

# Decoration Of Houses

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by  
Edith Wharton

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By

**Edith Wharton**



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As an Englishman, therefore, I most respectfully offer the expressions of my gratitude to your Majesty, while as an Architect, I avail myself of your gracious permission to present this Work, and to declare myself

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## PREFACE

### TO THIS EDITION.

“ I SHALL not need,” says Sir Henry Wotton, in his elements of Architecture, “ like the most part of writers, to celebrate the subject which I deliver. In that point I am at ease, for Architecture can want no commendation, where there are Noble-Men or Noble-Mindes.” It is fortunate for me that I now in that respect appear before the Reader in the same predicament, as the very worthy Provost of Eton College, or I fear my humble recommendation of the art would but little avail, or be serviceable to its professors. A sufficient proof of Sir Henry’s assertion may be discovered in the increasing desire for extending its cultivation, and a relish for it when successfully cultivated, not less on the part of its many distinguished Patrons, than on that of the Public generally. It is unnecessary to enlarge in this place on the advantages which must accrue to

society from its due appreciation and encouragement. They are sufficiently indicated by our author in his work. I may however add, that Architecture is an art which Monarchs and their Nobles have not considered it below their rank and dignity to study and practise; and to the honour of this country be it said, that it would be difficult to point in any other age or nation to a more distinguished Architect than Lord Burlington, a nobleman, who besides his celebrity as an artist, was eminent for his extensive patronage and protection of many upon whose professional exertions their prosperity and life itself depended.

The name and character of Sir W. Chambers are a sufficient recommendation of this Work. Though his designs meet not with universal approbation in the present day, more than they did in his life-time\*.

\* A short period after his late Majesty's accession to the throne, he received the royal orders to lay out and improve the gardens at Kew. This, under very great disadvantages of situation, he effected in a masterly manner, and perhaps quite as happily as the nature of the *locale* would allow. He was reproached for his fondness for and introduction of Turkish and Chinese architecture, but surely if the indulgence of such whims is allowable on occasions, no place could be more suitable for a display of them than that in question, where the accompaniments might be made accordant with the leading forms. Chambers observes that "The gardens

he was unquestionably a man of very considerable talents and acquirements, and his Work is certainly the only text book in our language which has yet

at Kew are not very large, nor is their situation by any means advantageous, as it is low, and commands no prospects. Originally the ground was one continued dead flat: the soil was in general barren, and without either wood or water. With so many disadvantages, it was not easy to produce any thing, even tolerable, in gardening; but princely munificence, and an able director, have overcome all difficulties, and converted what was once a desert into an Eden." In 1765, the result of the operations at Kew appeared in a splendid folio publication, under the title of *Plans, Elevations, Sections, and perspective Views of the Gardens and Buildings at Kew, in Surrey, the seat of her Royal Highness the Princess of Wales*. The plates in this work, which were admirably engraved and much admired, were executed by Woollett, Major, Grignion, and others from drawings by Chambers himself, Cipriani inserting the figures. The views were by Kirby, Thomas Sandby, and Marlow.

In the year 1772, appeared in 4to. *A Dissertation on Oriental Gardening*, by Sir William Chambers, Knight, Comptroller General of his Majesty's Works, which went to a second edition in the following year. Sir William's object in this work, was to prove that our national taste in ornamental gardening was very inferior to that of the Chinese. "In England," says the author, "our gardens differ very little from common fields, so closely is vulgar nature copied in most of them; there is generally so little variety, and so much want of judgment in the choice of the objects, such a poverty of imagination in the contrivance, and of art in the arrangement, that these compositions rather appear the offspring of chance than design; and a stranger is often at a loss to know whether he be walking in a common meadow, or in a pleasure-ground made and kept up at a very considerable expence: he finds nothing to delight or amuse him, nothing to keep up his attention or excite his curiosity; little to flatter the senses, and less to touch the passions, or gratify the understanding." His account of the Chinese gardening was collected from his own observations in China, from conversations with their artists, and communications from



appeared worthy of being placed in the hands of the student. His Architectural style was evidently formed on that of the two greatest modern masters

different travellers. A sketch of this work had appeared some time before, and the appearance of the publication at that particular period, being immediately after the period of Mr. Mason's *English Garden*, it was invincibly suggested that the author's design was to underrate the talents of the English gardeners, and thereby divert his sovereign's intention of making the improvements in Richmond gardens as they now appear. The very strange devices described in the *dissertation* were much ridiculed, but they were no more than had been published before by Father Attiret, in his account of the gardens of the Emperor of China, near Pekin, translated by Mr. Spence (under the assumed literary name of Sir Harry Beaumont) in 1753, and since re-published in Dodsley's *Fugitive Pieces*. The dissertation, however, produced very considerable amusement, by the appearance in the following year of a publication, generally attributed to Mr. Mason, in which the cause of English gardeners and gardening was amply revenged. It was entitled *An Heroic Epistle to Sir William Chambers, Knight, Comptroller General of his Majesty's Works, and Author of a late Dissertation on Oriental Gardening. Enriched with explanatory Notes, chiefly extracted from that elaborate performance*. In the Preface to this Poem, the author says—that it is Sir William's “protest aim, in extolling the taste of the Chinese, to condemn that mean and paltry manner which Kent introduced, which Southcote, Hamilton, and Brown followed, and which, to our national disgrace, is called the English style of gardening. He shews the poverty of this taste by aptly comparing it to a dinner, which consisted of three gross pieces, three times repeated; and proves to a demonstration, that nature herself is incapable of pleasing, without the assistance of art, and that too of the most luxuriant kind. In short, such art as is displayed in the Emperor's garden of Yven-Ming, near Pekin; where fine lizards, and fine women, human giants, and giant baboons, make but a small part of the superb scenery.” To the Heroic Epistle was soon after added, *An Heroic Postscript to the Public*. The Heroic Epistle and Postscript was answered by *A Familiar*

the world has seen, namely, Palladio and Sanmichele. Unlike his cotemporary Sir Robert Taylor, who in most of his works pursued an opposite method,

*Epistle to the Author of the Heroic Epistle*, and thus ended the wordy war.

In 1774 Sir William Chambers' was appointed to the conduct of the works at Somerset House, an appointment of considerable emolument. He did not however live to see this work finished, and it is to be feared that it will never be completed. For the reception of this work it was necessary to remove one of the most elegant façades of which this or any other country could boast; the water front of old Somerset House by Inigo Jones. It was improbable that Sir W. Chambers would escape criticism. A Pamphlet appeared from the masqued pen of an engraver of the name of Williams, under the name of Anthony Pasquin, from which the following is extracted.

“ The ancient palæe, which was so presumptuously brushed away for this illegitimate structure, was the metropolitan retreat of the Duke of Somerset, uncle to Edward the Sixth. It is now the residence of a greater and more puissant man—Henry Dundas.

“ The cunning projector of this undefinable mass, has been occasionally indebted to the pure designs which Inigo Jones intended as a continuation to Whitehall, but which were never carried into effect, as the calamities of the first Charles tended to destroy that taste which he had first introduced. These superb bits appear among the other parts of the pile like elegant individuals in abasing company.

“ This surprising, stupendous, and extraordinary heap of stones was called into order by the magic voice of that pine apple of Knighthood *Sir William Chambers*, at the command of the great and sapient council of this realm in 1774. It occupies a space of 500 feet in depth, and 800 in width, and is altogether a most astonishing assemblage of contradictory objects. The entrance or atrium is so inappropriate, that it looks like the narrow mouth of economy, through which we grope our passage to the vast stomach of national ruin. The arcade is borrowed from the *strada della dora grossa*, at Turin.

Sir W. so subdivided his masses, that his detail, elegant and well-arranged as it is invariably found, almost ever interferes with, and destroys the effect

“ At the termination of the vestibule is a large bronze statue of the King, who seems placed there for no other purpose but to take cognizance of the exits and entrances of the clerks and watchmen, as if he kept a day book to check their time. Beneath the nose of the sovereign is a putredinous pool of stagnant rain-water. I presume this was meant by the questuary and accommodating architect, as emblematic of the swinish democracy of the realm. I have no doubt but the effluvia from the green liquid is more pestilential than that imputed by Virgil to the lake Averno, which is reported to have killed all the birds that flew over it; but as few or none visit this vicinity but birds of prey, the virtuous part of society are not much inclined to commiserate their delirium or their woe! The whole of this monument offends my vision. It may be requisite for a prime minister to be *bronzed*, but not a monarch. There is another unfortunate allusion to royalty: the entablatures of this vestibule are covered with cyphers, emblematic and appertaining to the King, Queen, and Prince of Wales. Surely no true subject can approve of annexing the characters of cyphers to such august personages! If there is any novelty or genius evident in this sportiveness of fancy, it is so thoroughly republican and indecent, that it should immediately be effaced.

“ From what source of information (as nature is entirely out of the question) the gentle knight has drawn his *Caryatides*, I know not. They are, generally speaking, piscatory monsters, more terrific and ungenial than any *Horace* deprecated, or that ever entered into the perturbed imagination of sleeping youth. The males have long flowing hair, with large crabs and lobsters creeping through their ragged locks. This is a very delightful thought, and perfectly original, as it conveys a lively idea of marine *pediculi*. The ladies have a peculiar sort of head-dress, made up of dead salmon, lampreys, sea-weed, and other aquatic rarities, like so many distracted mermaids. Some of the masks are so peculiarly conciliatory and smiling, that I think *Earl Camden* should have borrowed one on his recent



of the whole. He however produced many Works to which this observation will not apply, and which place him in the first rank as an Architect.

embassy to Ireland. This measure could not be reasonably resisted, as they might all be removed without any injury to the basement.

“ That part of this inconsistent lapidific accumulation which is appropriated to the *polite arts*, is admitted to be unexceptionable. The principal room, dedicated to the purposes of lectureship and the annual exhibition, cannot be approached but by a spiral stair-case as high as Jacob’s ladder ; which (luckily for the lecturer and the exhibitors) turns the heads of the visitors before they can either hear or examine. In *Sir Joshua Reynolds’s* presidency, the floor gave way, and sunk many inches, when *Burke* and a few more of the *illuminati* were eagerly listening to a theme they could not comprehend. The company shrieked, *Burke* prayed, and the Gods suspended the mischief. It is piteous that all these disasters had not occurred more recently, as then the erratic Swede might have imputed them to a partial shock from *Brothers’* predicted earthquake, and thus have covered his honour by coming in for a slice of the alarming prophecy !

“ The names of the sculptors who were employed in the decoration of the exterior, are *Carlini*, *Wilton*, *Geracci*, *Nollekens*, and *Bacon*. I have chronicled them as sculptors, not statuaries, as neither appear to have *cut a figure* in this business.

“ On the top of the *corps de logis*, or central part of this heterogeneous association of stones, we see a dirty black lump, which he calls a dome, and which is apparently stolen from the worst embellishments of that worst of architects, *Sir John Vanbrugh*. It furnishes me with no other idea but an inverted punch-bowl, and peradventure might be intended by *Sir William* as a durable symbol of sobriety, to operate on the senses of the clerks, to keep them from tipping in the hours of duty.

“ It appears to me, from consequences, that any thing can make an *architect* as well as a *taylor* ! yet a cock-sparrow in his nest would beat them all, if security is eminently essential to the continuance of the structure. This splendid Knight of Poland, in his eagerness to have his build-

The want of a new Edition of the Work has, owing to the scarcity and cost of the Third Edition, been long and sensibly experienced. From its

ings replete with taste, forgot that it was expedient they should have strength also. The terrace of this magnificent jumble, which was so unfeelingly cut out of the muddy sides of the venerable Thames, was the pride of his heart; but, alas! as it is decreed that pride shall have a fall, it should not create surprize that the proud eminence, like Burke's slippery Whigs, seceded from the parental pile, and fell ingloriously in the dirt! The subterraneous apartments, it must be acknowledged, have every recommendation but *light*. It strikes me that they must have been perverted by accident or necessity, from the original design of *Sir William Chambers*, who assuredly built them in imitation of some *classic coal-holes*! In these damp, black, and comfortless recesses, the clerks of the nation grope about like moles, immersed in Tartarean gloom, and *stamp, sign, examine, indite, doze, and swear*, as unconscious of the revolving sun as so many miserable demons of romance, condemned to toil for ages in the centre. Methinks I hear the genius of the Isle of Portland mourn for this misapplication and prostitution of its entrails!

"The key-stones of the arches are wonderfully carved in alto-relievo, with colossal masks of the Ocean, and the rivers of Britain, among which the Thames looks peculiarly sulky, as not having forgot or forgiven the irruptions made upon his filthy domains by this saucy edifice. There was a tablet with the *Lord Mayor and Court of Aldermen* in tears, upon the same occasion, but this was omitted.

"Some of the ornaments are so obtrusive, that it is recommended to obliterate the ocean, and send the billing swans to the Maids of Honour; the *Lares* to Buckingham House; the cornucopias to the poor, and all the fish to Billingsgate.

"In each corner of the quadrangular court is \* \* \* \* \* so happily and wonderfully contrived, as to form a charming *coup d'œil* for the female tenants of the establishment, \* \* \* \* \*. What a glorious contrivance for the communication of ideas, and the dispatch of business?

having been improved and augmented by the author, and its three additional plates, that edition has been so much in demand, that, except from the monopoly which till lately existed in respect of the

It was originally intended to introduce the *Five Orders*, in a fandango; but the absurdity of the measure was timely exposed by *Mr. Boswell*, who proved to demonstration, that they had never been taught to dance.

“ This confederacy of alien attributes is like so many enemies compelled to elbow each other in a mob; they seem to curse mutually in the moment of embracing, like so many cats; it is a racemation, or cluster of antipathies, made of recrementitious parts—an untimely exposition of bruised and battered stones, torn from the bowels of the peaceful quarry; here are pillars and pilasters unconnected with order, chambers and avenues without usefulness, and men and women without genders.

“ As there is no sublunary perfection, it may be no dishonour to the architect, to note, that the following alterations have been suggested, and will be enforced, viz. to carve a lame Phœbus over the Coach Office; a Plutus with one eye over the Pay Office; a Sailor on Stumps over the Navy Office; and an encrusted Chamber Pot over the Hall for the Anti-quarians.

“ At *Whitton Place*, formerly the seat of the *Duke of Argyle*, but now of the felicitous Knight himself, he has exerted his astonishing ability in a peculiar manner, by erecting what he denominates a Temple of Esculapius, as a left-handed compliment to *Dr. Willis*, to whose skill we are indebted for the restoration of the Sovereign. As Esculapius was but the journeyman to Hygeia, and did little more than carry her *spatula* and drugs, I presume to aver, that justice as well as gallantry should have impelled him to have given the lady the preference; but this collateral criticism shall not induce me to pass over the extraordinary merit attached to this building, which is contrived with such subtle address, as to be equally applicable and acceptable to any god or goddess, as well as the medical old gentleman in question; but perhaps *Sir William* may feel

publication of architectural works, not less disadvantageous to the art, than injurious to the artists permitting its existence, who by their united exertions

sensations which justify such an extravagant tribute to the powers of the *Mad Doctor* ; for, as the great bard has phrased it—

‘ We know what we are, but we know not what we may be.’

“ Though it is palpable to me, that the knight alluded to has been benighted in some of his professional endeavours, it remains with the wiser part of society, to appreciate him with correctness, and I sincerely hope that truth will be established, although my penetration might suffer in the issue.

“ True architecture may be resolved into the following idea, viz. to connect *strength* with *beauty*, and make both conducive to *utility* ; but our builders disdain to be shackled with such antique obligations, while the liberal hand of national folly fattens them into a careless independence. Lord Thurlow slumbers as happily in his *sugar-house*, at Knight’s Hill, after the fatigue of telling money at the Exchequer, as Augustus did in his proud and noble pavilion, such is the refined taste of the age of *George the Third*—glorious era ! and yet we have the audacity, during the commission of such absurdities, to prate of the Goths and Vandals with an unblushing scorn.

“ But it may be ungenerous to form a judgment of what architecture is by what it *was*. I shall forbear to enlarge upon the beauties of Vitruvius, Mustius, Brunelleschi, or the ascribed graces of the Tuscan school. This is a wonderful kingdom, and perhaps the building should be wonderful to square with the genius of the land. The *Goût des Nations* varies even more than the clime ; hence arises an apology for the seeming errors of our architectural professors. The sleek and corpulent haberdasher regards his *Gazebo* as much as *Cicero* did his *Tusculum*, or *Pliny* his *Laurentum* ; then who should wrangle upon the point of right in either dominion, when all the parties are equally happy ? I will venture to declare that *Callimachus* or *Palladio* never made a hundredth part so much by their practice as *Mr. Holland* : and as nine hundred and ninety-



ought long since to have prevented its continuance, it would be difficult to assign a reason why such a re-publication has not been sooner undertaken.

nine in a thousand will be more profound in their obedience, and more sincere in their habits of respect, to the man of gold than the man of sublime merit, it naturally follows that he is the more reputable character who commands the most homage. The acquisition of knowledge is both troublesome and unproductive; and where is the man, with a sound mind, who would willingly embrace so much anxiety, when the events of each hour prove that he is most successful who is most ignorant, and that he is most honoured who is most successful?"

It is but recently that this trash of Mr. Williams, written some years ago, was noticed by a reply which does honour to the heart as well as the head of an accomplished and intelligent architect. Mr. Papworth shall speak for himself. It was inserted Dec. 13, 1823, in an amusing and useful Publication, entitled the *Somerset House Weekly Miscellany of Fine Arts, &c.*

“‘IT IS THE DUTY OF THE LIVING TO PROTECT THE REPUTATION OF THE DEAD.’ This axiom we quote, as applicable to the remarks which we proposed to offer to our readers on the malignant critique from the pen of Anthony Pasquin, reflecting upon the fame of Sir William Chambers, which we printed in No. VII. of our Miscellany; since which we have not been idle in our enquiries as to the parts, in which, to use the words of the critic, “*the cunning projector of this undefineable mass has been occasionally indebted to the pure designs which Inigo Jones intended as a continuation of Whitehall,*” and which “*superb bits appear like elegant individuals in abasing company.*”

“Would it not have been an advantage to public taste, if the critic who assumed this superior knowledge had pointed at the parts so conspicuously beautiful to his learned optics; for we, among the rest, have yet to find them out. Mister Pasquin, we have reason for believing, like many another audacious and unprincipled writer, made this assertion at a venture, knowing full well, from the success of similar experiments, founded on falsehood, that public credulity, general indifference for the subject, and

It is perhaps almost needless to state, that the original work of Sir W. Chambers, has been very long before the public. The First Edition was pub-

the prevailing love of slander, would receive his dictum as authority, and that he should, favoured by these combining circumstances, remain secure from enquiry, and escape with applause. The secret satisfaction, however, arising from such successful treachery, betrays a baseness of heart in the calumniator, so entirely out of the common course of iniquity, that could the true motives of such pernicious scribblers be made manifest to the world, men of genius would be held in due reverence, and their unprincipled revilers would be driven from the society of all who loved virtue, or had a becoming regard for truth.

“How base, how unjust, in a man of penetration—in one like Pasquin, who could write with wit and spirit, to make this sport of talent, when he must have acknowledged, had he not walked round this noble building for the indulgence of his evil propensity, that in these “*piscatory monsters*,” which he erroneously designates *cariatides*, are displayed much elegance and invention; that the emblems were designed most tastefully accordant with the departments of the building to which they were appended, and that the masks of the river deities, which he has so wantonly made the subject of his ridicule, were works of the highest order of merit. They still, however, remain on the keystones of the arches, monuments of the superior abilities of Mr. Wilton, their ingenious sculptor, and will long be regarded by all judges of art, as legible memorials of the shame of this unjust critic.

“We should have added our opinions upon the general character of this noble building, had we not, whilst preparing this article, been favoured with a paper upon the subject, written *con amore*, by an intelligent and highly respected professor of architecture, and expressly in aid of our Miscellany. We therefore cheerfully suspend our notions, and substitute those of our kind contributor, whose superior knowledge of the science will render that justice to the fame and talents of Sir William Chambers, to which our best efforts would have been incompetent.

“‘SOMERSET HOUSE is a vast pile of building, comprising many public

lished as far back as the year 1759. So much was it esteemed by the public and architects especially, as to have proceeded to a Third Edition in 1791.

offices, the Royal Academy of Arts, and the Royal and Antiquarian Societies. It was erected by order of the government, and under the direction of Sir William Chambers, from his own designs. The first stone was laid in 1776. This celebrated architect was descended from an ancient Scotch family, which had settled at Stockholm, where he was born, anno 1729. But being brought to England when only two years of age, we may consider him, in his professional career, as of the English school.

“ ‘ Somerset House is built on that part of the Thames side named the Strand, a spot remarkable for its steep declivity, and the variety of soil on which its foundations were to be placed, no inconsiderable portion of its site being actually taken from within the channel of the river, and below its bed.

“ ‘ The situation seemed to be impracticable, both as related to its levels and security of foundation, circumstances that required all the science and sagacity of the architect to contend with and to overcome.

“ ‘ In bridge building, such difficulties are always found to exist : in a structure of this extent and magnitude they rarely occur ; but when they do, the comparative mental powers necessary to execute such a work are much beyond those required for the erection of even the greatest bridge that is now known.

“ ‘ In the structure of a bridge, the points of contact with the soil are few, and its levels only relate to the ground at its extremities ; but in a building circumstanced like Somerset House, the points of contact are almost innumerable, and its levels differ at every point. Every pier, every wall, pillar, and partition, every arch and every vault, all have to be supported in their respective stations, and each according to its need ; for, to make the foundations more ample than could be avoided, would have been incurring a vast addition of expence. The architect, by obtaining sufficient security, with this attention to economy, justly acquired reputation from his employers.

“ ‘ It was not the least arduous part of the duty which he had to perform

The impressions in the last named edition were so worn as to prove that the original plates were completely exhausted, as may be seen by com-

in the plan of the building, when he undertook to arrange the various offices for so great an establishment, to design them suitably to their multifarious purposes, and to combine them with the general effect. He had to reconcile the conflicting desires, opinions, and prerogatives of the officers great and small, who were to inhabit or occupy the manifold apartments.

