to their particular Requisites, I am now come to the casting and *Contexture* of the whole *Worke*, comprehended vnder the tearme of *Compartition* : Into which (being the mainest piece) I cannot enter without a few generall Precautions, as I haue done in other Parts.

First therefore , Let no man that intendeth to build , setle his Fancie vpon a draught of the *Worke* in *paper*, how exactly soeuer measured, or neatly set off in *perspective*; And much lesse vpon a bare *Plant* thereof, as they call the

the *Schiographia* or *Ground lines*; without a *Modell* or *Type* of the whole *Structure*, and of euery parcell and *Partition* in *Pastboard* or *Wood*.

Next that the said *Modell* bee as plaine as may be, without colours or other beautifying, lest the pleasure of the *Eye* preoccupate the *Iudgement*; which aduise omitted by the *Italian Architects*, I finde in *Philippe de l'Orme*, and therefore (though *France* bee not the *Theater* of best *Buildings*) it did merit some mention of his name.

Lastly, the bigger that this *Type* be, it is still the better, not that I will perswade a man to such an enormity, as that *Modell* made by *Antonio Labaco*, of *Saint Peters Church* in *Rome*, containing 22. foot in length, 16. in breadth, and 13. in heighth, and costing 4184. crownes: The price in truth of a reasonable *Chappell*: Yet in a *Fabrique* of some 40. or 50. thousand pounds charge, I wish 30. pounds at least layd
I
out

out before hand in an exact Modell; for a little misery in the *Premises*, may easily breed some absurdity of greater charge, in the *Conclusion*.

Now, after these premonishments, I will come to the *Comparition* it selfe; By which, the Authors of this *Art* (as hath beene touched before) doe vnderstand, a *gracefull* and *usefull* distribution, of the whole *Ground plot* both for roomes of *Office*, and of *Reception* or *Entertainment*, as farre as the *Capacity* thereof, and the nature of the *Coun- trey* will comport. Which circumstances in the present *Subiect*, are all of maine consideration, and might yeeld more discourse then an *Elementall Rap- sodie* will permit. Therefore (to ana- tomize briefly this Definition) the *Gracefulnesse* (whereof wee speake) will consist in double *Analogie*, or cor- respondencie. First, between the *Parts* and the *Whole*, whereby a *great Fa- brique* should haue *great Partitions*, *great Lights*.

Lights, great Entrances, great Pillars or Pylasters; In summe, all the Members great. The next betweene the Parts themselues, not only, considering their Breadths, and Lengths, as before, when wee spake of Doores and Windowes; but here likewise enters a third respect of Height, a point (I must confesse) hardly reduceable to any generall precept.

True it is, that the *Ancients* did determine the *Longitude* of all *Roomes*, which were longer then broad, by the double of their *Latitude*, *Vitruvius lib. 6. cap. 5.* And the *Height* by the halfe of the breadth and length summed together. But when the *Roome* was precisely square, they made the *Height* half as much more as the *Latitude*; which Dimensions the moderne *Architects* haue taken leaue to varie vpon discretion: Sometimes squaring the *Latitude*, and then making the *Diagonall* or ouerthwart Line, from *Angle* to *Angle*, of the said *Square*, the measure of the

Height sometimes more, but seldome lower then the full breadth it selfe; which boldnesse of quitting the old *Proportions*, some attribute first to *Michael Angelo da Buonaroti*, perchance vpon the credite he had before gotten, in two other *Arts*.

The second point is *Usefulnesse*, which will consist in a sufficient *Number* of *Roomes*, of all sorts, and in their apt *Coherence*, without *distraktion*, without *confusion*; so as the beholder may not onely call it, *Vna Fabrica ben raccolta*: as *Italians* vse to speake of well vnited *Workes*, but likewise that it may appeare *airie* and *spiritous*, and fit for the welcome of cheerefull *Guests*; about which the principall difficultie will bee in contriuing the *Lights*, and *Staire-cases*, whereof I will touch a note or two: For the first, I obserue that the ancient *Architects* were at much ease. For both the *Greekes* and *Romanes* (of whose priuate dwellings

Vitruvius hath left vs some description) had commonly two *Cloystered* open Courts, one seruing for the *Womens* side, and the other for the *Men*: who yet perchance now adayes would take so much seperation vnkindly. Howsoeuer, by this meanes, the reception of *light*, into the Bodie of the building, was very prompt, both from without and from within: which we must now supplie either by some open *Forme* of the *Fabrique*, or among gracefull *refuges*, by *Tarrasing* any *Storie*, which is in danger of darkenesse; or lastly, by *perpendicular lights*, from the *Roofe*: of all other the most naturall, as shalbe shewed anon. For the second difficultie: which is casting of the *Stayre-cases*; That being in it selfe no hard point, but onely as they are incombrances of roome for other vse: (which lights were not) I am therefore aptly moued heere to speake of them. And first of Offices.

I haue marked a willingnesse, in the *Italian* Artisans, to distribute the *Ky- chin, Pantrie, Bakehouse, washing Roomes:* and euen the *Buttrie* likewise, vnder ground; next about the *Foundation*, and sometimes Leuel with the plaine, or *Floore* of the *Cellar*: raising the first *Ascent* into the house *Fifteene Foote* or more for that Ende, which besides the benefit of remouing such *Annoyes* out of sight, and the gayning of so much more roome about, doth also by eleuation of the *Front*, adde *Maieftie* to the whole *Aspect*. And with such a disposition of the principall *Stayre-case*, which commonly doth deliuer vs, into the *Plaine* of the second *Storie*, there may bee wonders done, with a little roome, whereof I could allcadge braue *Examples* abroad; and none more *Artificiall*, and *Delicious*, then a House built by *Daniele Barbaro Patriarche* of *Aquileia* before mentioned, among the memorable *Commenters* vpon *Vitruuius*.

But the *Definition* (aboue determined) doth call vs to some consideration of our owne Countrey, where though all the other petty *Offices* (before rehearsed) may well enough bee so remote, yet by the naturall *Hospitalitie* of *England*, the *Buttrie* must be more visible; and wee neede perchance for our *Raunges*, a more spacious and luminous *Kitchin*, then the foresaid *Compartition* will beare; with a more competent neerenesse likewise to the *Dining Roome* Or else besides other Inconueniences, perhapes some of the *Dishes* may straggle by the way; Heere let me note a common defect, that wee haue of a very vsfull *Roome*, called by the *Italians Il Tinello*; and familiar, nay almost essentiall, in all their great *Families*. It is a Place properly appointed, to conserue the meate that is taken from the *Table*, till the *Waiters* eate, which with vs by an olde fashion, is more vnseemely set by, in the meane while.