“ ‘ All these difficulties, however, he overcame, with such rare felicity and general satisfaction, that on the question of accommodation among the officers or households of the respective departments, there appears to have been but one solitary instance of discontent, and that came to knowledge at second hand, being the reported complaint of the cook at the *Fictualing Office*, who thought herself limited in larder-room.

“ ‘ To effect these numerous arrangements—to adjust the proportions and uses of so many apartments on so many floors, in appropriate and essential portions of such an aggregate of offices, the architect judiciously selected the Italian practice of building, which admits better than any other style, the beauties of Roman architecture, combined with that convenience for business and domestic comfort, which this useful national structure demanded.

“ ‘ The elegant simplicity of the building as a whole, the proportion of its parts, and their relative accordance, may vie with the noblest public structures in the metropolis ; and in some respects may be pronounced superior to any. The exterior of Somerset House is considered to be the perfection of masonry, and the sculptures that decorate the various parts, are not equalled by the ornamental accessories of any of our great national buildings.

“ ‘ The decorations of the interior are no less entitled to applause ; indeed, to Sir W. Chambers we owe the introduction of that chaste character of ornament in this country, which has since been perfected by the studies of Stuart and others, from the classic stores obtained through their invaluable researches amidst the remains of Grecian art.



paring those of the First and Third Editions. They were considering the period of their execution exceedingly well got up. Rooker, Grignion, Fourdrinier, Mazell, and others, of the most eminent artists of the time were engaged on them. These have all been carefully and accurately reduced for this Edition, and now re-engraved in a style far surpassing that in which the originals were executed. Lowry, Porter, Moses, Armstrong, Roffe, and the other artists engaged, shew by their subjoined exertions to what an amazing extent the Architectural Engravers of this country have carried the improvement of their art since Sir William Chambers first published his Treatise\*.

Previous to our better and later acquaintance with Grecian Architecture, no one ventured to impugn

“ ‘ This, then, is Somerset Place, the work of an architect, who has manifested in its erection, a vast extent of intellect, as a mathematician, as an engineer, as an artist, and as a philosopher. He was moreover an upright man ; one whose great abilities have done honour to himself, to his illustrious patron, to his employers, and the age in which he lived.

“ ‘ J. B. P.’ ”

\* The plates were reduced under the Editor's direction, with the exception of those to which his name appears, by his pupils, Messrs. F. H. Groves and William Collins, and he considers it only an act of justice to thank them, in this place, for their great care and attention to that which was entrusted to their exertions.

the value of our Author's labours. They were in truth a necessary appendage to the office of every Architect, as the only work in the English language to which reference could be made. A more intimate acquaintance with the remains of the art in Greece, first submitted to the examination of the public through the indefatigable zeal of our ingenious countryman Stuart, and latterly through the munificence of the Dilettanti Society, has considerably added to the wants of the student. To supply those wants has been one of the objects of this Edition. The illustration of Chambers's text has been another, and the unprecedented patronage with which it has been favored, has amply justified the undertaking.

The examination of Grecian Architecture which is prefixed to the main work, is compressed from a Treatise on which I have been many years engaged. This to render its introduction practicable, has been reduced within limits prescribed by the nature of this Publication, and consequently very considerably abridged. The reader is therefore requested to consider it merely as an outline, which, if leisure and health permit, I hope to fill up on a future occasion in a more satisfactory manner. The information obtained in this country, through the medium of its

many enlightened travellers as well as the present prevailing taste for the employment of Grecian Architecture as distinguished from Roman and Italian, made it absolutely necessary to introduce some account of that style, in order to complete the work as a manual for the student and amateur. So fruitful is the subject, that I was at a loss in many places, what from my materials to adopt and what reject. I therefore claim his indulgence for many omissions, in the hope of redeeming myself at no very distant period by a more elaborate performance in that respect. If, however, I have at all succeeded in conveying something like a bird's eye view of the origin, progress, and perfection of that style, whereof much that is advanced must be necessarily conjectural, my object will have been obtained.

It is here proper to observe, that the knowledge of Grecian Architecture, to which such rapid strides have been made since our Author's time, will by no means invalidate the excellent precepts which he delivers in the pages of his Treatise. These apply equally to Grecian, Roman, or Italian Architecture. Rules whose foundations are laid on the solid grounds of taste and science, are seldom inapplicable even in

different arts, but in the self same art they apply to all styles.

With the greatest submission to those who are better informed on this subject than myself, I cannot help acknowledging my bias towards what may perhaps be properly called the Italian school of Architecture, as it is found in the works of Palladio, Sanmichele, and others, who formed their style from the resources which the remaining antiquities of Rome afforded \*. My reasons for this preference arise from an opinion that it is more plastic, that is, more capable of being submitted to the wants and habits of this country. As an instance of what I mean, among numberless which I could immediately specify, let the arrangement of the diameters, heights, and intercolumniations of a Grecian Doric Portico be taken in application to an English edifice. The intercolumniations of the Parthenon are to the diameters as 1.155 to 1; and I am willing to allow that the unity and simplicity of its parts, added to the beauty of its general form and proportions, must have produced in it when entire an almost magical

\* The Tuscan school for grandeur and exhibition of the picturesque is without parallel.

effect. But suited as this was to a climate where it might be necessary as much as possible to exclude the rays of the sun, it surely will not be contended that it is applicable to the wants of this cold northern climate. “ The styles of Architecture which have prevailed at different times amongst different nations, have had their origin in the varied modes of existence, and in the physical and moral habits of the people who produced them. The general forms and combinations in those styles are the result of endeavours to suit the climate in which they are planted, and to obviate the inconveniences against which in each country it is more peculiarly necessary to provide. From the most costly piece of furniture, down to the meanest domestic utensil, the influence of climate and habit on their forms is distinctly perceptible; and in each series there is found a *convenience* and utility tending to the proof of such an hypothesis. It would indeed be absurd to suppose that those general forms from which the different styles were generated could, with equal convenience to their inhabitants, be the same in hot, cold, moist, dry, and temperate climates. In the delicious regions of southern Europe, open galleries and colonnades, terraces whose only covering is the constantly azure sky, seem



almost to induce an opinion, that the interiors of the dwellings to which they are attached are scarcely used but for the purposes of shelter and rest. In these the exclusion of the sun's rays seems the principal object, and the walls are therefore pierced with few and small openings. In the northern parts of Europe, the introduction of the greatest possible quantity of light and heat is of the utmost importance ; hence the apertures are many and large. It might perhaps be safely affirmed, that the difference between the enormous volume of light introduced into our Gothic cathedrals, and the dark cell of an Egyptian temple, arises rather from the difference of climate, than from that of the religions for whose purposes they were erected ”\*.

I am aware that, in the present day, I may lose with some persons all character for taste by the above candid declaration. I am also aware that there are many imperfections in the work I have undertaken. On these accounts I solicit the correction of the Architect, whilst I am quite indifferent to the observations of the critic by profession. “ In all parts of knowledge, rightly so termed,” says Hooker, “ things

\* The passage between the inverted commas is extracted from an article written by me some years since, and published in a periodical work.

most generall are most strong: Thus it must be, inasmuch as the certainty of our persuasion touching particulars, dependeth altogether upon the Credit of those generalities out of which they grow. Albeit therefore every cause admit not such infallible evidence of prooffe, as leaveth no possibility of doubt or scruple behind it, yet they who claime the generall assent of the whole world unto that which they teach, and do not feare to give very hard and heavy sentence upon so many as refuse to embrace the same, must have speciall regard that their first foundations and grounds be more than slender probabilities.”

In this Edition will be found an interesting and authentic Memoir of the Life of Sir William Chambers, for which I am indebted to Mr. Hardwick, one of his surviving pupils, whose talents and high reputation do so much honor to the name of the master, and are so well known as to be above any encomium from me. I have added a concise explanation of the principal terms used in the science of Architecture, which it is presumed will be found useful to the amateur, and of sufficient importance to the student to justify its introduction.

I have now only to observe, that I engaged in

the labours which follow, from a belief that they would be useful, and not from any vain motive of appearing before the public on this occasion either as Author or Editor; but I do not scruple to acknowledge the satisfaction I have felt in preparing the following sheets, convinced as I am that the original Work, at least, ought to have a place in the library of every Architect.

J. G.

*Abingdon Street, Westminster,*

*Feb. 1, 1825.*



**L I F E**

**O F**

**SIR WILLIAM CHAMBERS.**



A MEMOIR  
OF  
THE LIFE  
OF  
SIR WILLIAM CHAMBERS.

THAT branch of the family of Chambers from which the subject of this Memoir immediately descended, was possessed of a good estate at Rippon in Yorkshire, whereon it resided, and whence one of its members went over to settle at Stockholm, not merely as a merchant, but also with a view of recovering a large sum of money advanced by an ancestor to a former king of Sweden. The particulars of this transaction are related by Chalmers in his Biographical Dictionary. William Chambers, who now claims our attention, was by birth a Swede, having been born at Stockholm, and was sent over when very young to Yorkshire for his education. Early in life he went in the capacity of a supercargo to the

East Indies, and, if we have been rightly informed, made two voyages to that quarter of the world ; in one of which he visited Canton, and having considerable taste for drawing, made sketches of the buildings and costume of the Chinese, which, on his arrival in England some years after\*, he published, with the assistance of those excellent engravers, Grignion, Foudrinier, and Rooker.

Abandoning, however, the commercial pursuits in which he was originally engaged with his family, and by which his brother John acquired a large fortune in the East Indies, he followed the natural bent of his genius, and travelled into Italy for the purpose of studying the science of architecture, not only by measuring and drawing the invaluable remains of antiquity, but likewise those admirable productions of the revivers of the arts which distinguished the fifteenth and sixteenth centuries. He carefully examined and studied with unwearied application the works of Michael Angelo, Sangallo, Palladio, Scamozzi, Vignola, Peruzzi, Sanmichele, Bernini, and other Italian architects, whose designs were in general guided by the rules of the ancients, but whose extraordinary talents, exalting them above the character of mere imitators, produced an originality in their compositions that fully established their fame, and pointed them out as the fittest models for succeeding artists. Mr. Chambers knew how to distin-

\* In the year 1757.

guish and to combine all the excellencies of those great men, and his intuitive good taste and sound judgment led him also to examine into the merits of those French architects whose productions have been since so much esteemed and applauded, among whom Claude Perrault and Jules Mansard held the most distinguished rank. At Paris he studied under the celebrated Clerisseau, and acquired from him a freedom of pencil in which few excelled him. If we mistake not, Reynolds, Wilton, and some other English artists of note, were his contemporaries on the continent.

Until Le Roy published his *Antiquities of Greece*, little attention was paid to Greek Architecture; but in a very short time, and almost coeval with that work, Stuart, Revett, and others, gave to the world their splendid publications of those Grecian remains, which had thitherto escaped the barbarous spoliations and ravages of Mahometan superstition; and the academies of the arts in most of the enlightened nations of Europe were suddenly enriched by their interesting and invaluable discoveries. But either from the same predilection for the Roman school which had influenced the Italian architects who preceded him, or from the narrowness of his finances, Sir William Chambers never trod the classical ground of Attica, nor even visited Sicily or Pæstum, where he might have beheld some of the most antient and imposing works of the Grecian republic. It was evident, there-

fore, that Mr. Chambers derived from other sources his extensive knowledge in the art, and this he effected, as we have seen, not only by searching into the causes which produced those delightful effects apparent in the remains of Roman grandeur, by a close and discriminating observation of the style and manner of the great revivers of the arts, but by storing his mind with the excellent precepts laid down by authors who had not only written upon the art, but had likewise practised it. Possessing, by these means, all the theoretic knowledge necessary to his profession, he ultimately fixed his residence in London, and in Russell Street, near Covent Garden, first took up his abode. As he inherited but little wealth, to his own merit and the casual interest of a brother architect he was indebted for that success and celebrity he afterwards so justly acquired. Mr. John Carr, of York, being asked by the Earl of Bute if he could recommend him an artist to instruct the Prince, afterwards George the Third, in the study of architecture, Carr, who had just then become acquainted with Mr. Chambers, and had seen and admired his drawings, told his lordship that he knew a young man who would exactly answer his purpose, and accordingly recommended Mr. Chambers. Lord Bute introduced him to the Prince, who became in course of time so much attached to him that, when he came to the crown, he appointed him his chief architect, and promoted him whenever any oppor-



tunity offered. Some property at Kew having been purchased for the residence of the Princess Dowager of Wales, Mr. Chambers was employed to lay out the grounds, and to design a number of buildings and temples in a variety of styles, both European and Asiatic, to embellish the spot. Kent had formerly been employed for a similar purpose in the adjacent gardens of Richmond. The buildings and views in Kew Gardens were published in 1763, the plates having been engraved by the best artists of that period, and the expense of the publication borne, as the author informs us, by royal bounty. But his "*Treatise on the Decorative Part of Civil Architecture*," by far the most useful work on that science which had ever appeared in this country, tended most to establish his reputation, both as an author and architect of research, judgment, and refined taste. The truths it inculcates, and the proportions and forms it recommends, the result of long experience and repeated observation of structures which have stood the test of centuries, cannot fail to impress upon every mind, that there is a criterion of taste in architecture as well as in the other liberal arts,—that genius is consistent with rules,—and that novelty is not necessarily an improvement.

The King was pleased to appoint him his private architect, and he was introduced into the Office of Works as *Comptroller*, and, upon the new modification of that Board, by Mr. Burke's Act, succeeded

Whitshed Keene as Surveyor-General of his Majesty's works.

When the bridge at Blackfriars was in contemplation, Mr. Chambers, encouraged by the powerful interest of Mr. Paterson, an opulent merchant in the city, gave designs for that structure, in competition with other architects; but his drawings were deemed too magnificent and expensive for execution, and those of Mr. Mylne were adopted.

In the year 1768, was instituted "THE ROYAL ACADEMY OF ARTS, IN LONDON," to the establishment of which Mr. Chambers was principally instrumental, by possessing a great influence with the King, who was graciously pleased to sanction the undertaking, and appointed Mr. Chambers Treasurer to the Institution, and Mr. Reynolds (afterwards Sir Joshua) to fill the chair of the President.

In the year 1771, having presented to the King of Sweden some highly finished drawings of Kew Gardens, his majesty conferred on him the order of the Polar Star; and he was permitted by his Britannic Majesty to assume the usual style and title annexed to British knighthood.

About this period he made a design for Lord Clive, for his villa at Claremont, near Esher, in Surrey, but that of Mr. Brown, the celebrated landscape gardener, being preferred by his lordship, gave rise to a difference between these gentlemen, which was never entirely reconciled; Mr. Chambers



considering Mr. Brown an intruder on an art in which neither his talents nor his education could entitle him to any respect. Upon this, in 1772, our Author published his "*Dissertation on Oriental Gardening*;" and in the introduction severely satirized the taste of Mr. Brown. This work gave occasion to the famous "*Heroic Epistle to Sir William Chambers*," which was at first supposed to be written by Mr. Anstey, the author of "*The New Bath Guide*," but was afterwards understood to be the production of Mason the poet, whose poem upon gardening is very generally known.

Mr. Chambers fortunately obtained the patronage and friendship of the Earl of Besborough, whose superior taste in the liberal arts was well known to every man of science. For this distinguished nobleman he built a villa at Roehampton, in Surrey; of which, says Mr. Dallaway, "the portico is singularly correct and elegant;" and the same author adds, "that he also designed a superb mansion for Lord Abercorn at Duddingston, near Edinburgh." Amongst others of his noble employers were ranked the Duke of Bedford, the Lord Viscount Middleton, Earl Gower, and Lord Milbourn; for the two last he built mansions at Whitehall and in Piccadilly.

Gothic architecture not having been then revived in this country, afforded but little occasion for the exercise of his talents in the practice of it, though he

which it will be difficult for his opponents of the present day, or those of the future to deprive him. We are not however writing a critique, but a Memoir.

Sir William Chambers dwelt some years in Poland street, and afterwards removed to a house which he had erected in Berners street, residing occasionally however at an estate he had purchased at Whitton, near Hounslow, or at his official house at Hampton Court. He was respected and visited by those who were the most celebrated either for wit, arts, or letters, amongst whom we have the pleasure to recollect Doctors Johnson and Goldsmith, Garrick, Burney, Reynolds, Caleb Whitefoord, and many other celebrated characters. In the latter part of his life he gradually retired from business, and resided in a small house in Norton street, but being of a cheerful and convivial disposition, he occasionally associated with a few friends of the same profession, who had instituted a sort of club, known by the name of the Architect's Society. This Society held their monthly meetings at the Thatched House tavern.

For some time before his death, he was afflicted with a kind of asthmatic complaint, which frequently obliged him to have recourse to an inhaler, and other artificial means of respiration to obtain that breath of which nature was but too rapidly depriving him. He died on the 8th of May, 1796, in the seventy-first year of his age, and was buried



AN  
EXAMINATION,

ETC.

ON THE ELEMENTS OF BEAUTY IN ARCHITECTURE.

THERE is perhaps no subject on which persons are more apt to differ in their opinions, than on the beauty of a building. Upon due reflection, we shall find that this ought not to be a matter of surprise,—for when we consider that the prototypes of architecture are entirely different in their nature, from those employed in the other arts of design, whose objects of imitation are in their extent, limited only by the range of animate and inanimate creation, and that those are so constantly subjected to our senses, that their images are easily understood and compared, it will be manifest, that, in an art which has no regulated standard of comparison, opinions must often be at variance with one another.

In architecture, the creative power of nature herself is the model imitated. It is an art which appeals directly to the understanding, and has not the means of flattering the senses in the same way as her sister arts; hence her productions are not universally appreciated: in truth, they are rarely understood except by those whose education and acquirements have qualified them to judge. The beautiful models of nature however are the index and guide of the

painter and sculptor: a successful imitation of these models, even without an advance on the part of the artist, towards those higher intellectual beauties which distinguish the historical painter, is capable of affecting us with very agreeable sensations:—nay, the low and still life of the Flemish school has its admirers and justly.—But the architect creates the beauty he produces. The other artists easily address the senses and passions, whilst HE can only rely on his appeal to the understanding. His powers of art are therefore limited to operations on the cultivated mind.—With the multitude, magnitude and richness are more valued than the utmost elegance of form or the most fascinating series of proportions.

The object of an artist's inquiry is not so much to investigate metaphysically the cause of beauty in the productions of his art, as to study the effects that flow from those which by the common consent of ages are esteemed beautiful', and thus shorten his road by an *a priori* method. It is in this way that he will more readily obtain information on those qualities which act on the understanding and excite our affections by means of the beautiful result they exhibit<sup>2</sup>. These qualities may be classed as follows<sup>3</sup>:—

MAGNITUDE AND STRENGTH, as qualities which affect the eye.

<sup>1</sup> "The most certaine token of evident goodnesse, is if the generall persuasion of men doe so account it." Hooker's Ecclesiasticall Politie, B. I.

<sup>2</sup> It is rather surprising that a recent noble writer on the subject should have employed several pages in the consideration and refutation of Mr. Burke's ingenious but false speculations as to the requisites of *smallness*, *smoothness*, *delicacy*, &c. See Lord Aberdeen's Enquiry into the Principles of Beauty in Grecian Architecture, 8vo. London, 1823.

<sup>3</sup> See Art. *Beau.* Encyclop. Method.

ORDER AND HARMONY, as qualities which affect the understanding.

RICHNESS AND SIMPLICITY, as qualities which excite the affections,—in which taste is the principal guide.

These qualities answer to the three divisions which those who have written on architecture have usually adopted, namely—

CONSTRUCTION, in which the chief requisites are Magnitude and Strength.

DESIGN OR DISPOSITION, in which the principal requisites are Order and Harmony.

DECORATION, whose requisites are Richness or Simplicity, according to the nature of the composition.

That there are however many other circumstances which tend to the production of an agreeable and beautiful result, is sufficiently obvious—one of them should be more particularly noticed because there can be no doubt of its influence, in the excitement of our admiration of the splendid monuments of Grecian art; it is, an association with the “times and countries which are most hallowed in our imagination. It is difficult for us to see them, even in their modern copies, without feeling them operate upon our minds, as relics of those polished nations where they first arose, and of that greater people by whom they were afterwards borrowed”<sup>1</sup>. This is one of those causes which produce such an effect on our minds when we contemplate the stupendous ecclesiastical structures of the middle ages, to which, must, at least by every man of taste, be assigned a very extraordinary and exalted degree of beauty. In these edifices, though to all appear-

<sup>1</sup> Alison on Taste, Vol. II. p. 157.



ance designed on principles essentially different from those employed by the Greeks, the elements of beauty are identically the same—but an analysis to prove such an hypothesis is not within the range of the present inquiry. Our cathedrals, it cannot be denied, are very much aided in their effect on the mind, by the recollections which carry us back to those ages when religion was all splendour and society all chivalry. In short, ancient architecture of whatsoever class, country or period cannot be separated, in a just estimation of its merits, from the history of the nation in which it flourished; it is the influence and character of the age and nation to which it belongs, by which it is sanctioned and modified.

MAGNITUDE AND STRENGTH.—We are assured from experience, that, beyond certain limits of size and strength, the productions of architecture cease to be beautiful; in fact, beyond a given extent any mass of matter which fatigues the eye in embracing its extraordinary dimensions, so that the organ must undergo great exertion in order to understand and appreciate the parts, is by no means an agreeable object. In architecture, extraordinary magnitude may be considered a vicious excess: for instance—a gallery of such length that the eye cannot with distinctness penetrate to the end—a column too lofty—a building whose site is such, that the visual angle can never include its extent—a building too lofty under the same circumstances.—In short, all excessive dimensions.—These are to the eye as distressing as a light which is too strong and powerful'.—On the contrary, there is a repugnance to those objects in architecture which are

<sup>1</sup> See *Encyc. Method. Art. Beau.*

extremely diminutive. In these the eye is limited and constrained within such narrow bounds, that it experiences almost the same sensations as are imparted by the flame of a dim feeble inefficient light.