Now

Now touching the distribution of Lodging chambers; I must here take leaue to reprocue a fashion, which I know not how hath preuailed through *Italie*, though without ancient examples, as farre as I can perceiue by *Virruuius*. The thing I meane, is, that they so cast their *partitions* as when all *Doors* are open, a man may see through the whole *House*; which doth necessariely put an intollerable seruitude vpon all the *Chambers* saue the *Inmost*, where none can arriue, but through the rest; or else the *Walles* must be extream thicke for secret passages. And yet this also will not serue the turne, without at least *Three* doores to euery *Roome*: A thing most insufferable, in cold & windie Regions, and euery where noe small weakening to the whole *Worke*; Therefore with vs that want no cooling, I cannot commend the direct opposition of such *Ouertures*, being indeede mecrely grounded

grounded vpon the fond ambition of displaying to a *Stranger* all our *Furniture* at one *Sight*, which therefore is most maintained by them that meane to harbour but a few; whereby they make onely aduantage of the *vanitie*, and seldome proue the *Inconuenience*. There is likewise another defect (as absurdities are seldome solitarie) which will necessarily follow, vpon such a seruile disposing of inward Chambers, That they must bee forced to make as many common great *Roomes*, as there shalbe seuerall *Stories*; which (besides that they are vsually darke, a point hardly auoided, running as they doe, through the middle of the whole *House*) doe likewise deuoure so much Place, that thereby they want other *Galleries*, and *Roomes of Retreat*, which I haue often considered among them (I must confesse) with no small wonder; for I obserue no *Nation* in the World, by Nature more *private*

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and

and reserved, then the *Italian*, and on the other side, in no *Habitations* lesse *prinacie*; so as there is a kinde of Conflict, betweene their *Dwelling*, and their *Being*: It might heere perchance bee expected, that I should at least describe (which others haue done in *draughtes* and *designes*) diuers *Formes* of *Plants* and *Partitions*, and varieties of *Inuentions*; But *Speculatiue Writers* (as I am) are not bound, to comprise all particular Cases, within the Latitude of the *Subiect*, which they handle; *Generall Lights*, and *Directions*, and pointings at some faults, is sufficient. The rest must be committed to the sagacitie of the *Architect*, who will bee often put to diuers ingenious shifts, when hee is to wrestle with scarcitie of *Ground*. As sometimes * to damme one Roome (though of speciall vse) for the benefit and beautie of all the rest; Another while, to make those fairest, which are most in *Sight*, and to leaue the other

(like

The *Italians* call it *vna stanza dannata*, as when a *Buttrie* is cast vnder a stayre-Cafe, or the like.

(like a cunning Painter) in shadow, *cum multis alijs*, which it were infinite to pursue. I will therefore close this Part touching *Compartition*, as cheerefully as I can with a short description of a *Feasting* or *entertayning Roome*, after the *Ægyptian* manner, who seeme (at least till the time of *Vitruuius*) from the auncient *Hebrewes* and *Phenicians* (whence all knowledge did flow) to haue retayned, with other *Sciences*, in a high degree, also the *Principles*, and *practise* of this magnificent *Art*. For as farre as I may coniecture by our Masters Text, *lib. 6. cap. 5.* (where as in many other Places he hath tortured his *Interpreters*) there could no *Forme*, for such a Royall vse, bee comparably imagined, like that of the foresaide *Nation*, which I shall aduenture to explaine.

Let vs conceiue a *Floore* or *Area* of goodly length, (For example, at least of 120 foote) with the *breadth* some-

what more then the halfe of the *Longitude*, whereof the reason shalbe afterwards rendred. About the two longest *sides*, and *Head* of the said *Roome*, shall runne an Order of *Pillars*, which *Palladio* doth suppose *Corinthian* (as I see by his designe) supplying that point out of *Greece*, because we know no Order, proper to *Agypt*. The fourth *sides* I will leaue free for the *Entrance*: On the foresaid *Pillars* was laid an *Architraue*, which *Vitruuius* mentioneth alone: *Palladio* addes thereunto (and with reason) both *Freeze* and *Cornice*, ouer which went vp a continued *Wall*, and therein, halfe or three quarter *Pillars*, answering directly, to the Order below, but a fourth Part lesse; and betweene these halfe *Columnes* about, the whole *Roome* was windowed round about.

Now, from the lowest *Pillars* there was layd ouer a *Contignation* or *Floore*, borne vpon the outward *Wall*, and the

Head

Head of the Columnes with *Tarrace* and *Paument*, *Sub dio* (saith our Master) and so indeed hee might safely determine the matter in *Egypt*, where they feare no *Clowds*: Therefore *Palladio* (wo leaueth this *Tarrace* vncouered in the middle, and *ballised* about) did perchance construe him rightly, though therein discording from others: Alwayes we must vnderstand a sufficient breadth of *Paument*, left between the open part and the *Windowes*, for some delight of *Spectators*, that might looke downe into the *Roome*: The *Latitude* I haue supposed contrary to some former Positions, a little more then the halfe of the length; because the *Pillars* standing at a competent distance from the outmost *Wall*, will by interception of the *Sight*, somewhat in appearance diminish the breadth; In which cases, (as I haue touched once or twice before) *Discretion* may bee more licentious then *Art*. This is the

description of an *Egyptian* roome, for *Feastes* and other *Iollities*. About the *Walles* whereof wee must imagine entire *Satues*, placed below, and illuminated by the descending Light, from the *Tarrace*, as likewise from the *Windows* betweene the halfe *Pillars* aboue: So as this *Roome* had abundant and advantageous *Light*; and besides other garnishing, must needes receiue much *State* by the very heighth of the *Roofe*, that lay ouer two orders of *Columnnes*: And so hauing runne through the foure parts of my first generall *Diuision*, namely, *Foundation*, *Walles*, *Appertions*, and *Compartition*; the *House* may now haue leaue to put on his *Hatte*: hauing hitherto beene vncovered it selfe, and consequently vnfit to couer others. Which point though it be the last of this *Art* in execution, yet it is alwayes in *Intention* the first, For who would build but for *Shelter*? Therefore obtayning both the *Place*, and the
dig-

dignity of a *Finall cause*, it hath beene diligently handled by diuerse, but by none more learnedly then *Bernardino Baldi* Abbot of *Guaſtalla* (before cited vpon other occasion) who doth fundamentally, and *Mathematically* demonstrate the firmeſt *Knittings* of the vpper *Timbers*, which make the *Roofe*. But it hath beene rather my *Scope*, in theſe *Elements* to fetch the ground of all, from *Nature* her ſelfe, which indeed is the ſimpleſt mother of *Art*. Therefore I will now onely deliuer a few of the propereſt, and (as I may ſay) of the naturaleſt conſiderations, that belong to this remaying *Piece*.