Writers on the principles of taste, and especially Mr. Alison, have made magnitude a quality necessary to the existence of the sublime. That it is so in the works of nature when associated with ideas of power and danger and terror, is undeniable : but it will scarcely be admitted that these ideas can be said to find a place in the productions of architecture.—On which account magnitude may in them perhaps be more properly classed among the essentials of beauty.

It would be difficult to conceive that any work in the art under our examination could be considered beautiful, if unaccompanied by a requisite strength or stability, or at least such an appearance of either as would carry a conviction to the mind that it possessed sufficient for its existence and duration.—Though magnitude, speaking widely, is intimately associated with the idea of proportionable power or strength ; yet stability is well known to be independent of magnitude. The celebrated Campanile at Pisa, cannot from its predicament, be denominated a beautiful object. The first idea which occurs to the mind in contemplating it, is its apparently dangerous state. However pleasing its abstract form, however elegant the arrangement and proportions of its detail, still it can never excite those agreeable sensations which would be necessarily called into action, if its perpendicularity were restored.—Our amazement and terror would then indeed cease, and we might have some satisfaction in making an

analysis of those details which, except as matter of history or speculative curiosity, is not now considered worth the labour'.

To apply the foregoing observations at length to the remaining examples of Grecian architecture cannot be necessary.—To the magnitude, strength and consequent stability of these structures we may however add one important feature.—It is that the sites of them are almost invariably well chosen, and calculated to display their beauties to the greatest advantage.

Strength and stability in architecture are almost synonyms with fitness or adequacy, at least in appearance, of the several parts of the structure to the performance of their different offices. Thus the strength and stability of an order depend on the fitness of the column to support the entablature, and on the other hand, on the entablature not containing a greater quantity of matter than the column is either really or apparently able to sustain<sup>1</sup>. To the Greeks we are indebted for those canons of proportion in the orders, which age has approved, adopted and almost sanctified.—In the Ionic order of this people, advantage

<sup>1</sup> “ All things that are, have some operation not violent or casuall. Neyther doth any thing ever begin to exercise the same, without some fore-conceived end for which it worketh. And the end which it worketh for is not obtained, unlesse the worke be also fit to obtain it by. For unto every end every operation will not serve. That which doth assigne unto each thing the kind, that which doth moderate the force and power, that which doth appoint the forme and measure of working, the same we terme a law. So that no certaine end could be obtained, unless the actions whereby it is attained were regular, that is to say, made suteable, fit, and correspondent to their end, by some canon rule or law.” Hooker's Eccles. Politie, B. 1.

<sup>2</sup> See note on Arcades, Chambers's Civil Architecture, *infra*.

was taken of the happy medium between their early and clumsy Doric, and the lighter Roman examples which closed the scene of genuine art.

ORDER AND HARMONY.—We will now proceed to the consideration of Order and Harmony as Elements of Beauty in Architecture. By the word order is meant, a disposing of the several parts of a building in their appropriate places, as related to each other and to the whole. Whilst harmony is that which it would from its Greek derivation almost strictly import<sup>1</sup>, namely a joining together of the parts in a consistent and uniform manner, so that all matter which is foreign or unsuitable to the composition be rejected.

There are no edifices in any style of architecture, in which harmony is more pre-eminent than in the Grecian temple. Perhaps, for harmony, the Gothic Style in those of its structures, which are entirely of one period, yields only to the Grecian;—the reason is evident.—The origin progress and perfection of both styles were the result of the habits and characters, and wants of the people that produced them.

Harmony may however be carried to such an extent as to generate a monotonous effect, as it most evidently does in the architecture of the Egyptians, wherein, as well from an excess of simplicity, as from the absence of variety, it cloy without satisfying. It may be compared to a musical composition, strictly conformable to the laws of counterpoint wherein the author so constantly dwells on the same key without making use of his privilege of modulating

<sup>1</sup> Ὡς μάλιστα αὐτῶν ἕκαστον ἀρμονίαν τοῖς μεγάλαις λίθοις εἶναι, (Pausanias, Argol. c. 25,) in speaking of the walls of Tiryns.



into others, that he fails to fix the hearer's attention for more than a few seconds.—Harmony can never exist in a building whose subdivisions are contrived without such an attention to uniformity of character as to impress on the mind an idea of unity, and if one may be permitted to use the term, an expression of the structure's destination.—It is moreover particularly to be attended to, in regulating and modifying the decorations that are employed—for instance, delicacy, lightness and excess of ornament would ill suit a building whose character and destination were of a nature discordant with those qualities.

**RICHNESS AND SIMPLICITY**—are qualities in the discreet use of which, the Greeks carried the art to the highest degree of perfection, at least in the works of the best ages. One of the most exquisite examples of appropriate richness that can be cited, is the beautiful monument of Lysicrates, whilst for the reverse of that quality none can be better cited than the Parthenon.—Each is dressed with an appropriate quantity of ornament; the first captivates, the last is imposing and majestic.

It is well worthy of remark, that those mouldings of the corona, which in the Ionic order, are frequently enriched by a system of foliage carved in relief, were in the Parthenon painted in colours—so that a considerable degree of richness was thus obtained without distracting or leading away the eye from more important parts, or affecting the contours of the mouldings when viewed in an oblique direction.

As richness and simplicity belong exclusively to the third division of building, viz. decoration: it follows, that ornaments are to be chosen or rejected according to the associations which exist between their adoption and the

effects which they are calculated to produce on the mind. When we aim at an effect of grandeur and stability, but few ornaments are admissible, because, many subdivisions of the detail, which is the case where decoration is unsparingly used, destroy the ideas of strength, as, in fact, they weaken, or appear to weaken, the parts whereon they are employed.—Hence, according to its destination, ornament and variety therein must be more or less introduced into the work; always bearing in mind that excess and overloading, when ornament is profuse, distract and fatigue the eye and tend to destroy the effect of the best arranged designs.

Decoration, when judiciously introduced, becomes in many instances<sup>1</sup> a language, intelligible only however, when the artist is capable of speaking it correctly and the spectator of comprehending it. It is then a system of hieroglyphic writing, and the building to which it is applied becomes historical, and tells its tale more nobly and appropriately than it can ever do through the undignified medium of mural inscriptions. What can be more judicious or appropriate than the sculpture in the metopes and pediment of the Parthenon. Ornament here, not only creates a variety on the surface of the work, but relates by the aid of the sculptor a history intimately connected with the religious and moral destination of the edifice to which it is applied.

The strenuous advocates of the Grecian style are not willing to admit that it has defects, but that there are such, will be submitted to the reader in investigating its

<sup>1</sup> See Encyc. Method. Art. *Harmonie*.



origin, progress, and perfection, in the following pages, as they incidentally come into consideration.

If the student desire to profit by the use and application of this style of architecture in his practice, any course he can pursue will be better than the common expedient of tamely copying the profiles of its examples into his designs, as he finds them delineated in the authors to which he is usually referred.—An artist can only make them properly subservient to his purpose, by entering into the views and feelings which actuated the inventors themselves. It is a singular proof of the invention of the antients, that no two examples of the same order are precisely similar.—Their variety seems equal to that which we observe in the reverses of their coins.

This short and compressed view of the Elements of Beauty in Grecian architecture, cannot be more appropriately concluded than in the words of Alison'. “The life of man,” says that author, “is very inadequate to the duration of such productions, and the present period of the world, though old with respect to those arts which are employed on perishable subjects, is yet young in relation to an art which is employed upon so durable materials as those of architecture: instead of a few years, therefore centuries must probably pass before such productions demand to be renewed, and long before that period is elapsed, the sacredness of antiquity is acquired by the subject itself, and a new motive given for the preservation of similar forms. In every country accordingly, the same effect has taken place: and the same causes which have

<sup>1</sup> Vol. II. p. 106.

thus served to produce among us, for so many years, an uniformity of taste with regard to the style of Grecian architecture, have produced also among the nations of the East, for a much longer course of time, a similar uniformity of taste, with regard to their ornamental style of architecture; and have perpetuated among them, the same forms which were in use among their forefathers before the Grecian orders were invented."

## ON THE ORIGIN OF GRECIAN ARCHITECTURE.

Though Babylonia<sup>1</sup>, Chaldea and Egypt, had attained very considerable proficiency in their architectural works at a very early period, as we must conclude from the accounts in the Holy Scriptures, no less than from those of ancient authors, yet neither of these countries, can from all that we collect, be said to have known or understood the principles of the art so as to have rendered it capable of affecting the mind otherwise than by the enormous magnitude of the works it produced. Nimrod built three cities in Chaldea<sup>2</sup>. Nineveh was founded by Ashur<sup>3</sup>, and we read of the establishment of towns in Palestine as early as the age of Jacob and Abraham<sup>4</sup>. Later, in Homer's time, Egypt boasted her celebrated Thebes<sup>5</sup>, which had at that period been long in existence. The age

<sup>1</sup> Strabo speaks of many magnificent works which he attributes to Semiramis, and says, that besides those in Babylonia, there were monuments of Babylonian industry all over Asia. He speaks of *λόφοι* (high altars) and strong walls and battlements of various cities, together with subterraneous passages of communication.—Also aqueducts, for the conveyance of water under ground; and passages of great length upwards by stairs.—Also bridges,—lib. xvi.

<sup>2</sup> “And the beginning of his kingdom was Babel, and Erech, and Accad, and Calneh, in the land of Shinar.” Gen. x. 10.

<sup>3</sup> Out of that land went forth Ashur, and builded Nineveh, and the city Rehoboth and Calah.” Ibid. v. 11.

<sup>4</sup> Genesis, xix. 20.—xxviii. 19.

<sup>5</sup> Οὐδ' ὅσ' ἐς Ὀρχομενὸν προτινίσσεται, οὐδ' ὅσα Θήβας

Αἰγυπτίας ὅδε πλείστα δόμοις ἐν κτήματα κείται,

Αἶθ' ἐκατόμυλοί εἰσι.—

Iliad. I. 381.

Κτίσαι δέ φασι τοὺς περὶ τὸν Ὀσίριν πόλιν ἐν τῇ Θηβαίδι τῇ κατ' Αἴγυπτον ἐκατόμυλον—Diod. Sic. lib. i. fol. 18. Edit Wesseling—Herodotus Euterpe.

of the architectural wonders and excavations of India is undecided. It seems likely that the Egyptians gained their architecture from the East, or as Jacob Bryant<sup>1</sup> supposes, that the buildings of both nations were erected by colonies of some great original nation. This supposition is borne out amazingly by the singularities in common of the Indian and Egyptian styles.—In the ornaments applied to each there is a striking similarity, and each delighted in structures of extraordinary dimensions.—It was in Greece however that true architecture was reared ; in that country she received all the elementary beauties of which she was susceptible, as well as those in her general forms with which the habits and character of the nation invested her. But it is not to be presumed that the Oriental and Egyptian architecture were devoid of beauty ; on the contrary, much is to be admired in the detail of each.—In that of the latter the forms of its masses are peculiarly grand. It has been noticed in a preceding page that the monotony of the ornaments which the Egyptians employed, renders them in some respect deficient in point of beauty<sup>2</sup>, but let us always recollect it was from the foliage used by the Egyptians, particularly that of the Lotus and Palm tree<sup>3</sup>,

<sup>1</sup> Quarto edit. Vol. III.

<sup>2</sup> *Suprà*—page 9.

<sup>3</sup> Denon, Voyage dans la Basse et la haute Egypte. Plates 44 and 45.

The use of the Palm leaf in the Capitals of the Egyptian columns may have had its origin in an early and popular notion, that the Palm tree rose under any weight that was placed on it, and in proportion to the degree of depression—“Ὅσπερ ἀντιστάμενον τῷ βιβαζόμενῳ.” Plutarch. Symposiac. lib. vi. c. 4.

“ Si, super palmæ, inquit, arboris lignum magna pondera imponas, ac tam graviter urgeas oneresque, ut magnitudo oneris sustineri non queat ; non deorsum palma cedit, nec intra flectitur, sed adversus pondus resurgit et sursum nititur recurvaturque.” Aulus Gell. lib. iii. c. 6.

and even from their employment of Volutes, that the Grecians evolved the Corinthian capital. They had sufficient penetration to discover the sound principles on which the Egyptian architecture was founded, and judgment to select, improve and adopt what was worthy of imitation.

It was of course by very slow steps that architecture proceeded to that perfection which it attained in Greece.—The mechanical arts must have made considerable progress before buildings of stone could have been constructed. If we may believe Pliny<sup>1</sup>, their early houses were but simple huts built of earth and clay, resembling the caverns from which they had but just emerged. The same author says, that the Greeks attributed the honor of inventing bricks to Euryalus and Hyperbias, brothers and natives of Attica.—But the time in which these persons lived is unknown, and their introduction of the use of bricks into Greece is the utmost that can be assigned to them, if indeed the whole story be not a fable.

The Athenians were amongst the earliest of the nations of Greece, who became a body politic. From their indisposition to move far away from their country, they received, as some conjecture, the appellation of *Ἀυτόχθονες*<sup>2</sup>, though according to Plato<sup>3</sup>, the import is more literal,

<sup>1</sup> *Laterarias, ac domos constituerunt primi, Euryalus et Hyperbias fratres Athenis: antea specus erant pro domibus.* Plin. lib. vii. s. 57. See also Pausanias, Attic. c. 28, and Æschylus, Prometh. vinct. 449.

<sup>2</sup> Isoerat. in Panæg. pa. 65, fol. Basil. 1750.

<sup>3</sup> *Adsunt Athenienses, unde humanitas, doctrina, religio, fruges, jura, leges ortæ, atque in omnes terras distributæ putantur: de quorum urbis possessione, propter pulchritudinem etiam inter deos certamen fuisse proditum est: quæ vetustate eâ est, ut ipsa ex sese suos eives genuisse dicatur.* Cicero. Orat. pro L. Flacco.

<sup>3</sup> In Menexen. Fol. Francof. 1602, pa. 518.



from a belief that their ancestors actually sprang from the earth. The earliest of their kings of whom we have notice was Ogyges, but of him little more than his name is known. His son Eleusinus, however, built the city of Eleusis, so that the father who also governed Bœotia<sup>1</sup> must have introduced some civilisation into these parts of Greece. The kingdom of Argos owed its foundation to Inachus<sup>2</sup>, whose son Egialeus is said to have founded the kingdom of Sicyon. It has been conjectured, and with every appearance of probability, that the above two chiefs belonged to some of those different colonies which moved from Asia and Egypt, and first civilised the inhabitants of Greece, teaching them to dwell in cities, and to lead a less wandering life. These doubtless brought with them some remembrance of the arts of their native countries. The step from the unwieldy Egyptian column to the Grecian Doric was indeed wide, yet experience shows us how very gradual is the advance of science, and through what a number of stages it must pass before it even approaches perfection.

The earliest edifices of the Greeks were far from exhibiting skill or elegance. The Temple at Delphi, celebrated by Homer<sup>3</sup>, and supposed by Bryant<sup>4</sup> to have been originally founded by Egyptians was according to Pausanias<sup>5</sup>, little better than a hut covered with laurel branches. During the time of Vitruvius the ruins of the

<sup>1</sup> Pausanias—Bœotic. cap. 5.

<sup>2</sup> Ἀργος δ' Ἰναχέϊον—Strabo. Arcad. lib. viii.

<sup>3</sup> Iliad. I. 404 et seq.

<sup>4</sup> Analysis of Ancient Mythology, vol. I. pa. 378.

<sup>5</sup> Ποιηθῆναι δὲ τὸν ναὸν τῷ Ἀπόλλωνι τὸ ἀρχαιότατον δάφνης φασί, κομισθῆναι δὲ τοῦς κλάδους ἀπὸ τῆς δάφνης τῆς ἐν τοῖς Τέμπεσι. καλύψεως δ' ἀνσχηματισμὸς οὕτως γὰρ ἂν εἴη παρὰ σχηματισμένους ὁ ναός. Phocic. c. 5.



building wherein the Areopagus assembled were still visible: even this was, according to that architect<sup>1</sup>, but a miserable sort of structure. Cadmus<sup>2</sup>, about 1519 B. C. has the reputation of having introduced to the Greeks the worship of the Egyptian and Phœnician deities, and of having instructed them to quarry and work the Stone of the country<sup>3</sup> so as to make it useful in building, and moreover of having taught them the art of fusing and working metals. From this period the Greeks rapidly advanced in civilisation; but the precise state of the art at that early period, cannot be satisfactorily determined, and the difficulties in the way of acquiring any certain knowledge on the subject render the task irksome perhaps impossible to perform. The laws of Draco in the 39th Olympiad are the most ancient writing, says Bryant, to which we can securely appeal. “When the Grecians began afterwards

<sup>1</sup> Vitruvius, lib. ii. c. 1.

<sup>2</sup> Jacob Bryant treats Cadmus in the same manner as he does the other Grecian heroes, denying altogether the existence of such a person, and attributing the good works done by him to the Colony of Cadmians instead of their leader. This is however a matter of little consequence to our present purpose. Herodotus tells us, that when the Cadmians came to Attica, they introduced a new system of Architecture and built Temples in a style quite different from that, to which the natives had been used. And he describes the buildings in question as erected at a distance from those of the country. *Ἐπὶ τῷ τῷ δὲ τῷ Λαοδάμαντος τῷ Ἑπεικλέος μεναρχέοντος ἔξανιστάται Καδμεῖσι ὑπὸ Ἀργείων, καὶ τρέπονται ἐς τὸς Ἑγγέλεας. οἱ δὲ Γεφυραῖοι ὑπολειφθέντας ὕψερρον ὑπὸ Βοιωτῶν, ἀναχωρεῖσι ἐς Ἀθήνας. καὶ σφί ἰρὰ ἐστὶ ἐν Ἀθήνησι ἰδρυμένα, τῶν ἐδὲν μετὰ τοῖσι λοιποῖσι Ἀθηναίοισι, ἀλλὰ τε κεχωρισμένα τῶν ἄλλων ἰρῶν, καὶ δὴ καὶ Ἀχαιῆς Διμήτρου ἰρόν τε καὶ ὄργια.* Herodotus, Terpsich. 61.

<sup>3</sup> Pliny, lib. vii. sect. 57. Euripides speaking of the Walls of ancient Mycenæ considers them as the productions of the Cyclopeans after the Phœnician rule and method.

ὡς τὰ κυκλώπων βάθρα,  
Φοίνικι κανόνι καὶ τύχοις ἡρμοσμένα.

Here. Fur. 939.

to bestir themselves, and to look back upon what had passed; they collected whatever accounts could be obtained. They tried also to separate and arrange them to the best of their abilities; and to make the various parts of their history correspond. They had still some good materials to proceed upon, had they thoroughly understood them; but herein was a great failure. Among the various traditions handed down, they did not consider which really related to their country, and which had been introduced from other parts<sup>1</sup>. If Pausanias could be relied on, the Greeks had, at an extremely early period, erected some very extraordinary buildings. This author moreover speaks of the Treasury of Minyas<sup>2</sup> king of Orchomenus, and the Walls of Tiryns<sup>3</sup> he designates as a work worthy the admiration of every age. The first mentioned building if constructed by Minyas must have existed previous to the taking of Troy, for Minyas reigned 1377 years before the Christian æra, and the Walls of Tiryns, said to have been built by Prætus<sup>4</sup>, which consist of immense irregular blocks of stone, must

<sup>1</sup> Vol. I. page 152.

<sup>2</sup> *Θησαυρόν τε ἀνθρώπων ὃν ἴσμεν Μινύας πρῶτος ἐς ὑποδοχὴν χρημάτων ὠκοδομήσατο.* Bæotic. c. 36.

<sup>3</sup> *Τὰ τεῖχη τὰ ἐν Τίρυνθι οὐδὲ ἐπὶ βραχὺ ἤγαμενον μνήμης, οὐδὲ ὄντα ἐλάττονος θαύματος.* Ibid.

<sup>4</sup> These Walls are of the description usually called Cyclopean. Jacob Bryant in speaking on the buildings of Tiryns, and of the seven Cyclopeans, mentioned by Strabo, lib. viii, Arg. by whose assistance they were constructed, turns the men into the buildings or towers themselves. "These towers" he says "were erected likewise for Purait or Puratheia, where the rites of Fire were celebrated: but Purait or Puraitus the Greeks changed to Προῖτος; and gave out that the Towers were built for Prætus, whom they made a king of that country." According to Strabo, lib. viii. the Cyclopes were a nation driven out of Thrace, which settled in

have been constructed about the same period. Gognet<sup>1</sup>, to whom I am much indebted, observes that if these edifices are so ancient, it is very singular that Homer, Herodotus, Diodorus and Strabo should have never made any remark on, nor even mention of the Treasury of Minyas. Apollodorus and Strabo however speak of the Walls of Tiryns<sup>2</sup> saying that they were built by workmen whom Prætus had brought from Lycia, and Homer<sup>3</sup> records Τίρυνθα τευχίοισσαν. The lasting Walls of Tiryns still exhibit, in the small portion which remains, the work and arrangement of a very remote age.

It has been conjectured<sup>4</sup> that the Treasury of Minyas bore a resemblance to the Treasury of Atreus at Mycenæ, still in existence, in which the beds of the courses of stones are horizontally adjusted, and manifest an advanced stage of the art. What has been called the vaulting of this last mentioned Treasury is not entitled to that appellation. Though the internal face of the work is in the form of a circular spindle generated by the revolution of a segment of a circle about its chord, and not a paraboloid<sup>5</sup> as a noble author has stated, yet its construction indicates no knowledge of the principles of Arching or Vaulting. The curve is obtained by each course corbeling over in horizontal beds and by afterwards working the

Asia Minor, and which came into Greece to work for him. See also Herodotus Terpsichore, c. 6.

<sup>1</sup> Origine des Lois, 8vo. Paris 1809, Vol. II. pa. 182.

<sup>2</sup> See note *suprà*.

<sup>3</sup> Iliad. B. 559.

<sup>4</sup> In an "Inquiry into the Principles of Beauty in Grecian Architecture, &c." by George, Earl of Aberdeen. 12mo. London, 1822, pa. 92.

<sup>5</sup> Ibid. It is presumed that the author may have meant a parabolic spindle.

inverted Steps to the shape required. Now in respect of that of Minyas, Pausanias says that it was vaulted and constructed of Marble, although there is no likelihood, even so late as the age of Homer, that this material was employed in Grecian buildings. Had that been the case, says Goguet, "Homer would scarcely have omitted the mention of it in his description of the Palace of Alcinous', and much less in the Palace of Menelaus, which was celebrated by him for the gold, silver, brass and ivory which it contained."

If the introduction among the Greeks of the instruments necessary for working materials be assigned to Dædalus, which it would be if we might rely on the authors of antiquity<sup>2</sup>, it will be no easy task to reconcile the accounts of Pausanias and others with the truth, inasmuch as this person is allowed on all hands to have existed, if at all, long subsequent to the periods above mentioned. Goguet has therefore made him altogether a fabulous personage taking the name ΔΑΙΔΑΛΟΣ to mean nothing more than a skilful workman, a meaning which he says has not escaped the notice of Pausanias. It is indeed surprising, had so wonderful an artist existed, that he should not have been celebrated by Homer, or that Herodotus, who availed himself of every opportunity for launching into anecdote, should, in describing the Labyrinth of Egypt, have said nothing in relation to that of

<sup>1</sup> Odyss. Δ. 72.

<sup>2</sup> Diod. Sic. lib. iv.

" Namque huic tradiderat, factorum ignara, docendam

" Progeniem germana suam, natalibus actis

" Bis puerum senis, animi ad precepta capacis."

Ovid. Metam. lib. viii. 241.

Pliny, lib. vii. sect. 57.

Crete, especially as it would have been so much to the honor of his own country<sup>1</sup>. Goguet is of opinion that many of the instruments whose introduction were attributed to Dædalus were not known to the Greeks, even in the time of Homer, who does not specify in his poems any other than the hatchet with two edges, the plane, the auger and the rule<sup>2</sup>. Neither square, compasses, nor saw are particularised. The Greek signification, *πρίων*, of a saw or its equivalent is not found in any of his works.

The information gained from the Homeric writings, whose authenticity it is unnecessary to discuss in this place, and from the Odyssey more particularly, which if not so ancient as the Iliad must, nevertheless, have soon followed it, and is admitted on all hands to be of very high antiquity, shews us that in the age of the poet, the patriarchal was the form of government that prevailed<sup>3</sup>, and that the chief buildings of those days were the palaces of the princes. At this period, the Altar appears to have been the only structure for sacred use: it was little more than a hearth on which the victim was prepared for the meal. In earlier times the tops of

<sup>1</sup> Athenagoras, *Leg. pro Christ.* xiv. says that before Homer and Hesiod no sculptor's art appeared in Greece nor representations of the Gods. Αἱ δ' εἰκόνες μέχρι μήπω πλαστική, καὶ γραφικὴ, καὶ ἀνδριαντοποιητικὴ ἦσαν, οὐδὲ ἐνομιζόντο.

<sup>2</sup> "Πέλεκυν μέγαν, χάλκεον, ἀμφοτέρωθεν ἀναχμένον." *Odyss.* E. 239 et seq. Forsyth in the usual caustic style of his *Notes to the valuable "Remarks on the Antiquities, Arts, and Letters in Italy,"* second edit. 8vo. Lond. 1816, p. 292, says "All Homer's cutlery is made of ὄξει χαλκῷ, his *χαλκεὺς* is a jack-of-all trades, and the metal itself is thus generalised by him."

χάλκεον δαίδαλα πολλά,  
Πόρπας τε, γναμπτάς θ' ἑλικας, κάλυκας τε, καὶ ὄρμους.

*Iliad.* Σ. 400.

<sup>3</sup> *Principles of Design in Architecture*, 8vo. London 1809.



mountains' were selected not only by the Greeks but by other nations for the worship of their Gods. Thus we find Hector sacrificing on the top of Ida :

————— ὅς μοι πολλὰ βωῶν ἐπὶ μηρί' ἔκην  
 "Ιδῆς ἐν κορυφῇσι πολυπτύχου, ἄλλοτε δ' αὔτε  
 'Εν πόλει ἀκροτάτῃ. Iliad. X. 170.

Not until after Homer's time was a regular priesthood established in Greece. At Sparta the office of priest was vested in the Kings. In Egypt<sup>2</sup> and in many other places the dignity was obtained by inheritance. When the principal person was absent, it was customary for the next highest in rank present to offer the sacrifice. Thus was Eumæus engaged as we find by the Odyssey.—In this age we consequently find the altar in the King's palace—the part therefore in which it stood must occasionally have been used as a temple.—Hence it seems probable that until the sacerdotal was separated from the kingly office, the Grecian Temple, properly so called, had no existence.

Though it be entirely conjectural, it will not be amiss to consider in this place, as well as can be collected from

<sup>1</sup> "And he brought him into the field of Zophim, to the top of Pisgah, and built seven Altars."—Numbers xxiii. 14.

Strabo informs us that the Persians always performed their worship upon Hills. "Πέρσαι τοῖνυν ἀγάλματα μὲν καὶ βωμὰς ἐχ' ἰδρύονται· θύεσι δὲ ἐν ὑψηλῷ τόπῳ τὸν οὐρανὸν ἡγούμεναι Δία. Lib. xv. See also Herodotus, Euterpe.

Virgil makes his hero choose a high situation for a Temple to Venus :

"Tum vicina astris Erycino in vertice sedes  
 Fundatur Veneri Idaliæ: tumuloque sacerdos,  
 Et lucus latè sacer, additur Anchiseo." Æn. v. 760.

<sup>2</sup> 'Επεὰν δὲ τις ἀποθάνῃ, τότε ὁ παῖς ἀντικατίσταται. Herod. Euterpe.

See also Virgil—"Rex Anius, rex idem Hominum, Phæbique sacerdos." Æneid. iii. 80. on which passage Servius observes, "Majorum enim hæc erat consuetudo, ut rex esset etiam, sacerdos et Pontifex, unde hodieque Imperatores Pontifices dicamus."



a junction of different passages in the *Odyssey*, the nature of the palaces described in it; but more especially that of Ulysses for which we can collect more materials than for the others.—Our chief concern is with the ΑΥΛΗ. In the *Odys.* Σ. 236, 7, as well as in other passages, we find a distinction made between it and the ΔΟΜΟΣ.—From its etymology *ἄω* it should be, *locus subdialis*. It is sometimes, indeed, used for the whole palace<sup>1</sup>, but this is by no means its import in the *Odyssey*. In the ΑΥΛΗ Telemachus slew the female attendants of Penelope, tying them up by a rope over the ΘΟΛΟΣ, cieling<sup>2</sup>. If therefore the ΑΥΛΗ was open at top, where could the ΘΟΛΟΣ have been, if not belonging to the ΑΙΘΟΥΣΑ, cloister, which was ἐρίδουπος (sonorous, echoing)<sup>3</sup> and circumscribed the open part of the ΑΥΛΗ.—It, the ΘΟΛΟΣ, was supported by ΚΙΟΝΕΣ, posts or columns.—In the centre of the ΑΥΛΗ stood the ΒΩΜΟΣ, altar. The ΜΕΣΟΔΜΑΙ in this arrangement will turn out to be the space between the columns or posts, or in other terms the intercolumniations, which is the vulgar translation of the word. In this case, the passage in which Telemachus is described as seeing the light on the walls, &c. becomes quite intelligible.

Ἔμπης μοι τοῖχοι μεγάρων, καλαί τε μεσόδμαι,

Εἰλάτιναί τε δοκοί, καὶ κίονες ὑψόσ' ἔχοντες,

Φαίνοντ' ὀφθαλμοῖς.—

*Odys.* T. 170.

It is clear that the word ΑΙΘΟΥΣΑ, whose root is Αἴθω (*luceo*) will bear the interpretation above given, whether the other conjectures advanced be or be not well

<sup>1</sup> *Iliad.* Ζ. 247.

<sup>2</sup> *Odys.* x. 466.

<sup>3</sup> *Ibid.* γ. 176.

founded,—and from such an arrangement the transition to the hypæthral temple is by no means violent or extraordinary.—It is moreover coincident with the disposition of the Egyptian temple<sup>1</sup>, and therefore not perhaps altogether conjectural.

Whilst on this subject perhaps a few words might serve to illustrate the condition of the art at the period of which we are speaking—for this purpose we will take the House of Alcinous, which is described as follows<sup>2</sup>:—

“Ulysses went to the celebrated house of Alcinous and stood considering many matters, before he approached the brazen threshold, ΟΥΔΟΣ.—A splendour like that of the sun appeared throughout the lofty roofed house, ΥΨΕΡΕΦΗΣ, of Alcinous. Brazen walls were to be seen<sup>3</sup> on every side from the threshold to the innermost part. On these was a capping, ΘΡΙΓΚΟΣ, of a blue colour. Golden doors in the interior enclosed the well secured house.—Silver jambs, ΣΤΑΘΜΟΙ, stood on the brazen threshold. The lintel, ΥΠΕΡΘΥΡΙΟΝ, was of silver, the cornice, ΚΟΡΩΝΗ, of gold. On each side of the door were gold and silver dogs which were by Vulcan so ingeniously contrived, that they would never experience the infirmities of age—these guarded the house of the magnanimous Alcinous.

“Within, seats were attached to the wall, in different places, from the entrance to the inner part of the house,

<sup>1</sup> See Denon, Plate 34, which represents the interior of the Temple of Apollinopolis at Edfou.

<sup>2</sup> Odyss. H. 81.

<sup>3</sup> I am aware that ἐγγλάδατ' ἔνθα καὶ ἔνθα, does not perhaps exactly bear the interpretation given—but as there is some doubt of the precise meaning of the passage, which is by no means particularly important here,—the translation will sufficiently answer the purpose.

and on them were covers of a light texture wrought by the women.—These seats were occupied by the chiefs of the Phæacians who sate eating and drinking.—They were continually feasting.

“Golden youths with blazing torches in their hands, stood on the well built altars, to light the house for the guests at night,” &c. &c.

Returning to the construction and arrangement of the ΑΥΛΗ, it has been surmised in a preceding page, that it might under all the circumstances, have furnished a hint for the rectangular and columnar disposition of the temple itself.—We are unable to trace the degrees which intervened between the sole use of the altar and the establishment of the Greek temple, or when the latter became a necessary appendage to the religion of the country<sup>1</sup>. “We are equally uninformed how the revolution happened which abolished the civil judicial and military offices of Kings, leaving the sacerdotal. But though the King’s palace seems to have had no part appropriated to religious ceremony, yet being the depository of whatever furniture and utensils, the rite of sacrifice required, a substitute would be wanted when this Palace was no more.—To supply this want the cell seems to have been added to the Greek Temple.” It is supposed by Eusebius and others<sup>2</sup> that temples owe their origin to the reverence which the ancients had for their deceased friends and relations and benefactors, and that they were nothing more than stately monuments erected in honor of the early heroes who had conferred whilst living some public benefit on mankind.—The temple of Pallas for instance at Larissa, was the

<sup>1</sup> Principles of Design in Architecture, page 26.

<sup>2</sup> Potter’s Archæolog. Græc. Chap. iii. Vol. I.

sepulchre of Acrisius; Cecrops was interred in the Acropolis at Athens, and Erichonius in the temple of Minerva Polias.—So the passage in Virgil, *Æneid.* lib. ii. v. 74.

— tumulum antiquæ Cereris, sedemque sacratam  
Venimus,—

shews the practice of the ancients in this respect. A custom prevailed of even offering sacrifices, prayers and libations at almost every tomb,—and in some cases the sepulchre of the dead was as much an asylum or sanctuary as afterwards the temple itself.—That this honor was not confined to the Gods, but extended to other great persons may be seen by the evidence of Strabo<sup>1</sup>.

The houses of the Greeks at a very early period had an upper story over some part or parts of them.—The passages in the *Iliad*<sup>2</sup>, which tend to the proof of this, have by some persons, perhaps to strengthen a weak argument, been pronounced of doubtful antiquity. It will be needless, however, to examine this assertion critically, because it is quite manifest that the Eastern dwellings were not confined within the limits of a single story. In scripture we shall find several notices which prove this point satisfactorily. David, for instance, withdrew himself to weep for Absalom, in the chamber *over the gate*<sup>3</sup>. Ahaz erected his altars upon the terrace of the *upper chamber*<sup>4</sup>. We read of the *summer chamber* of Eglon which seems to have had *stairs* to it, through which Ehud escaped after he had revenged Israel<sup>5</sup>.—And these are all of them, by the seventy, translated ΤΗΕΡΩΝ the word used by

<sup>1</sup> Lib. ii. pa. 160. Falconer's Edit.      <sup>2</sup> *Iliad.* B. 514, 16. 184.

<sup>3</sup> 2 Samuel, xviii. 33.

<sup>4</sup> 2 Kings, xxiii. 12.

<sup>5</sup> 1 Judges, iii. 20—23. See also Harmer's "Observations on various Passages of Scripture," and 1 Kings, vi. 8.

Homer. Terraces on the tops of the Eastern houses were also general, for the Jewish law enacted that persons should surround them with a protecting railing<sup>1</sup>. In some of the Egyptian remains there are distinct traces of even more than two stories, and it is not therefore too much to contend for the existence of one in the time of the poet.

The word ΚΑΙΜΑΞ frequently occurs in the Odyssey in connection with the verbs ΑΝΑΒΑΙΝΕΙΝ or ΚΑΤΑΒΑΙΝΕΙΝ and the word ὑπερώον above mentioned.—Whether it signify a ladder or a staircase is of no importance, though the usual progress of invention would seem to indicate the priority of the latter. Neither is it of consequence to our present purpose to fix with precision the exact situation of the ὑπερώον or cœnaculum; whether at the back part of the house or over the δόμος itself, it is sufficiently clear that it was necessary to reach it by means of a staircase<sup>2</sup>.

Stone and brick were the materials most commonly employed in the works of the Egyptians, from whom if Greece gained her knowledge in the arts, one can hardly see the necessity of the intermediate step of those wooden structures which are said to have been the original type of the Doric Temple. It is indeed true that the forests of the country would have supplied timber in abundance, and the little labour requisite to work it would have been an additional inducement for its employment.

<sup>1</sup> Deut. xxii. 8. "When thou buildest a new house, then thou shalt make a battlement for thy roof, that thou bring not blood upon thine house if any man fall from thence." Through the want of this species of fencing or railing at the palace of Circe, Elpenor one of the companions of Ulysses had the misfortune of breaking his neck. Odyss. K. 552. et seq.

<sup>2</sup> Odyss. P. & seq. 49. Σ. 205. Φ. 6. &c.



The deducement of the parts of the Doric Order entirely from wooden buildings is not without some anomalies which will be afterwards noticed in speaking of that order. The idea seems to have been current in the time of Vitruvius<sup>1</sup>, but upon his authority in matters of historical research not much reliance is to be placed. It cannot, however, be denied that up to a comparatively late period timber was very extensively used in the construction of the Greek Temple. In the time of Xenophon it was a material not considered too mean to be employed in forming the “statues of Deities in the smaller temples, where neither a great revenue appropriated to religious purposes, nor extensive public favor, afforded means for large expence”<sup>2</sup>.

If the wooden temples had altogether escaped the flames which consumed so many of them, it is not to be expected that they would from the nature of the material have escaped the all devouring hand of time.—As the principles of construction must bear some relation to the nature of the materials: the proportions of the wooden temple would in all probability have been different from those in which stone was employed. The epistylum or beam laid on the top of the supports in the former, probably ran through each side of the building in one piece, but a block of stone could it have been procured sufficiently long and deep for the purpose, would not have been raised to its place and deposited on the heads of the columns without such assistance from the complication of the mechanical powers as would in those days, if even known, have proved so unwieldy and expensive as to have rendered their application inexpedient.—Here then is the

<sup>1</sup> Lib. iv. c. 1.

<sup>2</sup> Principles of Design in Architecture, p. 31.

first step towards a reduction of the space between the columns which is denominated an intercolumniation.—For it is to be remembered that at the period of which we are speaking, the arch was to all appearance unknown.

Some general notion may be formed of the comparative antiquity of the different examples of the Grecian Doric by measuring their heights in terms of the lower part of the diameter of their shafts, of which more notice will be taken in a subsequent page—in this place, it is only necessary to state, that the massive proportions of the early Doric, such for instance as those used in the Temple at Selinuns in Sicily, where the columns are only five diameters in height, at a later period assumed a much greater appearance of delicacy and elegance, and that the intercolumniations of this order gradually increased as the art progressed towards perfection.

The account of the Origin of the Orders of Architecture as given by Vitruvius seems too absurd a fable to need much discussion.—It will not escape the notice of any one, that the time which he assigns for their origin, is long previous to the time of Homer, who does not in any part of his poems give the slightest hint which could lead us to a belief that there was what is understood by the word ORDER to be found in any part of the buildings he describes, which had it existed, it seems at least probable, he would have mentioned.—He speaks of Temples consecrated to Neptune and Minerva without describing them, it is likely therefore that they were only altars to those deities'.—We will however give the account from Vitruvius, which is as follows<sup>2</sup>:—

“Dorus, son of Hellen and the Nymph Orseis reigned

<sup>1</sup> Odyss. Z. 266. Iliad. Z. 297. See also *suprà*, page 22.

<sup>2</sup> Lib. iv. c. 1.

over Achaia and Pelopponnesus. He built a temple of this (the Doric) order on a spot sacred to Juno at Argos, an ancient city. Many temples similar to it were afterwards raised in the other parts of Achaia, though at that time its proportions were not precisely established.

“ When the Athenians in a general assembly of the states of Greece, sent over into Asia, by the advice of the Delphic oracle, thirteen colonies at the same time, they appointed a Governor over each, reserving the chief command for Ion, the son of Xuthus and Creusa whom the Delphic Apollo had acknowledged as son.—He led them over into Asia, where they occupied the borders of Caria, and built the great cities of Ephesus, Miletus, Myus afterwards destroyed by inundation and its sacred rites and suffrages transferred by the Ionians to the inhabitants of Miletus, Priene, Samos, Teos, Colophon, Chios, Erythræ, Phocæa, Clazomene, Lebedos and Melite. This last as a punishment for the arrogance of its citizens, was detached from the other states in the course of a war levied on it, in a general council, and in its place, as a mark of favor towards King Attalus and Arsinoe, the city of Smyrna was received into the number of Ionian States.—These received the appellation of Ionian, after the Carians and and Lelegæ had been driven out, from the name Ion, of the leader.—In this country, allotting different sites to sacred purposes, they erected Temples—the first of which was dedicated to Apollo Panionius<sup>1</sup>. It resembled that which they had seen in Achaia, and from the species having been first used in the cities of Doria; they gave it

<sup>1</sup> The Bipont Edition as well as Rode's, Berlin, 1800—has it Neptune. —Schneider however restores it to Apollo, quoting Hesychius and Wesseling's Herodotus. Clio, 147. where Apollo is called Πανιώνιος.

the name of Doric. As they wished to erect this Temple with columns, and were not acquainted with their proportions, nor the mode in which they should be adjusted, so as to be both adapted to the reception of the superincumbent weight, and to have a beautiful effect: they measured a man's height by the length of the foot which they found to be a sixth part thereof—and thence deduced the proportion of their columns. Thus the Doric order borrowed its proportion strength and beauty from the human figure'. On similar principles they afterwards built the Temple of Diana; but in this from a desire of varying the proportions they used the female figure as a standard, making the height of the column eight times its thickness for the purpose of giving it a more lofty effect.—Under this new order they placed a base as a shoe to the foot.—They also added volutes to the capital resembling the graceful curls of the hair, hanging therefrom to the right and left certain mouldings and foliage. On the shaft, channels were sunk, bearing a resemblance to the folds of a matronal garment.—Thus were two orders invented, one of a masculine character without ornament, the other of a character approaching the delicacy, decorations and proportion of a female. The successors of these people improving in taste and preferring a more slender proportion assigned seven diameters to the height of the

' The tradition concerning Antæus might have furnished Vitruvius had he been in the right cue at the time with an origin of the introduction of ox and other skulls into friezes. This character covered the roof of a temple of Neptune with the skulls of Foreigners, whom he slew in engagements with him. Ἰδίως τὸν Ἀνταῖον φησι τῶν ΞΕΝΩΝ τῶν ἡττωμένων ΤΟΙΣ ΚΡΑΝΙΟΙΣ ἐρίψαι τὸν τοῦ Ποσειδῶνος ναόν. So that skulls were used early as ornaments in building. Pindari Carm. Edit. Heyn. Scholia, Tom. 3, fol. 326.

Doric column, and eight and a half to the Ionic. That species of which the Ionians were the inventors has received the appellation of Ionic. The third species which is called Corinthian resembles, in its character, the graceful elegant appearance of a virgin, whose limbs are of a more delicate form and whose ornaments should be unobtrusive. The invention of the Capital of this order arose from the following circumstance. A Corinthian virgin, who was of marriageable age, fell a victim to a violent disorder: after her interment, her nurse collecting in a basket those articles, to which she had shewn a partiality when alive, carried them to her tomb, and placed a tile on the basket, for the longer preservation of its contents. The basket was accidentally placed on the root of an acanthus plant, which pressed by the weight, shot forth, towards spring, its stems and large foliage, and in the course of its growth reached the angles of the tile, and thus formed volutes at the extremities.—Callimachus, who for his great ingenuity and taste in sculpture was called by the Athenians *κατάτεχνος*, happening at this time to pass by the tomb, observed the basket and the delicacy of the foliage which surrounded it. Pleased with the form and novelty of the combination, he took the hint for inventing these columns, using them in the country about Corinth," &c.