There are two extremities to be auoyded in the *Couer*, or *Roofe*: That it be not too *heavy*, nor too *light*. The firſt, will ſuffer a vulgar obiection of preſſing too much the vnder-worke. The other, contayneth a more ſecret inconuenience; for the *Couer* is not onely a bare defence, but likewise a kinde

kinde of *Band* or *Ligature*, to the whole *Fabrique*, and therefore would require some reasonable weight. But of the two extreames, a House *Top-beaue* is the worst. Next there must bee a care of *Equality*, that the *Edifice* be not pressed on the one side more then on the other; and here *Palladio* doth wisely (like a cautelous *Artizan*) that the inward *Walles* might beare some good share in the burthen, and the outward be the lesse charged.

Thirdly, the *Italians* are very precise in giuing the *Couer* a gracefull *pendence* or *slopenesse*, diuiding the whole breadth into *Nine* parts; whereof two shal serue for the eleuation of the highest *Toppe* or *Ridge*, from the lowest. But in this point the quality of the *Region* is considerable: For (as our *Vitruuius* insinuateth) those *Climes* that feare the falling and lying of much *Snow*, ought to prouide more inclining *Pentices*: and *Comelineesse* must yeeld to *Necessity*. These

These are the usefullest Cautions which I finde in *Authors*, touching the last *Head* of our *Diuision*, where-with I will conclude the first *Part* of my present *Trauaile*. The second remaineth, concerning *Ornaments* within, or without the *Fabrique*: A Piece not so dry as the meere *Contemplation* of proportions. And therefore I hope therein, somewhat to refresh both the *Reader*, and my selfe.

L OF

OF
THE ELEMENTS
OF
ARCHITECTURE.

The II. part.



VERY Mans proper
Manson House and
Home, being the Thea-
ter of his Hospitality,
the Seate of Selfe-frui-
tion, the *Comfortablest*
part of his owne *Life*, the *Noblest* of
his Sonnes *Inheritance*, a kinde of pri-
uate *Princedom*; Nay, to the *Possessors*
thereof, an *Epitomie* of the whole
World: may well deserue by these *At-
tributes*, according to the degree of the
Master, to be *decently* and *delightfully* a-
dorned. For which ende, there are
two *Arts* attending on *Architecture*, like

two of her principall *Gentlewomen*, to *dresse* and *trimme* their *Mistresse*; P I C T U R E & S C U L P T V R E: Between whom, before I proceed any further, I wil venture to determine an ancient quarrell about their *Precedency*, with this *Distinction*; that in the garnishing of *Fabriques*, *Sculpture* no doubt must haue the *prebeminence*, as being indeede of neerer affinity to *Architecture* it selfe, and consequently the more naturall, and more sutable *Ornament*. But on the other side, (to consider these two *Arts* as I shall doe *Philosophically*, and not *Mechanically*) An excellent Piece of *Painting*, is to my iudgement the more admirable *Obiect*, because it comes neere an *Artificiall Miracle*; to make diuerse distinct *Eminences* appeare vpon a *Flat*, by force of *Shadows*, and yet the *Shadows* themselues not to appeare: which I conceiue to be the vttermost value and vertue of a *Painter*, and to which very few haue arriued in all Ages.

In these two *Arts* (as they are applicable to the *Subiect* which I handle) it shall bee fit first to consider how to *choose* them; and next, how to *dispose* them. To guide vs in the *choyce*, wee haue a *Rule* somewhere (I well remember) in *Pliny*, and it is a prettie obseruation: That they doe mutually helpe to censure one another. For *Picture* is best when it standeth off, as if it were carued; and *Sculpture* is best when it appeareth so *tender*, as if it were *painted*, I meane, when there is such a seeming softnesse in the *Limbes*, as if not a *Chissell* had hewed them out of *Stone*, or other *Materiall*, but a *Pencil* had drawne and stroaked them in *Oyle*, which the iudicious *Poet* tooke well to his Fancy.

Excudent alij spirantia mollius æra.

But this generalitie, is not sufficient to make a good *chooser*, without a more particular contraction of his Iudgement. Therefore when a Piece of

Art, is set before vs, let the first Caution be, not to aske who made it, least the *Fame* of the *Author* doe Captiuat the *Fancie* of the *Buyer*. For, that excellent *Men* doe alwaies excellently, is a false Conclusion; whereupon I obserue among *Italian* Artizans three notable *Phrases*, which well decipher the degrees of their *Workes*.

They will tell you, that a thing was done *Con diligenza*, *Con studio*, and *Con Amore*; The first, is but a bare and ordinary diligence; The second, is a learned diligence; The third, is much more, euen a *louing diligence*; They meane not with loue to the *Bespeaker* of the *Worke*, but with a loue and delight in the *Worke* it selfe, vpon some speciall *Fancie* to this, or that *Storie*; And when all these concurre (perticularly the last) in an eminent *Author*, Then perchance *Titianus Fecit*, or *videtur inuenit* will serue the *Turne*, without farther *Inquisition*; Otherwise Artizans haue not

78 *The Elements*

only their *growthes* and *Perfections*, but likewise their *Vaines* and *Tymes*.

The next Caution must be (to pro-
ceede *Logically*) that in Iudging of the
Worke it selfe, wee bee not distracted
with too many things at once; There-
fore first (to beginne with *Picture*)
we are to obserue whether it bee well
drawne, (or as more elegant *Artizans*
tearme it) well *Design'd*; Then whe-
ther it be well *Coloured*, which bee the
two generall *Heads*; And each of them
hath two principall *Requisites*; For in
well *Designing*, there must bee *Truth*
and *Grace*, In well *Colouring*, *Force*, and
Affection; All other *Praises*, are but
Consequences of these.

Truth (as we Metaphorically take
it in this *Art*) is a *Iust* and *Naturall Pro-*
portion, in euery Part of the determined
Figure. *Grace* is a certaine *free dispo-*
sition, in the whole *Draught*, answerable
to that vnaffected franknes of *Fashion*,
in a liuing *Bodie*, Man or Woman,
which

which doth *animate Beautie* where it is,
and *supplie* it, where it is not,

Force consisteth, in the *Roundings & Raisings* of the *Worke*, according as the *Limbes* doe more or lesse require it; So as the *Beholder*, shall spie no *sharpenesse* in the bordering *Lines*; As when *Taylors* cut out a *Sute*, which *Italians* doe aptly tearme according to that comparison, *Contorni taglianti*; Nor any *flatnesse* within the *Bodie* of the *Figure*, which how it is done, we must fetch from a higher *Discipline*; For the *Optiques* teach vs. That a *plaine*, will appear *prominent*, and (as it were) *embossed*, if the *Parts* farthest from the *Axel-tree* or middle *Beame* of the *Eye*, shall be the most *shadowed*. Because in all *Darknesse*, there is a kinde of *Deeopenesse*, But as in the *Arte* of *perswasion*, one of the most *Fundamentall Precepts* is; the *concealement* of *Arte*, Soe here likewise, the *Sight* must be sweetly deceaved, by an *insensible passage*, from *brighter colours*

lours, to *dimmer*, which *Italian Artizans* calle the *middle Tinctures*; That is, Not as the *whites*, and *yolkes* of *Egges* lie in the *Shell*, with visible distinction; But as when they are *beaten*, and *blended*, in a *Dish*: which is the neereſt compariſon, that I can ſuddenly conceiue.