Whoever reads the above account can give it but little credit.—The testimony of Vitruvius on matters which occurred so long before his time, unless authenticated by earlier writers, cannot be received in an investigation similar to that in which we are engaged.—We will now proceed to a consideration of the Progress and Perfection of Grecian Architecture.



ON THE PROGRESS AND PERFECTION OF GRECIAN  
ARCHITECTURE.

HISTORY furnishes us with few means of ascertaining the progress and condition of the fine arts among the Greeks, between the period commonly assigned to the siege of Troy, and that of the time of Solon and Pisistratus, 590 years A. C.<sup>1</sup> In Greece Proper, it is probable that the advancement was slow, whilst its colonies established on the coast of Asia Minor, were making rapid strides towards perfection. Goguet speaks of Asia Minor as the cradle in which architecture was rocked, and the soil on which it grew and flourished; and thinks that we must look to this country, for the origin of the Doric and Ionic orders. This will be presently examined. The Corinthian order, from what we can learn, did not appear till some time afterwards, and is generally allowed to have been the invention of the mother country itself. One of the earliest temples of the Greeks, that of Jupiter at Olympia, must, according to Pausanias<sup>2</sup>, have been built about 630 years before the Christian æra. That of Diana at Ephesus was begun at a period little less remote, if Livy<sup>3</sup> be right in his assertion that it was reared at the

<sup>1</sup> The Egyptians in the time of Solon were advanced in science. Solon was told by one of their priests, that the Grecians were children in science; that they were utterly ignorant of the mythology of other nations; and did not understand their own. Plato in *Timæo*. Clemens. Strom. Lib. 1.

<sup>2</sup> Τέκτων δὲ ἐγένετο αὐτῇ Λιβῶν ἐπιχῳσίος, and the intention in erecting the temple is afterwards mentioned. Pausan. *Eliac*. Pr. c. 10.

<sup>3</sup> "Jam tum erat inclitum Dianæ Ephesiæ fanum: id communiter a civitatibus Asiæ factum fama ferebat." Liv. *Hist*. Lib. 1. c. 45.

time that Servius Tullius was king of Rome; and that date, be it observed, accords with the statements of other ancient writers<sup>1</sup>. Notwithstanding the magnitude of these works, the science of mechanics was in its infancy. Even in the time of Thucydides<sup>2</sup>, the powers of the crane, though known, were not compendiously applied for raising weights. Before proceeding more particularly to the view which it is proposed to take of the Greek architectural orders, it may be convenient to state here, that the Greeks bestowed but little attention on their private houses<sup>3</sup>. All the splendour and magnificence of the art was reserved for the embellishment of their temples and other public buildings.

If the birth-place of the Doric order gave it a name, to which of the provinces which went under the name of Doria, is it to be referred, for they were many? To what author shall we turn to enlighten us on this subject besides Vitruvius, on the very face of whose account we find such a mass of absurdity? It would be ridiculous to suppose that the order was perfected by one person, or in one period, and at this time all the researches that can be made are unfortunately not likely to give us a satisfactory account of the name which it bears. Names are often the last means that should be

<sup>1</sup> Diogenes Laertius, Lib. 2. seg. 103, mentions Theodorus of Samos as the person who advised the foundation of this Temple to be placed on layers of charcoal.—Θῦτός ἐστιν ὁ συμβουλευσας ἄνθρακας ὑποτεθῆναι τοῖς θεμελίοις τοῦ ἐν Ἐφέσῳ. And Theodorus, according to Herodotus, Thalia, Aristotle, de Rep. Lib. 5, c. 11, and Pausanias Arcadic. c. 14., flourished in the time of Polycrates, Tyrant of Samos, a cotemporary of Amasis, King of Egypt, 559 B. C.

<sup>2</sup> Thucyd. lib. iv.

<sup>3</sup> Demosthenes, Orat. adv. Aristocratem.

resorted to for ascertaining the import or origin of the things which bear them.

The detail of the Doric Order is said by a host of writers, with Vitruvius at their head, to have been borrowed from the assemblage of timber framing in a common hut, and that it was the result of copying in stone the form and parts of a wooden building. This, it must be confessed, seems contrary to the ordinary progress of the arts and sciences. Stone buildings would scarcely be the immediate followers of those constructed in timber, where bricks were known ; however, if that were the case, the latter must have been carried to great perfection in their forms, arrangement, and proportions, and have attained a certain style and character before they could have been deemed objects worthy of imitation. The observation in the *Encyclopédie Methodique*<sup>1</sup> on this subject is so sensible, that the writer shall speak for himself: “Tout nous indique qu’une telle métamorphose ne put s’effectuer que par une suite non interrompue, mais très lente d’opérations subordonnées a beaucoup de causes, dont les unes peuvent encore se saisir ou se deviner, et dont les autres ont échappé a l’attention même des contemporains, et doivent encore se soustraire aux recherches curieuses de la postérité.” In short, says the same writer, if the Doric order could be attributed to an *inventor*, that inventor was a people among whom similar wants existed for a long period, and among whom a style of building was retained suitable to the climate and the habits of their life, and one which time slowly and gradually

<sup>1</sup> Art. *Dorique*.

modified and brought to perfection, on principles rendered sacred by custom.

The system of imitation in the Doric order has the appearance of having been founded on the elementary forms of the hut; but it was guided, if that really be the case, by the same principles which Nature herself adopts in her works, without the aid of which no bounds could have been set to the imagination and caprice of its improvers. In the copy no part can be said to be precisely similar to the model; the former displays sentiment, not calculation. The triglyphs and metopes, which are said to represent what in the original were the ends of beams and the spaces between them, are generally found only in the exterior of the building. The inclination of the mutules, originating, as it is said, in the slope of the rafters, is still preserved, though the front in which they appear, be of a nature to require an horizontal arrangement of them. These things shew that the artists at least adopted a free and not a servile imitation of the primitive types. One cannot however refrain from observing, that on an inspection of Denon's plate of the Portico of the Temple of 'Tentyris', in the entablature whereof are to be found projections and intervals in its upper division, bearing a striking resemblance to the arrangement of the Doric frieze, a suspicion is induced that the usual hypothesis wants stronger confirmation than it has generally seemed to require<sup>2</sup>. It is true that the projec-

<sup>1</sup> Voyage de l'Egypte, plate 14.

<sup>2</sup> I am indebted to a very worthy friend, Mr. Charles Barry, for the following interesting and valuable note, which I shall give in his own words, expressing my regret that he has not hitherto favored the Public with some portion at least, of the information he has acquired in the course of those extended travels and researches in Greece, Egypt, and Pa-

tions in question are in the form of reeds, but the general effect, especially when we observe the way in which the intervals are ornamented, cannot fail to bring to mind the arrangement of the Doric Frieze and Cornice, not to mention the reeding at the external angles, which corresponds with the angular triglyphs of the Doric order. The introduction of the angular triglyph seems to have been an anomaly which could not have arisen, had the

lestine, which he takes so much pleasure in liberally communicating to his friends.

"The tombs of Benihassan are excavated in a rock a short distance from the Nile on its right bank, about 48 French leagues south of Cairo. Two of them have architectural fronts, consisting of two fluted columns in *antis*, similar to the accompanying Sketch No. 1. The columns are about

Nº 1



5½ diameters in height. The flutes are shallow and 20 in number, and the capital consists of an abacus only. There are no indications of a base or plinth. Above the architrave, which is plain, is a projecting ledge of the rock, in the form of a cornice, the soffit of which is sculptured apparently in imitation of a series of reeds laid transversely and horizontally for its support. This was probably the system originally adopted for the support of the flat mud roof of the primitive Egyptian hut, and may perhaps have given rise to the dentils and mutules of Greek and Roman

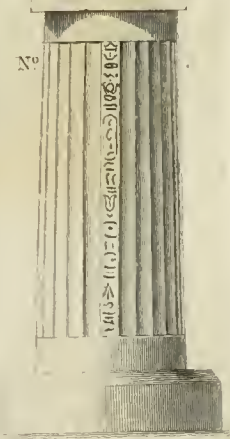


primitive type been what we have just seen. What could be more absurd than to give the end of the same beam two faces at right angles with its longitudinal direction.

architecture. In the interior of several of the tombs are some very remarkable columns supporting the rock above, which forms the ceiling. One of them is represented in Sketch No. 2. They seem very satisfactorily to explain the origin of a column of like form peculiar to Egyptian Architecture, and employed in many of the Egyptian Temples. The prototype would appear to have consisted of four large reeds of the Nile, placed upon an angular block, and tied together by cords near the top, forming thereby the capital. Small sticks are introduced between the reeds at the place of ligature, to render the figure of a more circular form, and afford the means of firmly tying the whole together. The top is crowned by a square abacus, and the reeds being there confined, the effect of any incumbent weight upon them would be to produce the form represented in the Sketch. A slight deflection of the shaft would also take place, and may not this account for the origin of the entasis of Columns.



“ Another remarkable instance of fluted Egyptian columns occurs in an excavated temple at Kalaptchic on the left bank of the Nile, about 25 French leagues above the first cataracts. The temple consists of two chambers, the largest of which has its roof or incumbent rock, supported by two of the columns alluded to, as in Sketch No. 3. The abacus is square, and 11 inches thick ; the shaft, which has a trifling diminution, is 7 feet 8 inches high, and 3 feet 2 inches diameter. The circumference is in 24 divisions, whereof 4, which are at right angles with each other, are flat faces, covered with hieroglyphics, and the other intervening ones are sunk into flat elliptical flutes  $\frac{1}{4}$  inch deep. On the top and bottom of the shaft is a plain horizontal baud. The plinth is circular, it projects considerably beyond the shaft, and is chamfered on the top edge.



“ There are several instances of polygonal shafts in the Egyptian Temples. A remark-

On the supposition of the type being the hut, and of the detail of the order being derived from the component parts of a hut, the Romans, and afterwards the restorers of art in Italy, were justified in altering this defect, which was the father of many more, in the arrangement of the intercolumniations. It is almost needless to observe that the materials of Egyptian Architecture, from the great scarcity of wood in the country, must have generally been stone or brick. The large blocks of the former material precluded the necessity of making timber roofs, and it is therefore hardly reasonable to seek the origin of the projections of the entablature at Tentyris, and of other more ancient examples, in the ends of beams.

Proportions, and the rules necessary to be observed for the purpose of giving them elegance and effect, are only necessary to preserve uniformity in the principles on which we proceed, and for preventing too great a latitude of imagination in the productions of art. We may be assured that whenever these become so fixed in any country, that its artists feel fettered by the restrictions which too rigid an adherence to ancient rules imposes, invention and taste are extinguished. The extraordinary difference which we find in the proportions and parts of the same order, plainly shews that the artists of Greece considered

able one is in a temple at Eluthias, on the right bank of the Nile, a few miles south of Esneh, where, in the interior of a large vestibule, the whole of the roof is supported upon polygonal columns of sixteen sides.

“There is every reason to suppose from the nature of the sculpture and the hieroglyphics, that the tombs and temples alluded to are of very remote antiquity, or during the most flourishing period of the Arts in Egypt. The general resemblance of the fluted columns to those of the Grecian Doric Order is manifest, and, in addition to many other remarkable indications in the Egyptian Temple, clearly point to Egypt as the source of both Greek and Roman Architecture.

“C. BARRY.”

themselves only restricted in the general proportions. This cannot be more clearly shewn than by a reference to the following table of seventeen examples of the Doric order. In the first column are the names of the edifices; the second column contains the height of the columns in English feet; the third the height of the columns in terms of their lower diameter; and the fourth, the height of the capital in similar terms. The fifth column gives the diameter of the column taken at the top of the shaft, also in terms of the lower diameter.

NAME OF EDIFICE.	Height in English feet.	Diameters high.	Height of Capitals.	Diameter at Top of Shaft.
Temple at Corinth .....	23.713	4.065	.405	.73
Hypæthral Temple at Pæstum .....	23.950	4.134	.549	.687
Enneastyle ditto .....	21.000	4.329	.500	.661
Greater Hexastyle Temple at Selinuns	32.678	4.361	.490	.769
Temple of Minerva, Syraeuse .....	28.665	4.410	.486	.762
Octastyle Hypæthral Temple, Selinuns	48.585	4.572	.450	.592
Temple of Juno Lucina at Agrigentum	21.156	4.605		.755
Temple of Concord, Agrigentum .....	22.062	4.753	.487	.767
Hexastyle Temple at Pæstum .....	20.353	4.795	.564	.717
Temple of Jupiter Panhellenius .....	15.796	5.397	.486	.742
Parthenon .....	34.232	5.566	.459	.782
Temple of Theseus, Athens .....	13.717	5.669	.502	.772
Temple of Minerva, Sunium .....	19.762	5.899	.372	.762
Temple of Apollo, Island of Delos ...		5.931		.754
Doric Portico of Augustus, Athens ...	26.206	6.042		.780
Temple of Jupiter, Nemeus .....	33.932	6.515		.816
Portico of Philip of Macedon .....	19.330	6.535	.480	.825

The above view of the order exhibits some remarkable peculiarities on which it will be necessary to remark, after submitting another Table shewing the proportion of the Entablature and its parts, to the height of the Column, in terms of the Diameter.

NAME OF EDIFICE.	Height of Architrave.	Of Frieze.	Of Cornice.	Of Total Entablature.
Temple at Corinth.....	.8107	wanting	wanting	
Hypæthral Temple at Paestum.....	.6934	.6761	.3714	1.7409
Enneastyle Temple at Paestum.....	.7922	.6926	wanting	
Temple of Juno Lucina, Agrigentum	.9195	.7440	wanting	
Temple of Concord, ditto.....	.7787	.7711	.4174	1.9762
Hexastyle Temple at Paestum .....	.7583	.7461	.4123	1.9167
Temple of Jupiter, Panhellenius ...	.8562	.8578	wanting	
Parthenon .....	.7195	.7188	.5392	1.9775
Temple of Theseus .....	.8296	.8209	.3120	1.9644
Temple of Minerva, Sunium.....	.8072	.8072	.3134	1.9278
Portico of Augustus .....	.6647	.7051	.3544	1.7242
Portico of Philip of Macedon .. ...	.6394	.8107	.4169	1.8670

From an inspection of the above Table it appears that the height of the Doric column, speaking in round numbers, varies from four diameters in height to six and a half, and its upper diameter from seven to eight tenths of the inferior diameter. The heights of the capitals in terms of the lower diameter, vary from thirty-seven to fifty-six hundredths.

It has been said<sup>1</sup> that the height of the capital in terms of the upper diameter of the shaft will afford some indication of the comparative antiquity of an example. But after the very singular and concurring proportions of the entablatures just exhibited in the fourth column of the second table, wherein we find only so slight a difference as a quarter of a diameter among eight examples, there cannot remain a doubt that the ancients considered the relation to the lower more than to the superior diameter of the column.

The best method, however, of ascertaining the antiquity of an example is by a view of the progress which would

<sup>1</sup> Lord Aberdeen's Inquiry, page 152.

naturally take place in the art, rather than by comparison of the parts with each other. The comparison, however, of the height of columns themselves with their lower diameters, and of their height with that of the entablature, is the natural mode of investigating their antiquity. In the entablatures of the second table it will be seen, that compared with the total height of the ORDER, the most massive is one third thereof, and the lightest one fourth, and these, it must be observed, nearly coincide with the heaviest and slenderest columns. Neither are those other marks which are said to indicate the antiquity of columns, such as the three grooves found under the capitals, nor the form of the *Guttæ*, to be relied on. As to the latter they are different even in the same building. In one of the Temples at Pæstum, the sofite of the corona is formed into coffers, and has no mutules at all.

It has been recently discovered<sup>1</sup> that the columns of the Parthenon have an *ΕΝΤΑΣΙΣ*, or swelling. An examination of several examples with the view of comparing them with each other, would be not only extremely interesting, but would serve to illustrate Vitruvius<sup>2</sup> on this point, which was a refinement in art, though perhaps not early practised. It might perhaps determine the comparative ages of buildings more satisfactorily than any of the means which have hitherto been resorted to for that purpose.

In the Temples of Pæstum, Corinth, and Segesta, the intercolumniations are about equal to the diameter of the

<sup>1</sup> By Mr. C. R. Cockerell, whose liberality in communicating the result of his researches I have much pleasure in acknowledging.

<sup>2</sup> Lib. 3. c. 2.



column, and they are nearly the same at the Parthenon.—At the Temple of Theseus they exceed that width by about a quarter of a diameter, and in an example at Syracuse they are somewhat less than a diameter.

Two or three smaller matters remain to be noticed.—These are the varieties in the forms of the echinus of the capital and in those of the flutes.—The echinus is sometimes inclined at once inward by a straight line, or by a slight curve without any double flexure.—It is sometimes very much extended in its projection from the shaft; whilst in other examples we find it nearly approaching the quarter round of the Romans. When curved, the contour will be found composed of segments of curves formed by the section of a cone. The form of the flutes on the plan is variable; we sometimes find them segments of circles, and at other times they are of a curvilinear form, partaking somewhat of the ellipsis.—Their number also varies.—In the examples at Athens, the number is twenty; whilst at Pæstum the exterior order of the great Temple has twenty-four, the lower interior order twenty, and the upper interior only sixteen.

Those who from a passage in the *Odyssey*<sup>1</sup> have discovered that the fluting of columns was made for the purpose of receiving and holding the spears of the persons whose duties led them to the Temple, and that this want gave rise to the invention, do great injustice to the ingenuity of the Grecians. It is here unnecessary to argue in refutation of so strange a conjecture.—We will only in

<sup>1</sup> "Εγχοι μὲν ῥ' ἔστησε φέρον πρὸς κίονα μακρὴν  
Δουροδόκη; ἐντοσθεν ἑξέσθη, —

*Odys. A. 127.*

passing observe, that a more inconvenient place for the ΔΟΥΡΟΔΟΚΗ could not possibly be assigned than such a situation, nor one where obstruction would have been more unnecessarily created than in the comparatively narrow intercolumniations of the Grecian Temple; nor one, if the spears were to stand in contact with the recess of the channel, in which they would have been more liable to be constantly displaced by accident.—It is probable that the fluting is nothing more than an improvement which Grecian refinement would make on the polygonal column of Egypt.

Until after the defeat of Xerxes, when the active spirit of the Athenians languished for an object, we do not find that singular elegance in their works in the fine arts, which through the exertions and fostering hand of Pericles appeared about 430 years before Christ. The Peloponnesians and their colonies had erected the temples at Corinth, Nemea, Pæstum, Syracuse, and other places in Sicily.—From the introduction of architecture into Greece, a period of little more than three centuries elapsed, before it burst forth with astonishing lustre, and was raised to the summit of perfection.

In the country that gave birth to the Doric Order, speaking of it as applied to Greece generally, it is not difficult to imagine, that the art was not destined to be restrained within the limits of a single order; it was in truth impossible that it should have remained within such narrow bounds. It is more than probable that the orders advanced almost, *pari passu*, and it would be difficult to prove that the Ionic Order is of much less antiquity than that which has just been examined.—Except in the capitals of the Ionic and Corinthian Orders, one can scarcely say in

which of the three, the greatest degree of richness is manifest, more especially when we consider how exquisitely the metopes were sometimes decorated. On a glance at the capitals in question, and a comparison of them with many examples of the corresponding member in Egyptian Architecture, one would suppose there can be no doubt on their origin.\*

It may be and is indeed true, that the Ionian colonies gave a preference to the Ionic Order: so did the Romans to the Corinthian, and yet who ever said that the Romans invented the Corinthian Order?—The writer in the *Encyclopédie Methodique*<sup>1</sup> seems to think that Persia comes in for some share of the invention of the Ionic capital. “*Toutefois les dessins que nous possédons des Monumens de l’Inde, nous font voir entre les diverses couronnemens de colonnes, imaginés par la fantaisie dans cette contrée, certains chapiteaux à oreilles retombantes en forme de volutes, que peut être quelques critiques prendroient pour des imitations du chapiteau Ionique. Cette forme de chapiteau n’auroit elle pas été plutôt en Grece, une derivation du goût Asiatique.*”

The same species of variety which has been noticed in the different examples exhibited of the Doric, is not less observable in those of the Ionic order, as may be seen by a comparison of the Ionic edifices of Athens with those on the coast of Asia Minor; but it is not necessary to enter into the subject so much at length as we have done in respect of the Doric Order.

Aware that the angular Ionic capital has its admirers, it may be proper to state that many men of taste are of a

<sup>1</sup> *Art. Ionique.*

different opinion, and that it has been thought a defect which should be avoided in modern works. In a peripteral temple, much of the beauty would have been lost if the baluster side of the capital had been in the same direction as that of the flanks. The expedient which the Greeks adopted to remedy this evil was ingenious as well as judicious. It should, however, never be employed in Porticos which do not project more than one intercolumniation, or in peripteral buildings.

The most ancient temple of the Ionic Order has been said to be that of Juno at Samos. Herodotus<sup>1</sup> says it was considered one of the most stupendous edifices erected by the Greeks.—It is but recently that any information has been obtained respecting this temple, or rather its ruins<sup>2</sup>.—It appears to have been built about 540 years before the Christian era.—The octastyle Temple of Bacchus at Teos—that of Apollo Didymæus near Miletus, and of Minerva Polias at Priene, are the chief temples of the colonies of which we know any thing at this period. Hermogenes, the architect of the Temple of Bacchus, is said by Vitruvius to have originally intended it to have been of the Doric Order, but that, even after the preparation of all the materials, thinking that the Ionic was more suitable for a temple, he laid them aside and employed the order in question<sup>3</sup>. This however is a story not authenticated by any other author, as we believe, and one may or may not, knowing the character of the writer in these

<sup>1</sup> Herodotus, Euterpe.

<sup>2</sup> Second Edition of the *Ionian Antiq.* Vol. I. c. 5.

<sup>3</sup> “*Nam is, cum paratam habuisset marmoris copiam, in Doricæ ædis perfectionem, commutavit ex eâdem copiâ et eam Ionicam Libero Patri fecit.*” Vitruv. lib. iv. c. 3. Edit. Schneider, 1807.

respects, treat it as Hermogenes is said to have treated his Doric materials.