Laſtly, *Affection* is the *Linely Representation*, of any *paſſion* whatſoever, as if the *Figures* ſtood not vpon a *Cloth* or *Boorde*, but as if they were *acting* vpon a *Stage*; And heere, I muſt remember, in truth with much marueile, a note, which I haue receiued, from excellent *Artizans*, that though *Gladneſſe*, and *Griefe*, be opposites in *Nature*; yet they are ſuch *Neighbours* and *Conſiners* in *Arte*, that the leaſt touch of a *Penſill*, will translate a *Crying*, into a *Laughing* Face; which *Instance*, beſides diuers other, doth often reduce vnto my memorie, that Ingenious *Speculation*, of the *Cardinall Cuſanus* extant in his *Workes*, touching the *Coincidence* of extremes,

extremes. And thus much of the foure
Requisites, and *Perfections* in *Picture*.

In *Sculpture* likewise, the *Two* first are
 absolutely necessaric; The *third* im-
 pertinent; For *Solide* Figures neede no
 eleuation, by force of *Lights*, or *Sha-*
dowes; Therefore in the Roome of this,
 wee may put (as hath beene before
 touched) a kinde of *Tenderesse*, by the
Italians tearmed *Morbidezza*, wherein
 the *Chissell*, I must confesse, hath more
 glory then the *Penfill*; that being so
 hard an *Instrument*, and working vpon
 so vnpliant stuffe, can yet leaue *Strokes*
 of so gentle appearance.

The *Fourth*, which is the expressing
 of *Affection* (as farre as it doth depend
 vpon the *Actiuitie*, and *Gesture* of the *Fi-*
gure) is as proper to the *Caruer*, as to
 the *Painter*; though *Colours*, no doubt,
 haue therein the greatest *Power*; where-
 upon, perchance, did first grow with
 vs the *Fashion* of *colouring*; such *Regall*
Statues, which I must take leaue to call

an English Barbarisme.

Now in these fower *Requisites* already rehearsed, it is strange to note, that no *Artizan*, hauing euer beene blamed for excesse in any of the three last; onely *Truth* (which should seeme the most *Innocent*) hath suffered some *Obiecti-*on, and all *Ages*, haue yeelded some one or two *Artificers*, so *prodigiously* exquisite, that they haue beene reputed too *Naturall*, in their *Draughts*; which will well appeare, by a famous Passage in *Quintilian*, touching the *Characters* of the ancient *Artizans*, falling now so aptly into my memory, that I must needs translate it, as in truth it may well deserue.

The Place which I intend, is extant in the last *Chapter* saue one of his whole *Worke*, beginning thus in *Latine*.

Primi, quorum quidem opera non vetustatis modo gratia visenda sunt clari Pictores fuisse dicuntur, Polygnotus atque Aglaophon &c.

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An 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

The whole Passage, in English
standeth thus:

THe first *Painters* of name,
whose *Workes* bee considerable
for any thing more then onely
Antiquitie, are said to haue beene *Polyg-
notus*, and *Aglaophon*; whose bare *Colou-
rings* (hee meanes I thinke in *white* and
blacke) hath euen yet so many followers,
that those rude and first *Elements*, as it
were of that, which within a while,
became an *Arte*, are preferred, before
the greatest *Painters* that haue beene
extant after them, out of a certaine
Competition (as I conceiue it) in point
of *Iudgement*. After these, *Zeuxes* and
Parafius not farre distant in *age*, both a-
bout the time of the *Peloponesian Warre*,
(for in *Xenophon* wee haue a Dialogue
betweene *Parafius* and *Socrates*) did
adde much to this *Arte*. Of which
the *first* is said, to haue inuented the
due disposition of *Lights* and *Shadowes*;

The second, to haue more subtilly examined, the truth of *Lines* in the Draught; for *Zeuxes* did make *Limbes*, bigger then the life; descending his *Figures*, thereby the more *stately* and *Maiesticall*; & therein (as some thinke) imitating *Homer*, whom the stoutest forme doth please, euen in *Women*. On the other side, *Parafius* did exactly limit all the *Proportions* so, as they call him the *Law giuer*, because in the *Images* of the *Gods* and of *Heroicall Personages*, others haue followed his *Paternes* like a *Decree*; But *Picture* did most flourish, about the daies of *Phillip* and euen to the Successours of *Alexander*; yet by sundry *habilities*; for *Protogenes*, did excell in *Diligence*; *Pamphilus* and *Melanrhilus* in due *Proportion*, *Antiphilus* in a *Franke Facilitie*; *Theon* of *Samos*, in strength of *Fantastie* and conceiuing of *Passions*; *Apelles*, in *Inuentiō*, and *Grace*, whereof hee doth himselfe most vaunte; *Euphranor*, deserues admiration,

tion, that being in other excellent studies, a principall Man, he was likewise a wondrous Artizan, both in *Painting* and *Sculpture*. The like difference, we may obserue among the *Statuaries*; for the workes of *Calon* and *Egesias* were somewhat *stiffe*, like the *Tuscan* manner; Those of *Calamis* not done with so cold stroakes; And *Myron* more tender then the former; a diligent *Decency* in *Polyeletus* aboue others, to whom though the highest prayse bee attributed by the most, yer lest he should goe free from exception, some thinke hee wanted *solemnesse*; for as he may perchance be sayd to haue added a comely *dimension* to humane shape, somewhat aboue the *truth*; so on the other side, hee seemed not to haue fully expressed the *Maiesty* of the Gods: Moreouer, hee is sayd not to haue medled willingly with the *grauer* age, as not aduenturing beyond *smooth cheekes*: But these vertues that were wanting in *Polyeletus*,

lycetus, were supplied by *Phidias* and *Alcmenes*, yet *Phidias* was a better Artizan in the representing of *Gods*, then of *Men*; and in his workes of *Iuorie*, beyond all emulation, euen though hee had left nothing behinde him, but his *Minerua* at *Athens*, or the *Olympian Iupiter* in *Eis*, whose *Beautie* seemes to haue added somewhat, euen to the receiued *Religion*; the *Maiestie* of the *Worke*, as it were equalling the *Deity*. To *Truth*, they affirme *Lysippus* and *Praxiteles*, to haue made the neereſt approach: for *Demetrius* is therein reprehended, as rather exceeding then deficient; hauing beene a greater aymer at *Likenes*, then at *Louelines*.