Proceeding to a more minute investigation of the three Athenian examples, the little Temple on the Ilyssus, the Temple of Minerva Polias, and the Portico of that of Eretheus: the following table will shew the height of the columns in English feet. The third column contains the height of the shaft and capital in terms of the lower diameter.—The fourth the height of the capitals in similar terms, the fifth the diameter at the top of the shaft.

EDIFICE.	Height of the columns in English feet.	Diameters high.	Height of Capitals.	Diameter at top of Shaft.
Temple on the Ilyssus .....	14.694	8.241	.658	.850
Temple of Minerva Polias.....	25.387	9.119	.716	.833
Temple of Eretheus.....	21.625	9.337	.775	.816

In the Table subjoined we shall have a view of the height of the Entablatures.

	Architrave.	Frieze.	Cornice.	Total.
Temple on the Ilyssus .....	.916	.816	.533	2.265
Temple of Minerva Polias.....	.858	.808	.621	2.287
Temple of Eretheus.....	.901	.956		

The height of the Ionic column varies in the three examples quoted, from eight diameters and a quarter to nearly nine and a half in height, and the upper diameter of the shaft from full eight-tenths to seventeen-twentieths. The want of similarity in the capitals renders them unfit for comparison with each other.—The mean height of the entablature is about a fourth of the height of the whole order.—The cornice of the Grecian Ionic may be generally considered as bearing a constant ratio to the whole height of the entablature as two to nine. The architrave



is found, in most examples, divided into fasciæ, below the cymatium.

The Base, a figure which has not yet been considered, requires a little of our attention.—In the examples at Athens we find it consisting of two tori, with a scotia or trochilus between them. A fillet above and below the scotia separates it from the tori. The former fillet is in general coincident with a vertical line let fall from the extreme projection of the superior torus. The lower fillet in the Temple on the Ilyssus projects about half way between the incavation of the scotia and the extreme projection of the lower torus.—The height of the scotia and two tori are nearly equal.—In the Temple just named, a bead and fillet are set on the upper torus to receive the shaft of the column.—It will not escape observation, that in the temple of Erectheus as well as that on the Ilyssus, the lower torus is uncut whilst the other is fluted horizontally,—and that in the bases of the Temple of Minerva Polias, the upper torus is sculptured with a Guilloche. The form of the scotia is a portion of a curve formed by one of the conic sections. The base thus described has been usually denominated *ATTIC*. It was however used in the colonies, as in the Temple of Bacchus at Teos, though in that the upper torus is not sculptured.—The bases of the Temple of Minerva Polias at Priene, and that of Apollo Didymæus near Miletus, are of very different and singular form.—The upper torus of the former is to the height of the base as .427 nearly to 1.000 and its contour is not parabolic.—The lower half is divided horizontally into four flutes, below this are two scotiæ separated from each other by two astragals and fillets at the top and bottom of each, except where they join the upper torus above, and the plinth below.

The volute, which so distinguishes this order from the others, is found with considerable varieties. In the edifices of the Ilyssus and the Temple of Minerva Polias at Priene, also of Apollo Didymæus, this member contains only one channel between the revolutions of the spiral, whereas in those of Erectheus and Minerva Polias at Athens, each volute has two distinct spirals with channels between them.—In the former of these two the column terminates with an astragal and fillet just below the level of the eye of the volute; in that of Minerva Polias, with a single fillet.—In each of them the neck of the capital is ornamented with honeysuckles.

The flutes of the columns are usually of an elliptical form and their number twenty-four.—In the Temples of Minerva Polias and Erectheus at Athens, those of Bacchus at Teos, and Minerva Polias at Priene, they descend into the apophyge of the shaft of the column.—They are moreover distinguished from the Doric flutes, by fillets separating them from each other.

No notice has been thought necessary respecting the Tomb of Theron at Agrigentum, which is a singular instance of the mixture of the Ionic column with a Doric entablature.—Some antiquarians may perhaps admit “the antiquity of this monument, or the truth of the appellation it has received,” but surely no architect who has philosophically investigated the principles of his art, will be inclined to concur in any such opinion.

In the Corinthian Order, as in the Ionic, the chief distinguishing feature is the capital.—Long previous to the age in which Callimachus, its reputed inventor, existed, perhaps even before capitals or columns themselves were known to the Greeks,—leaves of the Palm tree, flowers of the Lotus, and even volutes, were applied as ornaments

in the capitals of Egypt.—The form of the bell itself, of the Corinthian capital, bears no trifling resemblance to the contour of the Lotus flower<sup>1</sup>. The difference of character between the Greek Corinthian and the Egyptian capital lies in the height. The Greeks, who so well knew how to improve and adopt, or reject, endowed their capital with a lightness and elegance to which the inventions of the Egyptians, perhaps from moral causes, were never carried; but the similitude between them is such, that there never was a case which stood less in need of historical proof to identify the source of the invention, if it be but granted that there was the slightest intercourse between the two countries—a point which is sufficiently notorious.

Unfortunately our knowledge of the Greek Corinthian is very limited, and though the delicacy of construction in this order would have necessarily tended to an earlier destruction and decay of its examples, than would have been the case with those of the Doric and Ionic orders, yet, considering the very few Corinthian ruins which remain among so many others, it is not presuming, perhaps, too much, to conclude that it was not so great a favorite among the Grecians as the other two orders<sup>2</sup>.

The only examples which can be produced of this order in a genuine Greek taste are, the Tower of Winds and the Chōragic Monument of Lysicrates at Athens: but the former of these can scarcely be denominated Co-

<sup>1</sup> Denon, Plates, 44 and 45; also Quatremere de Quincy's elegant Dissertation "*De l'Architecture Egyptienne, considerée dans son origine, ses principes, et son goût.*" 4to Paris, 1803. Plates 1 and 2.

<sup>2</sup> Pausanias says it was used by Scopas for the upper range of columns of the Temple of Minerva at Tégæa. Ὁ μὲν δὴ παρῶν; ἔστιν αὐτῷ κόσμος τῶν κίωνων Δάριος, ὃ δὲ ἐπὶ τέττῃ Κορίνθιος. ἐστῆκασι δὲ καὶ ἔκτος τοῦ ναοῦ κίονες ἐργασίας τῆς Ἰώνων. Ἀρχιτέκτονα δὲ ἐπυνθαιόμεν Σκόπαν αὐτοῦ γενέσθαι τὸν Πάριον. κ. τ. λ. Pausan. Arcadic.

rinthian; we shall therefore be obliged to confine our observations to the latter, as the only example before Greece was subdued by the Romans.

In the Choragic Monument,

The height of the columns in English feet is.....	11.637
The height of the column in terms of the diameter .....	10.318
The height of the capital in terms of the diameter.....	1.216
The diameter of the shaft at top in terms of the lower diam.	0.833
Height of the architrave .....	0.85
————— frieze .....	0.483
————— cornice .....	0.833
Total height of the entablature .....	2.166

The height of the entablature here becomes somewhat less than a fifth of the total height of the order. The base varies little in its form from that of the Ionic order, but there is no horizontal fluting in the upper torus.

The celebrated bas relief of the Villa Albani, is a proof that the Corinthian capital was known before the time of Callimachus. Its style and execution stamp it as a very early work, and I cannot at all agree with a noble writer<sup>1</sup>, that the execution of the Corinthian temple is at all out of *keeping* with the other parts of the work. These capitals, which are without foliage, immediately remind us of the Egyptian capital<sup>2</sup>. On the capitals of the Athenian edifices we cannot conclude more properly than in the words of a writer in the *Encyclopédie Methodique*<sup>3</sup>. “Le feuillage qui decore les chapiteaux des deux edifices d’Athènes, est évidemment le feuille de l’Olive. On ne s’étonnera pas que l’arbre consacrée a la déesse tutélaire d’Athènes ait préte sa feuille aux premiers chapi-

<sup>1</sup> Lord Aberdeen’s Inquiry, page 175.

<sup>2</sup> The Reader may refer to a Representation of this bas Relief in the “*Monumenti inediti*” of Winckelmann.

<sup>3</sup> Art. *Corinthien*.

teaux Corinthes de l'Attique ; cette feuille est encore aujourd'hui consacrée a l'ordre Corinthien, et les architectes même en preferent la forme a celle de l'Acanthe."

Besides the orders which have been enumerated, the Greeks occasionally used the figures denominated Caryatides, for the support of the entablature. The following account of their origin is not without interest.

Vitruvius<sup>1</sup>, Book I, c. 1, on the introduction of statues for supporting an entablature, observes that "Carya, a city of Peloponnesus, took part with the Persians against the Grecian states. When the country was freed from its invaders, the Greeks turned their arms against the Caryans, and upon the capture of their city, put the males to the sword, and led the women into captivity. The architects of that time, for the purpose of perpetuating the ignominy of this people, instead of columns in the porticos of their buildings, substituted statues of these women ; faithfully copying their ornaments, and the drapery with which they were attired, the mode of which they were not permitted to change."

Vitruvius is not, however, supported in the above account by any writer on the affairs of Greece, and it is clear that the origin of these statues for architectural purposes is of much higher antiquity than the invasion of Greece by the Persians. Herodotus<sup>2</sup>, indeed, says that

<sup>1</sup> This account is reprinted from an unpublished pamphlet by the author, written in 1820 and printed in the year 1821, entitled "Cursory Remarks on the Origin of Caryatides," addressed to John Britton, Esquire, F.S.A. &c.

<sup>2</sup> See his *Polymnia*, fol. 421. Edit. Gronovii. They were nine in number. The Thessalians, Dolopians, Enians, Peræbi, Locri, Magnetes, the Melians, Achæans of Phthiotis, Thebans, and the rest of the people of Bæotia, except the Thespians and Plataeans.



some of the states sent to Xerxes the required offering of earth and water ; but no mention is made of Carya, nor, consequently, of the ignominious treatment it met with, which must have been too notorious, if true, to have been unknown, and as a matter of history too curious to have been passed over in silence. Whether the use of statues to perform the office of columns travelled into Greece from Egypt or India, may be left for the discussion of those who respectively support the claims of one or the other of those countries to a priority of skill in architecture ; both will, however, furnish examples of their application. In the latter country we have the authority of Diodorus Siculus, for two immense specimens. Speaking of the tomb of King Osymandyas, Diodorus says <sup>1</sup>, that it was “ ten stadia in circumference ; its entrance of variegated stone ; two hundred feet long, and forty-five cubits high. Hence you proceed to a stone Peristylum, four hundred feet square, supported by animals, sixteen cubits high, each in one stone, instead of columns, and carved after the ancient fashion.” Again <sup>2</sup>, speaking of Psammeticus, he says, “ Having now obtained the whole kingdom, he built a propylæum on the east side of the temple, to the god at Memphis ; which temple he encircled with a wall, and in this propylæum, instead of columns, substituted colossal statues, *κολοττοὺς ὑποστήσας*, twelve cubits in height.”

<sup>1</sup> Tom. I. f. 56. Wesseling. Edit. Δίκα σταδίων φασὶν ὑπάρχει βασιλῆως μνημα τοῦ προσαναγορευθέντος Οσυμαϊδίου. τούτου δὲ κατὰ μὲν τὸν εἶσοδον ὑπάρχειν πυλῶνα λίθου ποικίλου, τὸ μὲν μήκος δίπλιθρον, τὸ δ' ὕψος τετράκοντα καὶ πέντε πηχῶν διελθόντι δὲ αὐτὸν εἶναι λίθινον περίστυλον τετράγωνον, ἰκάστης πλευρᾶς οὗσης τεττάρων πλίθρων. ὑπερῖσθαι δὲ ἀντὶ τῶν κίωνων ζώδια πηχῶν ἑκααίδεκα μονόλιθα, τὸν τύπον τὸν ἀρχαῖον τρόπον ἐξγασμένα.

<sup>2</sup> Ibid.

The use of statues, and the representations of human and other figures, is a prominent feature in Egyptian architecture. The temple at Ibsambul above alluded to, is indeed a striking proof of it. In India many instances of a similar use of statues are to be found; as in the excavations at the Temple near Vellore<sup>1</sup>, described by Sir C. Mallet, where heads of lions, elephants, and imaginary animals, project forwards for the apparent purpose of supporting the roof of the cave of Jugnath Subba; and at Elephanta, colossal statues are ranged along the sides, as high as the underside of the entablature. It has before been mentioned that it is not here necessary to settle the comparative dates of Egyptian and Indian architecture; yet most agree that the latter was anterior to all except that of Egypt, and many that it is more ancient than that of Egypt itself. The object at present is to show, their early origin being, it is supposed, satisfactorily settled to have been of much higher antiquity than Vitruvius makes it, that the first statues which could be strictly called Caryatides, were either applied to Temples of Diana, or were representations of virgins who were engaged in her worship.

KAPPA, the nut tree, *Nux Juglans*, which Plutarch says<sup>2</sup>, received its name from its effects on the senses<sup>3</sup>, was that into which Bacchus, after cohabitation with her, transformed Carya, one of the three daughters of Dion, King of Laconia, by his wife Iphitea. The other two daughters, Orphe and Lyco, were turned into stones, for

<sup>1</sup> Asiatic Researches, Vol. VI.

<sup>2</sup> Symposiaca. lib. ii. Τὴν τε γὰρ καρύαν οὕτως δόμασαν, ὅτι πνεῦμα βαρὺ καὶ καρυπτικὸν ἀφιείσα. κ. τ. λ.

<sup>3</sup> Κάρος, Sopor.

watching too closely the intercourse of their sister with the lover. Diana, who is supposed to have made the Lacedæmonians acquainted with this story, as well perhaps as with the excellence of the fruit of the tree, was therefore worshipped by that people under the name of Diana Caryatis<sup>1</sup>.

There is, however, another account of the origin of the name of Diana Caryatis, which does not at all affect our hypothesis. It is to be found in one of the old commentators on Statius<sup>2</sup>, and is to the following effect. Some virgins being threatened with danger, whilst celebrating the rites of the goddess, took refuge under the branches of a nut tree, *Καρύα*; in honour and perpetuation of the memory of which event, a temple was raised to Diana Caryatis. If this, however, allude to the

<sup>1</sup> See the note of Servius, Virg. Ec. 3. Edit. Burman. Vol. I. f. 128: it is on the passage, "Sparge marite nuces," and as follows:

"Sane fabula de nucis origine talis est: Dion Rex Laconiae fuit, qui habuit uxorem Iphiteam Prognai filiam; quæ cum Apollinem summo cultu et reverentia hospitio recepisset, ille remunerari volens circa se hospitum cultum, tribus filiabus eorum, quæ Orphe, Lyco et Carya appellatæ sunt, divinationem concessit, adjecto ne proditrices numinum esse vellent; neve quærerent quod esset nefas scire. Post Liber Pater adveniens, a Dione vel ejus uxore receptus hospitio est, qui cum amata a se Carya coitum miscebat: sed cum inde ægre Liber profectus esset, cogente amoris impatientia denuo ad hospites redit, causam prætendens dedicandi fani, quod ei Rex voverat; sed Lyco et Orphe, intellecto circa sororem Caryan Liberi amore, eam custodire cœperunt, ne cum Libero ei esset copia coeundi; quas cum Liber Pater moneret, terreretque, ut saltem præcepta Apollinis custodientes, pertinacem diligentiam compescerent, videretque ab his et sororem acrius custodiri, et suum secretum studiosius inquiri, Orphen et Lyco, immisso furore, ad Taygetam montem raptas in saxa convertit. Caryan vero quam amaverat, in eodem monte in arborem sui nominis vertit, quæ Latine nux dicitur; quod postea Diana ita factum Laconas docuit. Unde templum Caryatidi Dianæ a Laconibus consecratum."

<sup>2</sup> Barthius, lib. iv. v. 225.

famous interposition of Aristomenes, to protect some Spartan virgins, who were taken by his soldiers, it is not perhaps, quite borne out by the words of Diodorus. It is hardly necessary to observe that Aristomenes lived 671 years before Christ, and consequently 150 years before Darius, the first invader of Greece.

Salmasius says “ Diana was worshipped in that place, Carya near Sparta, under the name of Diana Caryatis, and that at her temple and statue the Lacedæmonian virgins had an annual festival, and danced according to the custom of the country ”<sup>1</sup>. Hence, he continues, arose the name given to those statues, which according to Pliny<sup>2</sup>, were made by Diogenes of Athens, for decorating the Pantheon at Rome.

Returning, however, to the subject, it is to be observed, that there was a temple to the goddess at Carya, of which Pausanias gives the following account in his Laconics. “ The third turning on the right leads to Carya, and the sanctuary of Diana, for the neighbourhood of Carya is sacred to that goddess and her nymphs. The statue of Diana Caryatis is in the open air, and in this place the Lacedæmonian virgins celebrate an annual festival with the old custom of the dance<sup>3</sup>. ” The note

<sup>1</sup> Exercitationes Plinianæ, in Sol. Polyhist. 603 et seq.

<sup>2</sup> Lib. 36, c. 57. “ Agrippæ Pantheonum decoravit Diogenes Atheniensis ; et Caryatides in columnis templi ejus probantur inter pauca operum : sicut in fastigio posita signa, sed propter altitudinem loci minus celebrata.” There seems to be some doubt as to the precise situation in the building which these statues occupied. I confess I am fully satisfied with the place assigned to them by Fontana *De Pantheo aliisque conspicuis veteribus Fanis*. Romæ, 1694, viz. in the second or upper order of the interior, now occupied by pilasters.

<sup>3</sup> Laconic. c. 10. “ Τρίτη δὲ ἐκ τῆς ὁδοῦ τῆς εὐθείας ἐμβολὴ κατὰ τὰ δεξιὰ ἐς Καρύας ἄγει, καὶ ἐς τὸ ἱερὸν τῆς Ἀρτέμιδος. τὸ γὰρ χωρίον Ἀρτέμιδος καὶ Νυμφῶν

of Kuhnus, on this passage, after a reference to Hesychius, contains the following notice: "Caryatides etiam dicuntur Lacænæ saltantes, sinistrâ ansatæ, uti solebant Caryatides puellæ in honorem Dianæ."

Some persons have supposed that the assemblage of peasants on the celebration of these dances, gave rise to the pastoral poems termed Bucolics, from their singing on those occasions *Βουκολισμοὶ*, pastoral poems, from *Βουκόλος*, a neatherd;—such was the opinion of Probus<sup>1</sup>; and Hoffman<sup>2</sup>, to whom I am much indebted for my information on this subject, quotes the following passage from Statius in corroboration of it.

"Hujus Apollinæ currum comitantur Amyclæ.  
Quos Pylos, et dubiis Malea vitata carinis,  
Plaudentique habiles Caryæ resonare Dianæ."

Thebaid. Lib. 4. v. 223.

Plutarch, in his life of Artaxerxes, relates that after Clearchus had fallen, through treachery, into the hands of Tissaphernes, he gave Ctesias a ring, engraven with the representation of a dancing Caryatid<sup>3</sup>.

From the foregoing observations, it may be reasonably inferred, that the statues called Caryatides were originally applied to or used about, the Temples of Diana; and instead of representing captives or persons in a state of ignominy, were in fact nothing more than figures of the Virgins who celebrated the worship of that goddess. It is most probable that after their first introduction, other figures in buildings sacred to other divinities, gra-

ἴστιν αἱ Κάρυαι. καὶ ἄγαλμα ἱστῆκεν Ἀρτέμιδος ἐν ὑπαίθρῳ Καρυάτιδος· χοροὺς δὲ ἱσταῦθα αἱ Λακεδαιμονίων παρθένοι κατὰ ἔτος ἱστᾷσι, καὶ ἐπιχώριος αὐταῖς καθείσ-  
τηκε, ὁρχησις."

<sup>1</sup> Vita Virgillii.

<sup>2</sup> Lexicon, in loco.

<sup>3</sup> "Εἶναι δὲ γλυφὴν ἐν τῇ σφραγίδι Καρυατίδα; ὁρχουμένην."



dually came into use, as in the Pandroseum, where it is likely that they are the representations of the virgins who assisted at the Panathenæa, and were called Canephoræ.

However appropriate these figures were in early days, it may be a fair question for discussion how far their application to modern purposes is in good or bad taste. Their exclusion from sacred buildings at least appears absolutely necessary, the allusion they have to heathen worship seeming sufficient, one would suppose, for their rejection. They may, peradventure, be more suitable and in character in palaces and theatres, where parade and pageantry are the leading features. Their introduction, for instance, at the Louvre, is far from being obtrusive or disagreeable.

The inclined sides of the roof of the Greek Temple continuing through to the two ends, formed a pediment, which was often decorated by the hand of the sculptor. It seems manifest that the angle at which a roof should be inclined to the horizon so as to shelter effectually the interior of the building from the effects of the rain and snow, depends on the climate to which the building is to be subjected. Thus, greatly inclined roofs are necessary only in cold and temperate climates. In hot climates we find the dwellings covered with terraced roofs, which are there sufficient protection against the elements; but as we advance northward a greater slope is necessary, and will or ought to be found of increased declivity the greater the distance from the equator. That this principle has operated on the styles of architecture in different countries is evident from a comparison of the Gothic of this country and of Germany, with that of more southern latitudes. This will account for the low elevation of the pediment in the Grecian temples, in

which we find the inclination of the roofs admirably adapted to the climate in which they are erected<sup>1</sup>.

This point has been exceedingly well treated in the *Encyclopédie Methodique*<sup>2</sup>, where the reader will find a table shewing the inclination which should be assigned to roofs in the principal cities of Europe. The table is adjusted with reference to their different climates, and the length of the longest day at each place. The results correspond in a singular manner with the practice of the ancients, as will be seen by the following extracts.

The inclination of a roof for the latitude of Athens, should be  $16\frac{1}{2}$  degrees; comparing this with

	Degrees
The Temple of Erectheus, which is	$15\frac{1}{2}$
The Temple of Theseus .....	15
The Parthenon .....	16
Propyæa .....	$14\frac{1}{2}$

we may see how closely the proper practice of the art follows the exigencies of Nature herself. Though it is rather foreign to this investigation, it is impossible to refrain from subjoining a few Roman examples, wherein the climate required, according to the Table, an inclination of twenty-two degrees.