This is that witty Censure of the ancient Artizans, which *Quintilian* hath left vs, where the last Character of *Demetrius* doth require a little *Philosophicall* examination; How an Artificer, whose end is the imitation of *Nature*, can bee too *naturall*; which likewise

wise in our dayes was either the fault, or (to speake more gently) the too much perfection of *Albert Durer*, and perhaps also of *Michael Angelo da Buonaroti*, betweene whom I haue heard noted by an ingenious *Artizan*, a pretty nice difference, that the *German* did too much expresse *that which was*; and the *Italian*, *that which should be*: Which seuerer obseruation of *Nature*, by the one in her *commonest*, and by the other in her *absolute*st Formes, must needs produce in both a kinde of *Rigidity*, and consequently more *naturalnesse* then *gracefulnesse*: This is the clearest reason, why some exact *Symmetrists* haue been blamed, for being too true, as neere as I can deliuer my conceit. And so much touching the choyce of *Picture* and *Sculpture*: The next is, the application of both, to the beautifying of *Fabriques*.

First therefore touching *Picture*, there doth occurre a very pertinent doubt,

doubt, which hath beene passed ouer too lightly, not onely by some *Men*, but by some *Nations*; namely, whether this *Ornament* can wel become the *Out-side* of *houses*, wherin the *Germanes* haue made so little scruple, that their best *Townes* are the most painted, as *Augusta* and *Norembergh*. To determine this question in a word: It is true, that a *Story* well set out with a good *Hand*, will euery where take a *Iudicious* eye: But yet withal it is as true, that various colours on the *Out-walles* of *Buildings*, haue alwayes in them more *Delight* then *Dignity*: Therefore I would there admit no *Paintings* but in *Blacke* and *White*, nor euen in that kinde any *Figures* (if the roome be capable) vnder *Nine* or *Ten* foot high, which will require no ordinary *Artizan*; because the faults are more *visible* then in small *Designes*. In vnfigured *paintings* the noblest is, the imitation of *Marbles*, & of *Architecture* it selfe, as *Arches*, *Treezes*,
10000
Columnes,

Columns, and the like.

Now for the *Inside*, heere growes another doubt, whether *Grotesca* (as the *Italians*) or *Antique* worke (as wee call it) should be receiued, against the expresse authoritie of *Vitruuius* himselfe, *lib.7. cap.5.* where *Pictura* (saith hee) *Fit eius, quod est, seu potest esse*, excluding by this seuered definition, all *Figures* composed of different *Natures* or *Sexes*; so as a *Syrene* or a *Centaure* had beene intolerable in his eye: But in this wee must take leaue to depart from our *Master*, & the rather because he spake out of his owne *profession*, allowing *Painters* (who haue euer bin as little limited as *Poets*) a lesse scope in their imaginations, euenthen the grauest *Philosophers*, who sometimes doe serue themselues of *Instances*, that haue no *Existence* in *Nature*; as wee see in *Platoes Amphibæna*, & *Aristotles Hirco-Ceruus*. And (to settle this point) what

was indeede more common and familiar

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liar among the *Romanes* themselves, then the *Picture* and *Statue* of *Terminus*, euen one of their *Deities*? which yet if we well consider, is but a piece of *Grotesca*; I am for these reasons vnwilling to impouerish that *Art*, though I could wish such *medlie* and *motlie* Designs, confined onely to the *Ornament* of *Freezes*, and *Borders*, their properest place. As for other *Storied* Workes vpon *Walles*, I doubt our *Clime* bee too *yeelding* and *moist*, for such *Garnishment*; therefore leauing it to the *Dwellers* discretion, according to the quality of his *Seat*; I will onely adde a caution or two, about the disposing of *Pictures* within.

First, that no *Roome* bee furnished with too many, which in truth were a *Surfet* of *Ornament*, vnlesse they bee *Galleries*, or some peculiar *Repository* for *Rarities* of *Art*.

Next, that the best *Pieces* be placed not where there is the *least*, but where there

there are the *fewest lights*; therefore not onely *Roomes* windowed on both ends, which we call through-lighted; but with two or moe *Windowes* on the same side, are enemies to this *Art*; and sure it is, that no *Painting* can be seene in full *Perfection* but (as all *Nature* is illuminated) by a *single Light*.

Thirdly, that in the *placing* there be some care also taken, how the *Painter* did stand in the *Working*, which an intelligent *Eye*, will easily discover, and that *Posture* is the most naturall; so as *Italian* pieces will appeare best in a *Roome* where the *Windowes* are high; because they are commonly made to a descending *Light*, which of all other doth set off mens *Faces* in their truest Spirit.

Lastly, that they bee as *properly* bestowed for their *quality*, as *fitly* for their *grace*: that is, *chearefull* *Paintings* in *Feasting* and *Banquetting* *Roomes*; *Grauer* *Stories* in *Galleries*, *Land-schips*, and

Boscage, and such *wilde* workes in open *Tarraces*, or in *Summer houses* (as we call them) and the like.

And thus much of *Picture*, which let mee close with this Note; that though my former Discourse may serue perchance for some reasonable *leading* in the choyce of such delights; yet let no man hope by such a *speculative* erudition, to discern the *Masterly* and *Mysterious* touches of *Art*, but an Artizan himfelfe; to whom therefore we must leaue the *prerogative*, to censure the manner and handling, as hee himfelfe must likewise leaue some points, perchance of no lesse value to others; as for example, whether the *Story* be rightly represented, the *Figures* in true *action*, the *Persons* suted to their seuerall qualities, the *affections proper* and *strong*, and such like obseruations.