	Degrees
That of the Pediment of Septimius Severus is actually	22
Temple of Concord, and also of Mars Ultor	$23\frac{1}{2}$
Temple of Fortuna Virilis.....	24
Pantheon .....	24
Temple of Antoninus and Faustina .....	24

<sup>1</sup> “Capitolii fastigium illud, et cæterarum ædium, non venustas, sed necessitas ipsa fabricata est. Nam cum esset habita ratio, quemadmodum ex utraque tecti parte aqua delaberetur; utilitatem templi, fastigii dignitas consequuta est: ut, etiam si in cælo Capitolium statueretur, ubi imber esse non posset, nullam sine fastigio dignitatem habiturum fuisse videatur.”—Cic. de Oratore, Lib. 3. c. 46.

<sup>2</sup> Art. *Comble*.

The most important discovery in architecture, in respect of its results, that was ever made, was the invention of the arch. When or where it was invented is quite uncertain. This is a subject which has occasioned much discussion, and perhaps will, at this remote period, never be satisfactorily settled. It is, however, now pretty generally agreed that it did not appear till after the age of Alexander. Visconti, nevertheless<sup>1</sup>, on the authority of a passage in Plutarch<sup>2</sup> assigns the period of the invention to the age itself of Alexander. "The perfect arch," says a writer who has been often quoted<sup>3</sup>, "appears to have been comparatively of late birth. The want of a name for it, properly Greek, in so copious a language, and so ready for all occasions, would suffice to show how little the thing was known in early times among the Grecian people. By some it has been supposed much earlier known, or much earlier in known use among the Romans. That extraordinary structure, magnificent in its way, the Cloaca Maxima at Rome, has been attributed to Tarquinius Priscus; but Tarquinius Priscus, though a Roman king, was a Grecian man. A sewer, however, or a drain of some kind, in the bottom between the Palatine and Capitoline Hills at Rome, would, in almost the earliest age of the city, be obviously necessary towards any convenient union of those two hills in one town." The present sewer, however, bears evident marks of having been much more recently constructed than the time in question.

<sup>1</sup> Mémoire sur les Ouvrages de Sculpture dans la Collection de Milord Comte Elgin. London, 1816, p. 127.

<sup>2</sup> Ἐκκύβας δὲ τὰς ἐπὶ τὴν ἀσπίδα ψαλίδας. κ. τ. λ. Plut. Agis et Cleomen.

<sup>3</sup> Principles of Design in Architecture.

Till after the reign of Alexander, there are no authors who use the words ΘΟΛΟΣ<sup>1</sup>, ΑΨΙΣ<sup>2</sup>, and ΨΑΛΙΣ<sup>3</sup>, in a sense which can lead us to consider them as signifying an arch, nor is there any description extant in which we can trace the figure of an arch constructed on scientific principles. If its origin be Eastern, there is a strong probability that its appearance was not till after the age of Alexander. Dutens, an advocate for the early use of the arch among the Grecians, was long since answered by a noble lord of great classical acquirements, from whom, in the foregoing pages, it has been my misfortune sometimes to differ on subjects more immediately perhaps within my vocation. "During that time," the age of Alexandēr, says that author, "the greatest change took place in the arts and sciences of Greece. They had arrived at a degree of improvement, which, though perhaps in some measure exaggerated, was certainly far beyond what former ages had witnessed. The use of the arch was probably communicated to the Romans by the Greeks, at the time that they bestowed on their conquerors every other species of art and refined taste. In Sicily and Magna Grecia, it might have been introduced somewhat earlier"<sup>4</sup>.

<sup>1</sup> ΘΟΛΟΣ. οἶκος εἰς ὃν ἀπολήγουσαν ἔχων τὴν στήγην καὶ ἀσκειασμένος. Hesych. in loco. See page 24.

<sup>2</sup> ΑΨΙΣ, δειξ. τὰ κύκλα τῶν τροκῶν. αἱ περιφέρειαι ἢ καμαραι. Hesych.

<sup>3</sup> ΨΑΛΙΣ. τὸ ἄρμενον. καὶ καμάρα. καὶ ταχεῖα κίνησις. Ibid.

<sup>4</sup> Edinburgh Review, Jan. 1806. Review of Dutens' Work, "Recherches sur le Tems le plus reculé de l'Usage des Voutes," 4to Lond. 1805, said to be written by Lord Aberdeen.

OBSERVATIONS ON THE PLATES TO THE GRECIAN  
ARCHITECTURE.

## PLATE I.

PARTHENON AT ATHENS.—This Temple, of which the parts and profile are given in the plate, was erected in the age of Pericles. The architect was Ictinus and the sculptor Callicrates. The plan of the temple is a parallelogram about 228 feet by 100 feet including the outer columns. It had eight columns in front and rear and seventeen on each flank. As the general features of this extraordinary and beautiful edifice are well known from its representation in Stuart's Athens, it will be necessary to state here some few particulars only which have come to light since the publication of that work.

The cieling of the Pronaos appears to have been supported by four columns. And it seems more than probable that the cell was surrounded by columns, inasmuch as the marks of some of them 2 feet 1 inch diameter are indicated on the pavement, and their distance 8 feet 4 inches from centre to centre. A fragment moreover of a polygonal shaft of 20 sides and 2 feet 1 inch diameter has been discovered among the rubbish. The shaft of each column of the Portico is composed of twelve courses of stones, and the bed of each has two circles described upon it, the outer one 9 inches from the edge and the termination to the surface which bears a polish. Between the two circles the surface is level but not polished. The inner circle is rough and a little sunk probably for mortar. About the centre is a square hole 3 inches deep as well as a hole in the upper stone, into these, wooden dowels were inserted. It is worthy of remark that the stones of the Frieze were put together with cramps of (I) this form.

The diameter of the columns is 6 feet 2 inches  $\frac{7}{10}$  according to Stuart whose measures have been adopted, though it is much to be regretted that the detail of that author frequently disagrees with his



totals. The measures on the plate are founded on the diameter of the column taken at 6 feet 2.72 inches, which divided by 60 gives 1.24532 inches = 1 minute.

## PLATE II.

GREAT HEXASTYLE TEMPLE AT PÆSTUM.—The temple from which this example is selected is Peripteral-Hypæthral. Its length on the upper step 202 feet 7 inches and its breadth 82 feet 2 inches. The age of this temple has not been ascertained with precision. There are fourteen columns on each flank. Their diameter is 6 feet 8 inches  $\frac{2}{10}$ . consequently 1 minute = 1.3366 inches.

## PLATE III.

TEMPLE OF APOLLO AND PORTICO OF PHILIP IN THE ISLAND OF DELOS: AND TEMPLE AT CORINTH.—In the Island of Delos, says Stuart, “are two examples of the Doric order, both excellent in their kind, one of which belongs to what I imagine to have been the Temple of Apollo; the other to the Portico of Philip. The latter on account of the lightness of its proportions differs from all the examples we have given, and is more suitable for common use.” It was found impossible to make out the extent or plans of either of the above buildings. The shafts of the two columns of the Temple of Apollo are fluted at their upper and lower extremities, but the intermediate part is plain. The diameter is 3 feet 1 inch  $\frac{1}{10}$ ; a minute is therefore = .6185 inch. The diameter of the columns of the Portico of Philip is 2 feet 11 inches  $\frac{5}{10}$ ; a minute consequently = .5616 inch. Rather more than a third of the lower part of the shafts are polygonal above which they are fluted in the ordinary way.

Stuart conjectures the Temple at Corinth to have been Peripteral Hexastyle. The columns have twenty flutings which terminate under the listels of the capital and are segments of circles. The guttæ are round and detached from the architrave. The material a rough porous stone, the shafts of the columns are each of one block only, and the whole has been covered with stucco. The architraves are of one stone each from centre to centre of columns. The drops under the Triglyphs were all broken off and

could not therefore be measured. The columns are 5 feet 10 inches diameter—a minute consequently  $\approx 1.1666$  inches.

#### PLATES IV. AND V.

IONIC TEMPLE ON THE ILYSSUS.—This Temple stood on the southern bank of the Ilyssus. Its length, measured on the upper step, is 41 feet 7 inches, and its breadth 19 feet 6 inches. It was Amphiprostylos Tetrastyle. The Cymatium in the original is destroyed. Stuart conjectures the frieze was ornamented with Bassi Relievi. The echinus of the capital continues under the volutes which are diagonal on the external angles, and mitered on the internal angles, by the junction of two semi-volutes. The flutes are twenty-four in number. Diameter of the columns 1 foot 9 inches  $\frac{4}{10}$ ; a minute therefore  $\approx .3596$  inch.

#### PLATES VI. VII. AND VIII.

TEMPLES OF MINERVA POLIAS, AND ERECTHEUS, ATHENS.—The reason for my adoption of these names, in accordance with Stuart, cannot be entered into here. I am inclined to think Stuart right notwithstanding the passage in Pausanias, Attic. c. 26. quoted by Mr. Wilkins,\* from whom I differ with considerable hesitation. The Temples of Minerva Polias, Erectheus and Pandrosus, which together compose one building, stand about one hundred and fifty feet to the north of the Parthenon. That towards the west was the Temple of Minerva Polias, that towards the east, the Temple of Erectheus, and that on the south side was the Pandroseum whose Entablature and Roof were supported by Caryatides.

The first named has a Portico Testrastyle projecting two intercolumniations; its dimensions are about 33 feet 6 inches by 17 feet 6 inches. Diameter of the columns 2 feet 9 inches  $\frac{4}{10}$ ; so that a minute  $\approx .5572$  inch.

The Erectheum has an Hexastyle Portico projecting only one intercolumniation; it extends in front about 37 feet. The Diameter of the columns is 2 feet 3 inches  $\frac{8}{10}$ ; a minute therefore  $\approx .4633$  inch. The upper member of the cornice, in the profile of the Temple of Minerva Polias, is a restoration.

\* Atheniensia, p. 142.

## PLATE IX.

CHORAGIC MONUMENT OF LYSICRATES, COMMONLY CALLED THE LANTERN OF DEMOSTHENES. This beautiful example, stands on the eastern end of the Acropolis of Athens. "It is composed of three distinct parts," says Stuart. "First, a quadrangular Basement; secondly, a circular Colonnade, the intercolumniations of which were entirely closed up; and thirdly, a Tholus or Cupola, with the ornament which is placed on it." The diameter of this building taken on the lower step is 10 feet 8 inches. The columns are 1 foot 1 inch  $\frac{2}{10}$  diameter; a minute consequently  $\approx .22$  inch.

## PLATE X.

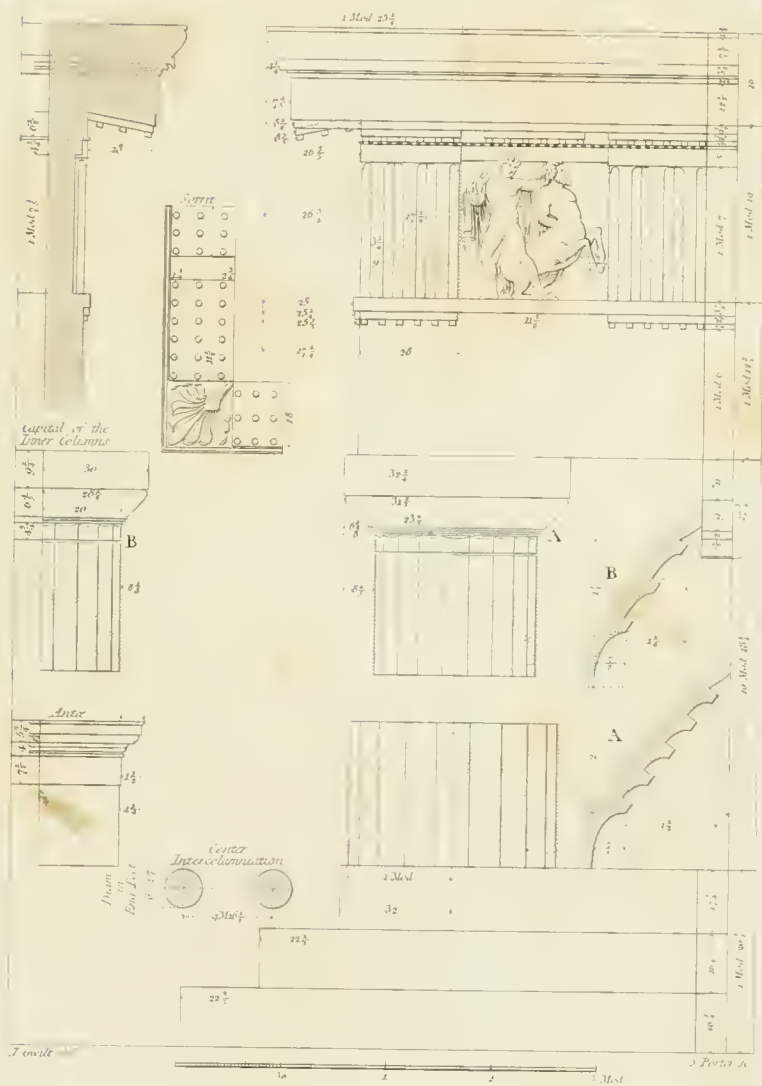
TEMPLE OF JUPITER OLYMPIUS.—This is one of the most considerable remains of Athenian magnificence. It has been erroneously called by the name here given. Stuart considers the ruins rather the remains of a stoa or portico, than of either a palace, as some have supposed it, or of a temple. The external walls enclose a large quadrangular space of 376 feet by 252. In the middle of it are the remains of a gate or entrance. The whole extent of the front is ornamented with Corinthian columns and terminated at each extremity by a Pteroma, or projecting wall, faced with a Corinthian pilaster. The original number of the columns was eighteen. Four of them, fluted, were in the centre of the front on the upper step—carrying an Entablature and Pediment, and forming a Portico before the Gate. On each side were seven columns, not fluted, on pedestals level with the upper step of the Portico. The abacus of the capital in this Example has acute angles, similar to those of the Temple of Vesta at Rome. The lower part of the shafts of the fluted columns are cabled. Their diameter is 2 feet 11 inches  $\frac{3}{10}$ ; so that a minute  $\approx .5883$  inch.

## PLATE XI.

A Window from the Temple of Minerva Polias with the detail of the Mouldings in profile. Also two Examples of Caryatides, No. 1, from the Pandroseum. No. 2, from the Townley Collection.

GRECIAN ARCHITECTURE.  
*Parthenon . . Athens.*

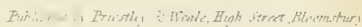
Pl. 1







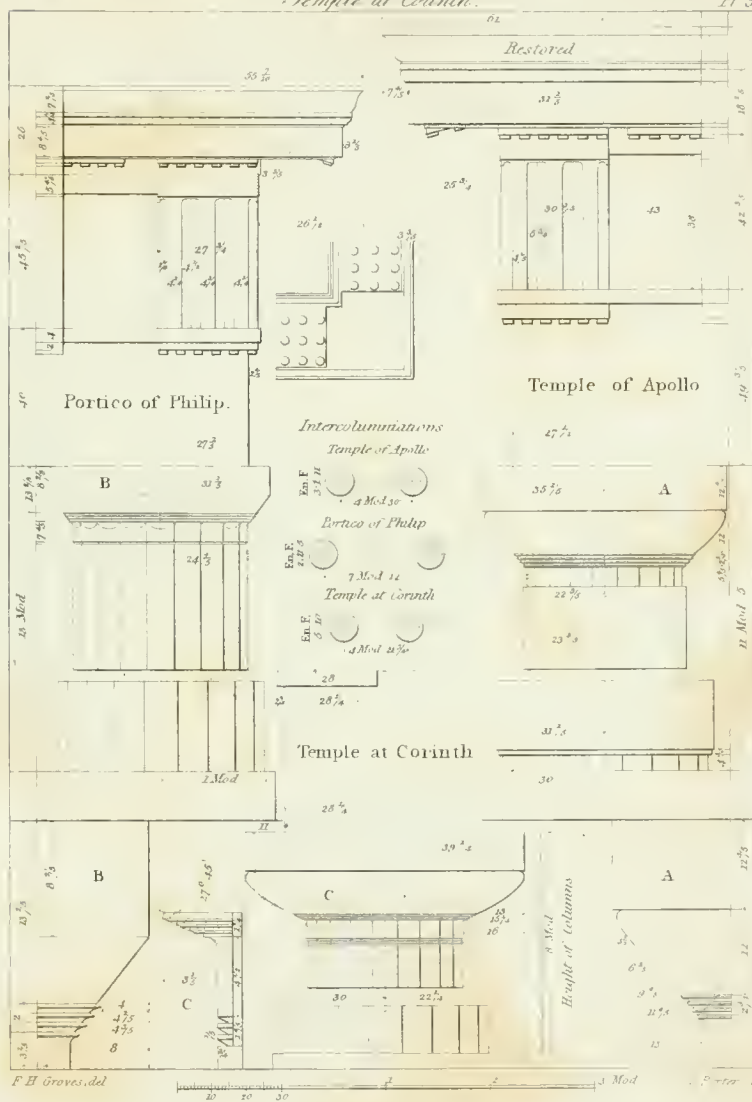
## 17.





Temple of Apollo Portico of Philip in the Island of Delos and  
Temple at Corinth. P

Pl. 5





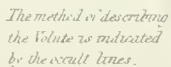
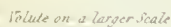
*Temple on the Abyssus.*







223

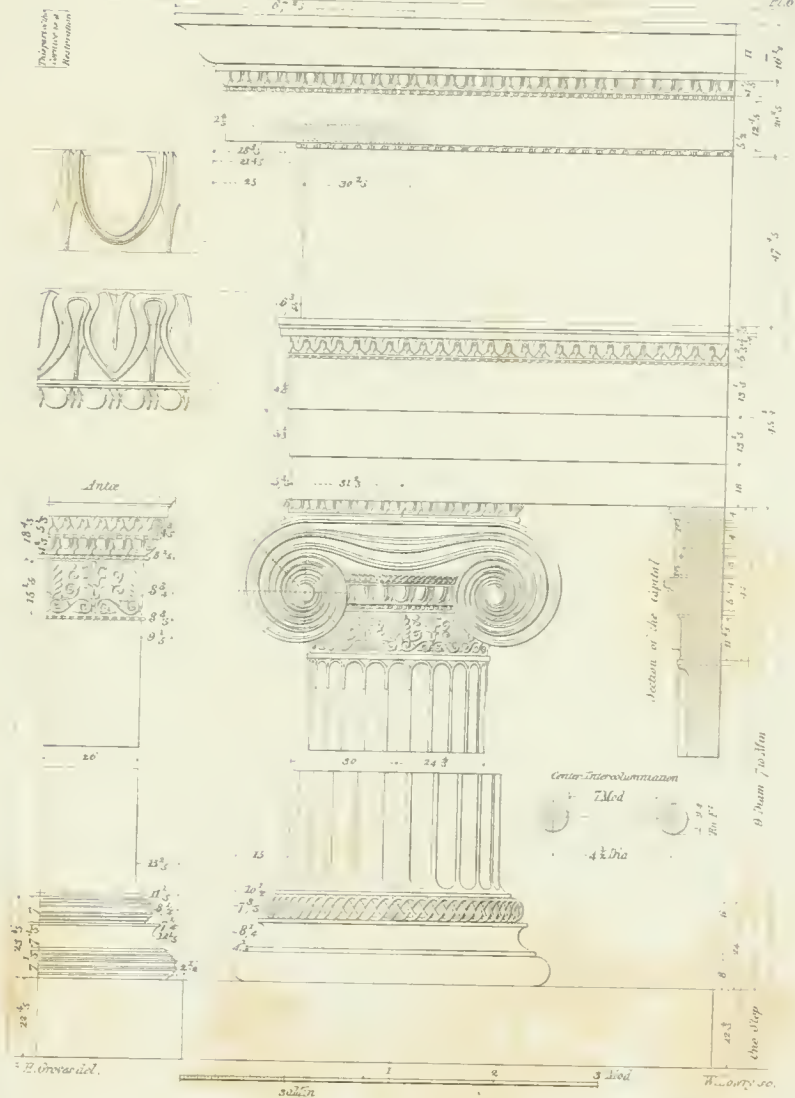




Temple of Minerva Polias.