Now for *Sculpture*, I must likewise begin with a *Controuersie*, as before (falling into this Place) or let mee rather

ther call it a very meere *Fancie*, strangely taken by *Palladio*, who hauing noted in an old *Arch* or two at *Verona*, some part of the *Materials* already cut in fine *Formes*, and some *unpolished*, doth conclude (according to his *Logicke*) vpon this particular, that the *Auncients* did leaue the outward *Face*, of their *Marbles* or *Free-Stone*, without any *Sculpture*, till they were laid, and *Cimented*, in the bodie of the *Building*; For which likewise hee findeth a reason (as many doe now and then very wittily, euen before the thing it selfe be true) that the *Materialls* being left *rough* were more managable in the *Masons* hand, then if they had beene *smooth*; And that so the *sides* might bee laide together the more exactly; Which *Conceit*, once taken hee seemes to haue farther imprinted, by marking in certaine *Storied Sculptures*, of oulde time, how precisely the parts and *Lines* of the *Figures* that passe from one *Stone*

to another, doe meeete; which hee thinkes could hardly fall out so right, (forgetting while hespeakes of *ancient* things, the *auncient Diligence*) vnlesse they had beene cut, after the ioyning of the *Materials*, But all these *Inducements*, cannot counteruaile the sole *Inconuenience* of *shaking*, and *Disioynting* the *Commissures* with so many Strokes of the *Chissell*, besides an *Incommodious* Working on *Scaffolds*; especially hauing no testimonie, to confirme it, that I haue yet seene among the records of *Art*; Nay, it is indeede rather true, that they did *square*, and *Carue*, and *Polish*, their *Stone* and *Marble* Workes, euen in the very *Cave* of the *Quarrie*, before it was hardened by open Aire; But (to leaue disputation) I will set downe a few *Positiue* notes, for the placing of *Sculpture*; because the chusing hath beene handled before.

That first of all, it bee not too *generall* and *abundant*, which would make

a House, looke like a Cabinet, & in this point, *morall Philosophie* which tempereth *Fancies*, is the *Superintendent of Art*.

That especially, There bee a due moderation of this Ornament in the first approach; where our Authors doe more commend (I meane about the Principall Entrance) a *Doricque*, then a *Corinthian* garnishment; So as if the great Doore, be *Arched*, with some braue *Head*, cut in fine *Stone* or *Marble* for the *Key* of the *Arch*, and two *Incumbent* Figures gracefully leaning vpon it, towards one another, as if they meant to conferre; I should thinke this a sufficient entertainment, for the first *Reception*, of any *Iudicious* Sight, which I could wish seconded, with two great standing *Statues* on each side of a paved way that shall leade vp into the *Fabrique*, So as the *Beholder* at the first entrance, may passe his Eye betweene them.

That the *Nices*, if they containe *Fi-
gures*

gures of *white Stone or Marble*, bee not coloured in their *Concauitie* too *blacke*, For though *Contraria iuxta se posita magis illucescunt* (by an olde Rule) yet it hath beene subtilly, and indeede truly noted that our *Sight*, is not well contented, with those sudden departments, from one extreame, to another; Therefore let them haue, rather a *Duskiſh* Tincture, then an absolute *blacke*.

That *fine* and delicate *Sculptures*, be helped with *Neerenes*, and *Grosse* with *diſtance*; which was well ſeene in the olde controuerſie, betweene *Phidias* and *Alcmenes* about the *Statue* of *Venus*: wherein the *Fiſt* did ſhew diſcretion, and ſaue labour, becauſe the *Worke* was to bee viewed at good *Height*, which did drowne the ſweete and diligent ſtrokes of his *Aduerſarie*: A famous emulation of two principall *Artizans*, celebrated euen by the *Greeke Poets*.

That in the placing of ſtanding *Figures*

gures aloft, wee must set them in a Posture somewhat bowing forward; because (saith our Master, lib. 3. cap. 3. out of a better Art then his owne) the visuall beame of our eye, extended to the Head of the said Figures, being longer then to the Foote, must necessarily make that part appeare farther; so as to reduce it to an erect or vpright position, there must be allowed a due advantage of stooping towards vs; which Albert Durer hath exactly taught, in his fore mentioned Geometry. Our Vitruvius calleth this affection in the Eye, a resupination of the Figure: For which word (being in truth his owne, for ought I know) wee are almost as much beholding to him, as for the obseruation it selfe: And let thus much summarily suffice, touching the choice and vse of these adorning Arts. For to speake of garnishing the Fabrique with a Row of erected Statues, about the Cornice of euery Contignation

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or Story, were discourse more proper for *Athens* or *Rome*, in the time of their true greatnesse, when (as *Plinie* recordeth of his own *Age*) there were neere as many carued *Images*, as liuing *Men*; like a noble contention, euen in point of *Fertility*, betweene *Art* and *Nature*; which passage doth not onely argue an infinite abundance, both of *Artizans* and *Materials*; but likewise of *Magnificent* and *Majesticall* desires, in euery common person of those times; more or lesse according to their *Fortunes*. And true it is indeed that the *Marble Monuments & Memories* of well deseruing *Men*, wherewith the very high wayes were *strewed* on each side was not a bare and transitory entertainment of the *Eye*, or onely a gentle deception of *Time*, to the *Trauailer*: But had also a secret and strong *Influence*, euen into the aduancement of the *Monarchie*, by continuall representation of vertuous examples; so as in
that

that point *ART* became a piece of *State*.

Now as I haue before subordinated *Picture*, and *Sculpture* to *Architecture*, as their *Mistresse*; so there are certaine inferior *ARTS* likewise subordinate to them: As vnder *Picture*, *Mosaique*; vnder *Sculpture*, *Plastique*; which two, I onely nominate, as the fittest to garnish *Fabriques*.

Mosaique is a kinde of *Painting* in small *Pebbles*, *Cockles* and *Shells* of sundry colours; and of late dayes likewise with pieces of *Glasse*, figured at pleasure; an *Ornament* in trueth, of much beauty, and long life, but of most vse in *pauements* and *Floorings*.

Plastique is not onely vnder *Sculpture*, but in deed very *Sculpture* it selfe: but with this difference; that the *Plasterer* doth make his *Figures* by *Addition*, and the *Caruer* by *Substraction*, whereupon *Michael Angelo* was wont to say somewhat pleasantly: That *Sculp-*

ture was nothing but *A purgation of superfluities*. For take away from a piece of wood, or stone, all that is *superfluous*, and the remainder is the intended *Figure*. Of this *Plastique Art*, the chiefe use with vs is in the gracefull *fretting* of roofes: but the *Italians* applie it, to the *manteling* of *Chimneys*, with great *Figures*. A cheape piece of *Magnificence*, and as durable almost within doores, as harder *Forms* in the weather. And here though it bee a little excursion, I cannot passe vnremembered a gaine, their manner of disguising the shaftes of *Chimneys* in various fashions, whereof the noblest is the *Pyramidall*: beeing in trueth a piece of polite and ciuill discretion, to conuert euen the *conduits* of soote and smoake, into *Ornaments*; whereof I haue hitherto spoken as farre as may concerne the Bodie of the Building.

Now there are *Ornaments* also without, as *Gardens*, *Fountaines*, *Groues*, *Conserua.*

servatories of rare Beasts, Birds, and Fishes. Of which ignobler kind of Creatures, Wee ought not (saith our greatest * Master among the sonnes of Nature) childishly to despise the Contemplation; for in all things that are naturall, there is ever something, that is admirable. Of these externall delights, a word or two.

First, I must note a certaine contrarietie betweene building and gardening: For as Fabriques should bee regular, so Gardens should bee irregular, or at least cast into a very wilde Regularitie. To exemplifie my conceit; I haue seene a Garden (for the maner perchance in- comparable) into which the first Accessse was a high walke like a Tarrace, from whence might bee taken a generall view of the whole Plott below; but rather in a delightfull confusion, then with any plaine distinction of the pieces. From this the Beholder descending many steps, was afterwards conueyed againe, by severall mountings and wal-
lings,

* Arist. lib. 1
cap. 5. de
part. Anim.
δὲ μὴ δὲ οὐρα-
νίου παρὰ τὴν
τῆν ἀπὸ τοῦ ἀνα-
μνηστικῶν ἔστι
πᾶσι τῶν τοῦ
σοφιστικῶν ἡμεῖς
δουλοῦμεν.

lings, to various entertainments of his
sent, and *sight*: which I shall not neede
 to describe (for that were poetically)
 let me onely note this, that euery one
 of these diuersities, was as if hee had
 beene *Magically* transported into a new
 Garden.

But though other *Countries* haue
 more benefite of Sunne then wee, and
 thereby more properly tyed to con-
 template this delight; yet haue I seene
 in our *owne*, a delicate and diligent *cu-
 riositie*, surely without *parallel* among
 foreigne *Nations*: Namely, in the Gar-
 den of Sir *Henry Fanshaw*, at his seat
 in *Ware-Parke*, where I wel remember,
 hee did so precisely examine the *tin-
 ctures*, and *seasons* of his *flowres*, that in
 their *setting*, the *inwardest* of those
 which were to come vp at the same
 time, should be alwayes a little *darker*
 then the *outmost*, and so serue them for
 a kinde of gentle *shadow*, like a piece
 not of *Nature*, but of *Arte*: which men-
 tion

tion (incident to this place) I haue willingly made of his *Name*, for the deare *friendship* that was long betweene vs: though I must confesse, with much wrong to his other *vertues*; which deserue a more solide *memoriall*, then among these vacant obseruations. So much of *Gardens*.

Fountaines are *figured*, or only plaine *Water'd-workes*: Of either of which, I will describe a matchlesse patterne.

The first, done by the famous hand of *Michael Angelo da Buonaroti*, in the figure of a sturdie woman, *washing* and *winding* of linnen clothes; in which Acte, shee *wrings* out the water that made the *Fountaine*; which was a gracefull and naturall conceit in the *Artificer*, implying this rule; That all *designes* of this kind, should be *proper*.

The other doth merite some larger expressiō; There went a long, straight, mossie walke of competent breadth, greene, and soft vnder foot, listed on
both

both sides with an *Aqueduct* of white stone, breast-high, which had a hollow *channell* on the top, where ranne a prety trickling streame; on the *edge*, whereof, were couched very thicke all along, certaine small *pipes* of lead, in little holes; so neatly, that they could not be well perceiued, till by the turning of a cocke, they did sprout ouer interchangeably from side to side, aboue mans height, in forme of *Arches*, without any interfection or meeting aloft, because the pipes were not exactly opposite; so as the *Bekolder*, besides that, which was fluent in the *Aqueducts* on both hands in his view, did walke as it were, vnder a continuall *bowre* or *Hemisphere* of water, without any drop falling on him. An *invention* for refreshment, surely farre excelling all the *Alexandrian* delicacies, and *Pneumatiques* of *Hero*.

Groves, and artificiall deuices vnder ground, are of great expence, and little dignitic;

dignitie; which for my part I could wish conuerted here into those *Crypteria*, whereof mention is made among the curious prouisions of *Ticho Braghe* the *Danish Ptolemie*, as I may well call him: which were deepe *concaues* in gardens, where the *starres* might be obserued euen at *noone*. For (by the way) to thinke that the brightnesse of the Sunnes body aboue, doth drowne our discerning of the lesser lights, is a popular error; the sole impediment being that lustre, which by *reflection*, doth spread about vs, from the face of the Earth; so as the *caues* before touched, may well conduce, not to a delicious, but to a learned pleasure.

In *Auiaries* of wire, to keepe Birdes of all sorts, the *Italians* (though no wastfull Nation) doe in some places bestow vast expence; including great scope of *ground*, varietie of *bushes*, *trees* of good height, running *waters*, and sometimes a *Stone* annexed, to con-

strive

P

temper

temper the *Aire* in Winter. So as those *Chanteresses*, vnlesse they be such as perhaps delight as much in their wing, as in their voice, may liue long, among so good prouisions and roome, before they know that they are *prisoners*; reducing often to my memory, that conceit of the *Romane Stoicke*, who in comparison of his owne free *contemplations*, did thinke diuers great and splendent fortunes of his time, little more then *commodious captiuities*.

Concerning *Ponds* of pleasure neere the habitation; I will referre my selfe to a graue *Author* of our owne (though more illustrious by his other* worke) namely *Sarisburiensis de Piscinâ*.

* *De Regis
Curial. &c.*

And here I will end the second part touching *Ornaments*, both *within*, and *without* the *Fabrique*.

Now as almost all those, which haue deliuered the *Elements of Logicke*, do vsually conclude, with a Chapter touching *Method*; so I am heere seized with

with a kind of critical spirit, & desirous to shut vp these building Elements, with some *Methodical* directiō how to *censure* Fabriques already raised : for indeed without some way to contract our *Judgement*, which among so many particulars would bee lost by diffusion; I should thinke it almost harder to be a good *Censurer*, then a good *Architect* : Because the *working* part may be helped with *Deliberation*, but the *Judging* must flow from an *extemporall habite*. Therefore, (not to leaue this last Piece without some *Light*) I could wish him that commeth to examine any noble *Work*, first of all to examine himselfe, whether perchance the *sight* of many braue things before (which remaine like impressed formes) haue not made him apt to thinke nothing *good*, but that which is the *best*; for this *humour* were too sowre. Next, before hee come to settle any imaginable opinion, let him by all meanes seeke to informe him-

selfe precisely, of the *Age* of the *Worke*
 vpon which hee must passe his *Doo*
me. And if hee shall finde the apparent *de-*
cayes to exceed the proportion of *Time*;
 then let him conclude without farther
 inquisition, as an absolute *Decree*,
 that either the *Materials* were too *sight*,
 or the *Seate* is nought. Now, after
 these premisses, if the *House* be found
 to beare his *yeares* well, (which is al-
 wayes a token of sound *constitution*)
 Then let him suddenly runne backe-
 wardes, (for the *Method* of *cen-*
suring is contrary to the *Method* of *com-*
posing) from the *Ornaments* (which first allure
 the *Eye*) to the more essentiall *Members*,
 till at last hee be able to forme this *Con-*
clusion, that the *Worke* is *Commodious*,
Firme, and *Delightfull*; which (as I said
 in the beginning) are the three capitall
Conditions required in good *Buildings*,
 by all *Authors* both *Ancient* and *Mo-*
derne. And this is, as I may tearme it
 the most *Scientificall* way of *Cen-*
suring.
 There

There are two other which I must not forget. The first in *Georgio Vassari*, before his laborious *Worke* of the liues of *Architects*, which is to passe a running examination ouer the whole *Edifice*, according to the properties of a well shapen *Man*. As whether the *Wals* stand vpright vpon cleane footing and *Foundation*; whether the *Fabrique* bee of a beautifull *Stature*, whether for the *breadth* it appeare well *burnished*, whether the principall *Entrance* be on the middle Line of the *Front* or *Face*, like our *Mouthes*, whether the *Windowes*, as our *Eyes*, be set in equall number and distance on both sides, whether the *Offices* like the *Veines* in our *Bodies*, be vsfully distributed; and so forth. For this *Allegoricall* review may be driuen as farre as any *Wit* will, that is at leasure.

The second way, is in *Vitruuius* himselfe, *lib. 1. cap. 2.* where hee summarily determineth six *Considerations*, which accomplish this whole *Art*.

Ordinatio.

Dispositio.

Eurythmia.

Symmetria.

Decor, and

Distributio.

Whereof (in my conceit) wee may spare him the first two; for as farre as I can perceiue, either by his *Interpreters*, or by his own *Text* (which in that very place, where perchance he should be clearest, is of all other the *Cloudiest*) hee meaneth nothing by *Ordination*, but a well setting of the *Modell* or *Scale* of the whole *Worke*. Nor by *Disposition*, more then a neate and full expression of the first *Idea* or *Designement* thereof; which perchance doe more belong to the *Artificer*, then to the *Censurer*. The other foure are enough to condemne, or absolue any *Fabrique* whatsoeuer. Whereof *Eurythmia* is that agreeable *Harmony*, betweene the breadth, length, and height of all the

Roomes

Roomes of the *Fabrique*, which suddenly where it is taketh euery *Beholder*, by the secret power of *Proportion*: wherein let mee onely note this, That though the least error or offence that can be committed against *ight*, is excessive of height; yet that fault is nowhere of small importance, because it is the greatest offence against the *Purse*.

Symmetria is the conueniencie that runneth betweene the *Parts* and the *Whole*, whereof I haue formerly spoken.

Decor is the keeping of a due *Respect* betweene the *Inhabitant*, and the *Habitation*. Whence *Palladius* did conclude, that the principall *Entrance* was neuer to be regulated by any certaine *Dimensions*; but by the dignity of the *Master*, yet to exceede rather, in the more, then in the lesse, is a marke of *Generosity*, and may alwayes be excused with some noble *Embleme*, or *Inscription*,

on, as that of the *Conte di Bevilacqua*, o-
uer his large Gate at *Verona*, where per-
chance had beene committed a little
Disproportion.

Paret Ianua: Cor magis.

And heere likewise I must remem-
ber our euer memorable Sir *Philip Sid-
ney*, (whose *VVit* was in truth the very
rule of *Congruity*) who well knowing
that *Basilius* (as hee had painted the
State of his *Minde*) did rather want
some extraordinary *Formes* to enter-
taine his *Fancie*, then roome for *Courti-
ers*; was contented to place him in a
Star-like Lodge; which otherwise in
seuere Iudgement of *Art* had beene an
incommodious *Figure*.

Distributio is that vsfull *Casting* of
all *Roomes* for *Office*, *Entertainment*,
or *Pleasure*, which I haue handled be-
fore at more length, then any other
Piece.

These are the *Four* *Heads* which
euery man should runne ouer, before
hee

hee passe any determinate *Censure*, vpon the Works that he shal view, where-with I will close this last part, touching *Ornaments*. Against which (mee thinkes) I heare an *Obiection*, euen from some well-meaning man; That these delightfull *Craftes*, may be diuers wayes ill applied in a *Land*. I must confesse indeede, there may bee a *Lasciuious*, and there may be likewise a *superstitious* vs^e, both of *Picture* and of *Sculpture*: To which possibilty of misapplicati-on, not onely these *Semi-liberall Arts* are subiect; but euen the highest per-fections, and *endowments* of *Nature*. As *Beautie* in a light woman, *Eloquence* in a mutinous Man, *Resolution* in an *Assasinate*, *Prudent obseruation* of houres & humours, in a corrupt Cour-tier, *Sharpenesse* of wit and argument in a seducing Scholler; and the like. Nay, finally let mee aske, what *ART* can be more pernicious, then euen *RELIGION* it selfe, if it selfe be con-

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uerted

And especiall
 the perill
 of the
 Religion?

uerted into an Instrument of ART:
Therefore, *Ab abuti ad non vti, negatur
consequentia.*

Thus hauing stitched in some fort
together, these *Animaduersiones*, tou-
ching *Architecture*, and the *Orna-
ments* thereof; I now feele that *con-
templatiue* spirits are as restlesse as a-
ctiue; for doubting with my selfe, (as
all weakenesse is ialous) that I may be
thought to haue spent my poore ob-
seruation abroad, about nothing but
Stone and Timber, and such Rubbage;
I am thereby led into an immodestie
of proclaiming another Worke, which
I haue long deuoted to the seruice of
my *Country*: Namely, *A Philosophi-
call Suruey of Education*, which is indeed,
a second *Building*, or repairing of Na-
ture, and, as I may tearme it, a kinde of
Morall Architecture; whereof such
Notes as I haue taken in my foreigne
trans-

For spirit
abstracto

transcursions or abodes, I hope to vtter without publike offence, though still with the freedome of a plaine *Kentish* man. In the meane while I haue let these other *Gleanings* flie abroad, like the Bird out of the *Arke*, to discouer what footing may bee, for that which shall follow.

FINIS.

Errata.

Pag. 6. lin. 8. for as, read is. Pag. 48. lin. 2. for cunctim, read cunctim. Pag. 77. lin. 6. for (wo, read (who. Pag. 80. lin. 9. for wisely, reade with. Pag. 88. lin. 19. omitted in the Margin the verses following, touching the coincidence of extreame affections; represented by Homer in the person of Hectors wife; as Painters and Poets haue alwaies had a kind of congeniality.

ΙΑΙΑΔ. ζ.

*Ἦς εἰπὼν ἀλέγειο φίλος ἐν χερσὶν ἴδμεν,
Παῖδ' ἴδν, ἠδ' ἴδεν μιν κνωίδαι δέξασθαι κέλευσε
Ἀκρῶσιν γαλάσασα. --- That is,*

Shee tooke her sonne into her armes, weepingly laughing.