This part is the  
signature of  
Restoration

Pl. 6

[illegible]

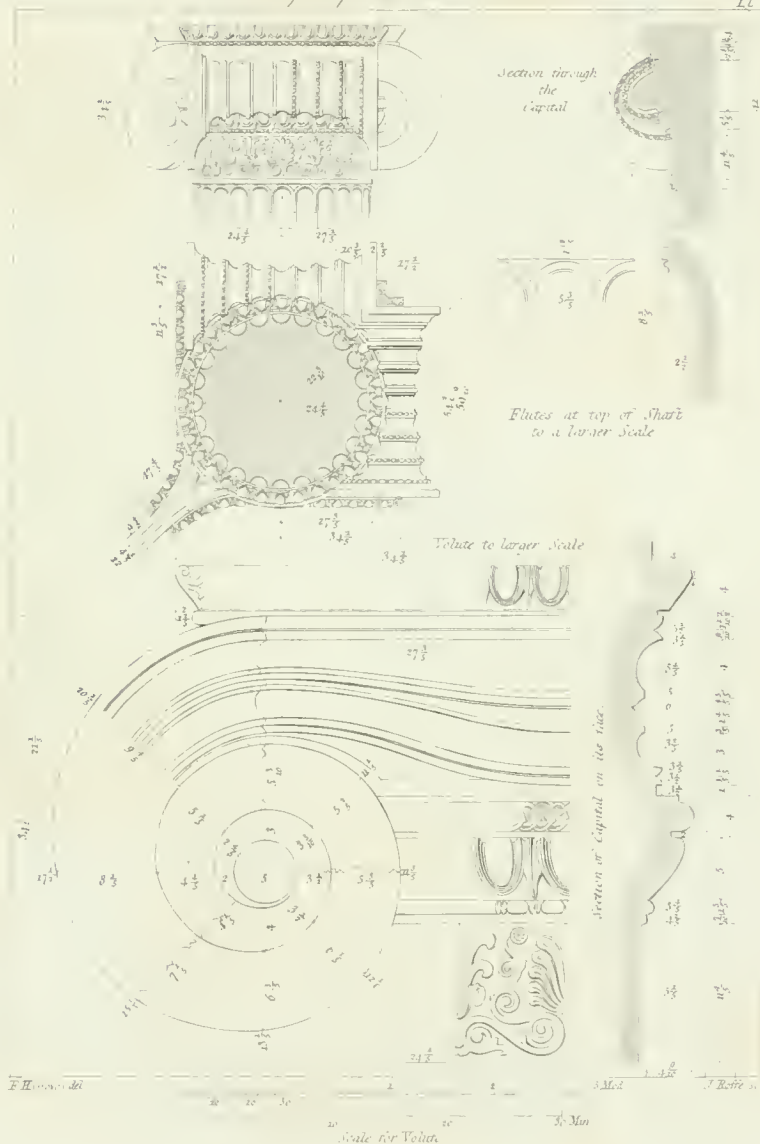




# GRECIAN ARCHITECTURE

## *Temple of Minerva Polias*

Pl 7

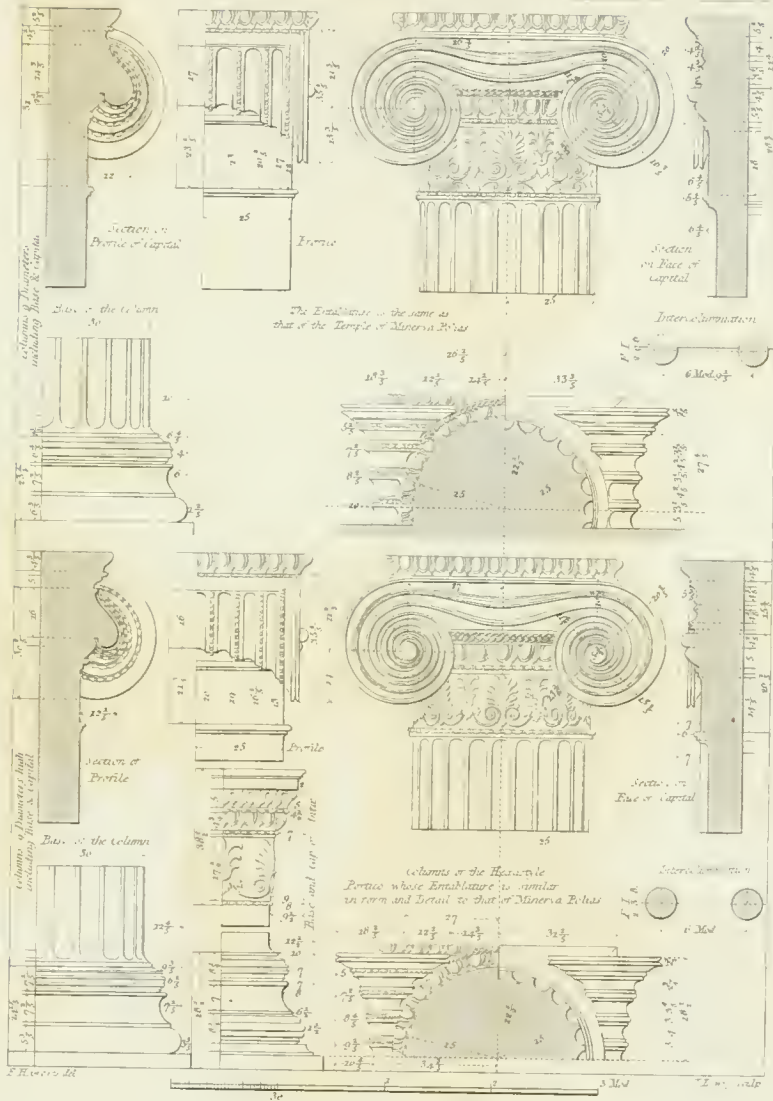


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# GRECIAN ARCHITECTURE

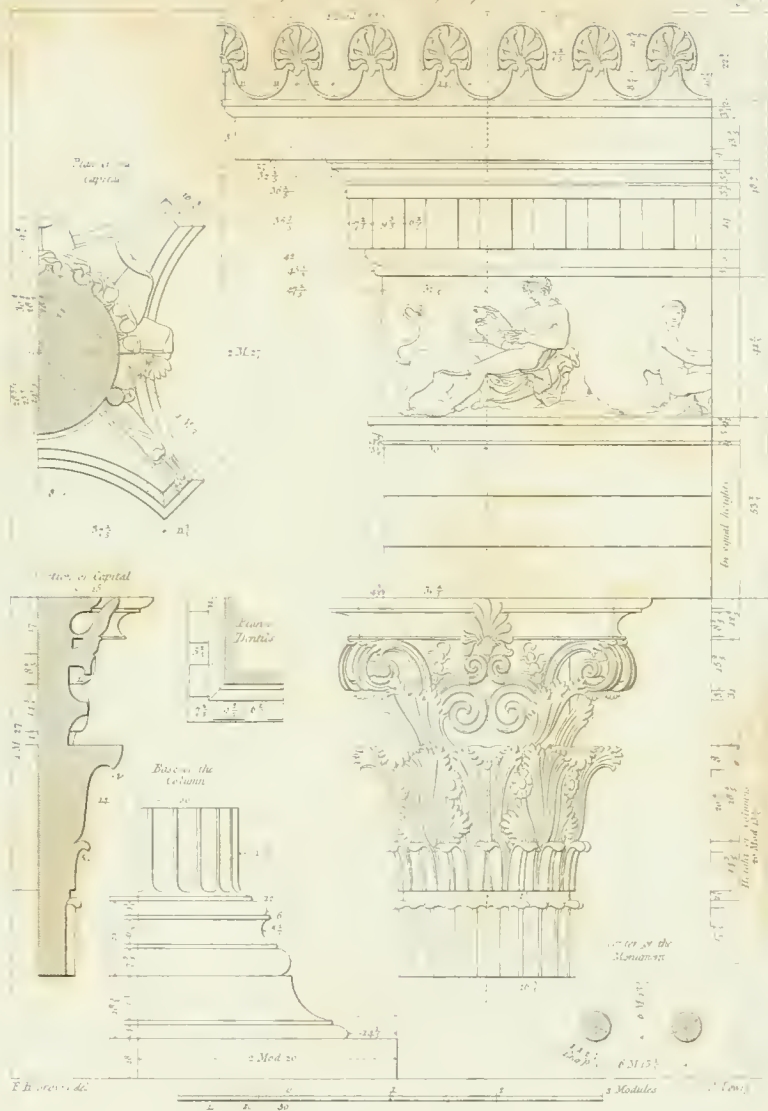
## *Temple of Erectheus*





# GRECIAN ARCHITECTURE

(Temple of Minerva at Paestum.)



Engraved by Priestley & Wale, High Street, Bloomsbury



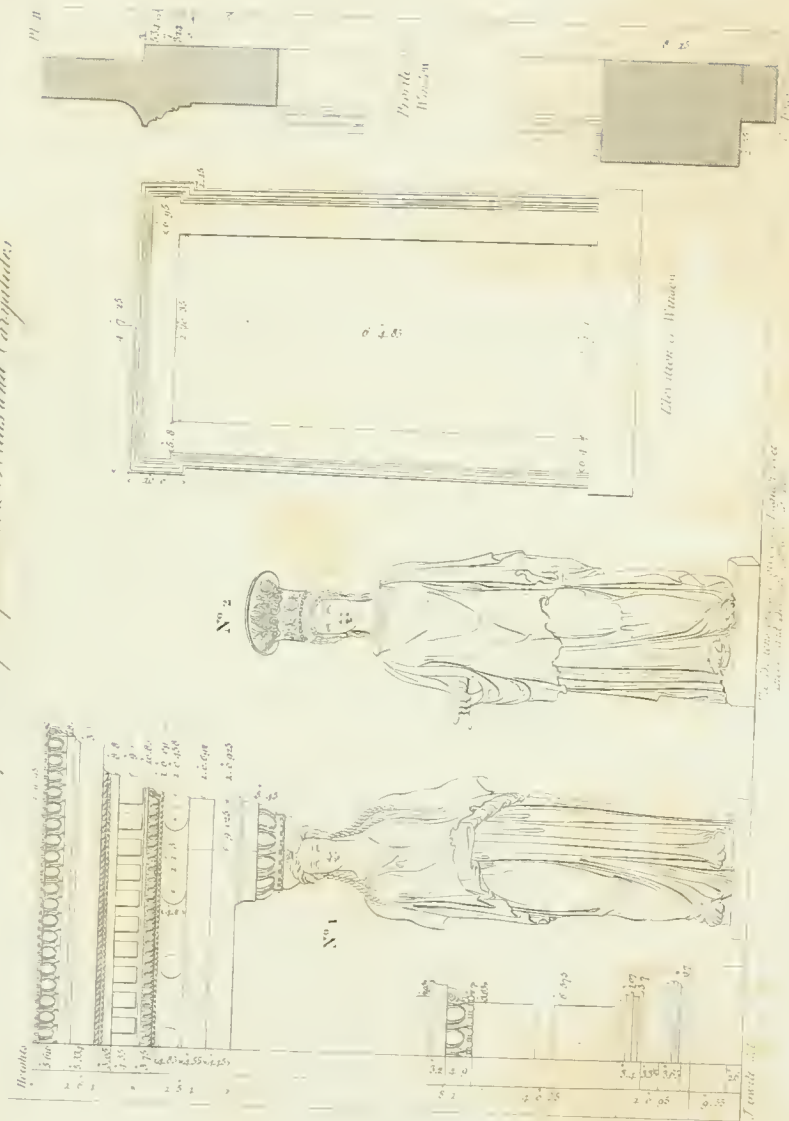


Architectural drawing of the Temple of Apollo at Didyma, showing various architectural elements and a central column capital. The drawing includes a plan view at the top, a section view on the left, and a detailed elevation of a column capital in the center. The capital is decorated with acanthus leaves and a volute. The column below the capital has a fluted shaft. The drawing is annotated with numerous measurements in feet and inches, such as 15' 3", 12' 3", 10' 3", 8' 3", 6' 3", 4' 3", 2' 3", 1' 3", 1/2", 3/4", 1/8", 1/16", 1/32", 1/64", 1/128", 1/256", 1/512", 1/1024", 1/2048", 1/4096", 1/8192", 1/16384", 1/32768", 1/65536", 1/131072", 1/262144", 1/524288", 1/1048576", 1/2097152", 1/4194304", 1/8388608", 1/16777216", 1/33554432", 1/67108864", 1/134217728", 1/268435456", 1/536870912", 1/1073741824", 1/2147483648", 1/4294967296", 1/8589934592", 1/17179869184", 1/34359738368", 1/68719476736", 1/137438953472", 1/274877906944", 1/549755813888", 1/1099511627776", 1/2199023255552", 1/4398046511104", 1/8796093022208", 1/17592186044416", 1/35184372088832", 1/70368744177664", 1/140737488355328", 1/281474976710656", 1/562949953421312", 1/1125899906842624", 1/2251799813685248", 1/4503599627370496", 1/9007199254740992", 1/18014398509481984", 1/36028797018963968", 1/72057594037927936", 1/144115188075855872", 1/288230376151711744", 1/576460752303423488", 1/1152921504606846976", 1/2305843009213693952", 1/4611686018427387904", 1/9223372036854775808", 1/18446744073709551616", 1/36893488147419103232", 1/73786976294838206464", 1/147573952589676412928", 1/295147905179352825856", 1/590295810358705651712", 1/1180591620717411303424", 1/2361183241434822606848", 1/4722366482869645213696", 1/9444732965739290427392", 1/18889465931478580854784", 1/37778931862957161709568", 1/75557863725914323419136", 1/151115727451828646838272", 1/302231454903657293676544", 1/604462909807314587353088", 1/1208925819614629174706176", 1/2417851639229258349412352", 1/4835703278458516698824704", 1/9671406556917033397649408", 1/19342813113834066795298816", 1/38685626227668133590597632", 1/77371252455336267181195264", 1/154742504910672534362390528", 1/309485009821345068724781056", 1/618970019642690137449562112", 1/1237940039285380274899124224", 1/2475880078570760549798248448", 1/4951760157141521099596496896", 1/9903520314283042199192993792", 1/19807040628566084398385987584", 1/39614081257132168796771975168", 1/79228162514264337593543950336", 1/158456325028528675187087900672", 1/316912650057057350374175801344", 1/633825300114114700748351602688", 1/1267650600228229401496703205376", 1/2535301200456458802993406410752", 1/5070602400912917605986812821504", 1/10141204801825835211973625643008", 1/20282409603651670423947251286016", 1/40564819207303340847894502572032", 1/81129638414606681695789005144064", 1/162259276829213363391578010288128", 1/324518553658426726783156020576256", 1/649037107316853453566312041152512", 1/1298074214633706907132624082305024", 1/2596148429267413814265248164610048", 1/5192296858534827628530496329220096", 1/10384593717069655257060992658440192", 1/20769187434139310514121985316880384", 1/41538374868278621028243970633760768", 1/83076749736557242056487941267521536", 1/166153499473114484112975882535043072", 1/332306998946228968225951765070086144", 1/664613997892457936451903530140172288", 1/1329227995784915872903807060280344576", 1/2658455991569831745807614120560689152", 1/5316911983139663491615228241121378304", 1/10633823966279326983230456482242756608", 1/21267647932558653966460912964485513216", 1/42535295865117307932921825928971026432", 1/85070591730234615865843651857942052864", 1/170141183460469231731687303715884105728", 1/340282366920938463463374607431768211456", 1/680564733841876926926749214863536422912", 1/1361129467683753853853498429727072845824", 1/2722258935367507707706996859454145691648", 1/5444517870735015415413993718908291383296", 1/10889035741470030830827987437816582766592", 1/21778071482940061661655974875633165533184", 1/43556142965880123323311949751266331066368", 1/87112285931760246646623899502532662132736", 1/174224571863520493293247799005065324265472", 1/348449143727040986586495598010130648530944", 1/696898287454081973172991196020261297061888", 1/1393796574908163946345982392040522594123776", 1/2787593149816327892691964784081045188247552", 1/5575186299632655785383929568162090376495104", 1/11150372599265311570767859136324180752990208", 1/22300745198530623141535718272648361505980416", 1/44601490397061246283071436545296723011960832", 1/89202980794122492566142873090593446023921664", 1/1784059615882449851322857461811



# GRECIAN ARCHITECTURE.

*Model from Temple of Minerva. Plan and Elevation.*







A  
TREATISE  
ON THE DECORATIVE PART  
OF  
CIVIL ARCHITECTURE.



TO  
THE KING.\*

SIR,

THE present publication treats of an Art, often the amusement of YOUR MAJESTY'S leisure moments; and which, in all ages, great princes have delighted to encourage: as one, amongst those most useful to their subjects; best calculated to display the power and splendor of their government; fittest to convey to posterity, the munificence, skill, and elegance, of the times in which they flourished; the memorable events and glorious deeds, in which they were engaged.

The indulgent reception afforded to the two former editions of this work, induced me, not only to enlarge, and attempt improvements, in this third Edition; but likewise to solicit the honour of its appearance, under the auspices of YOUR MAJESTY'S patronage: and the condescension with which that mark of royal approbation was granted, proves YOUR MAJESTY'S desire to promote, even the smallest advances, towards perfecting the Arts of Design.

The institution of a Royal Academy; an Exhibition, become splendid under Royal Patronage; English Productions of Art, contending for pre-eminence, with those of the first Schools on the Continent; are events, unexpected, as un hoped for, till YOUR MAJESTY'S Accession.

For the benefits derived from these events, Artists of all degrees look up with reverence to the Throne: and

\* This dedication was to His late revered Majesty George III. and was prefixed to the Third Edition.

so powerful is the example, such the influence of Royal Patronage, that the same spirit of encouragement has rapidly been diffused, through all classes of YOUR MAJESTY'S subjects; even men of inferior rank now aspire to taste in the fine arts; and by a liberality of sentiment, formerly unknown, excite the artists to emulate and excel each other: circumstances not only much to their own honour, but contributing greatly to augment the splendor of the nation; to improve its taste, and stamp additional value on its manufactures; to extend its commerce, and increase the profits arising therefrom.

That YOUR MAJESTY may long reign over happy nations, and continue with equal ardour a Patronage, which already has produced such beneficial effects; is the earnest wish of

YOUR MAJESTY'S

MOST DUTIFUL SUBJECT,

AND EVER FAITHFUL SERVANT,

WILLIAM CHAMBERS.

## PREFACE.

AMONGST the various arts cultivated in society, some are useful only ; being adapted to supply our natural wants, or assist our natural infirmities ; others again, are instruments of luxury merely, and calculated to flatter the pride, or gratify the desires of man ; whilst others there are, contrived to answer many purposes ; tending at once to preserve, to secure, to accommodate, delight, and give consequence to the human species.

Architecture, the subject of our present enquiry, is of this latter kind ; and when viewed in its full extent, may truly be said to have a very considerable part, in almost every comfort, or luxury of life. The advantages derived from houses only, are great, they being the first steps towards civilization, and having certainly great influence both on the body and mind. Secluded from each other, inhabitants of woods, of caves, or wretched huts ; exposed to the inclement vicissitudes of seasons, and the distressing uncertainty of weather ; men are generally indolent, dull and abject, with faculties benumbed, and views limited to the gratification of their most pressing necessities ; but wherever societies are formed, and commodious dwellings are found ; in which, well sheltered, they may breathe a temperate air, amid the summer's heat or winter's cold ; sleep, when nature calls, at ease and in security ; study unmolested ; converse, and taste the sweets of social enjoyments ; there they are spirited, active, ingenious and

enterprising; vigorous in body, speculative in mind: agriculture and arts improve, they flourish among them; the necessaries, the conveniences, and soon even the luxuries of life, become there abundant.

Mere strength however, even the steadiest perseverance, obtains with difficulty the desired produce; but inventions facilitate and shorten labour, multiplying productions so, as not only to supply domestic wants, but likewise to treasure up stores for foreign markets'.

Architecture then smooths the way for commerce; she forms commodious roads through marshes or other grounds naturally impracticable, fills up valleys, unites or levels mountains; throws bridges over deep or rapid waters, turns aside or deadens the fury of torrents; constructs canals of navigation, builds ships, and contrives ports for their secure reception in the hour of danger; facilitating thus, the intercourse of nations, the conveyance of merchandize from people to people.

A well regulated commerce is ever the source of wealth; and luxury has ever been attendant on riches. As the powers of gratification increase, fancy multiplies wants; till at length, indolence or pleasure, vanity and superstition, fears and resentments, give birth to a thousand superfluous, a thousand artificial cravings; the greater part of which could not be gratified, without the assist-

<sup>1</sup> The author in the third Edition has much obscured his meaning. In the second Edition the Passage is much clearer—"Invention facilitates labour; and what mere strength and perseverance obtains with difficulty, ingenious contrivances produce with ease, and in abundance. Hence domestic wants are constantly supplied, and stores supplied for foreign markets." It appears probable that the author neglected to correct the press with his usual diligence and care in this passage, and that the words "produce" and "productions" might not inconveniently change places. [E.D.]



ance of architecture ; for splendid palaces, magnificent temples, costly dwelling houses, amphitheatres, theatres, baths and porticos, triumphal arches and bridges, mausoleums, and an endless number of similar inventions ; are all, either necessary instruments of ease and pleasure ; or striking testimonies of wealth, of grandeur and pre-eminence, either present or past.

Nor are there any other objects, whether necessary, or superfluous, so certainly productive of their design, so permanent in their effects, or beneficial in their consequences : fine furniture, rich dresses, brilliant equipages, numerous domestics, are only secondary attractions at first ; they soon feel the effect of time, and their value fluctuates, or dies, with the fashion of the day. While the productions of architecture command general attention ; are monuments lasting beyond the reach of modes, and record to latest posterity, the consequence, virtues, achievements, and munificence of those they commemorate<sup>1</sup>.

The immediate and most obvious advantages of building are, employing many ingenious artificers, many industrious workmen and labourers of various kinds ; converting materials of little value into the most stately productions of human skill ; beautifying the face of countries ; multiplying the conveniencies and comforts of life.

But these, however great, are not the most considerable ; that numerous train of arts and manufactures, contrived to furnish and adorn the works of architecture, which occupies thousands, and constitutes many lucrative branches of commerce ; that certain concourse of strangers

<sup>1</sup> *Mores tuos fabricæ loquuntur, quia nemo in illis diligens agnoscitur, nisi qui et in suis sensibus ornatissimus reperitur. Cassiodorus, lib. iv. [ED.]*

to every country celebrated for stately structures ; who extend your fame, adopt your fashions, give reputation, and create a demand for your productions ; are considerations of the highest consequence : in short, the advantages of building extend to the remotest ages, and at this day, the ruins of ANCIENT ROME, in a great measure support the splendour of the present ; by the number of travellers who flock from all nations, to visit the ancient remains and modern magnificence of that famous city ; and who, in the course of a few centuries, have there expended incredible sums of money, by long residence ; and in the purchase of old pictures, antique statues, busts, basreliefs, urns, and other curious productions of art : of which, by some extraordinary good management, there is a treasure never to be exhausted ; the waste of four hundred years is scarcely perceivable.

Nor is architecture less useful in defending, than prosperous in adorning and enriching countries ; she guards their coasts with ships of war, secures their boundaries, fortifies their cities, and by a variety of artful constructions, controls the ambition, and frustrates the attempts of foreign powers ; curbs the insolence, and averts the danger, the horror of internal commotions.

Thus architecture, by supplying men with commodious habitations ; procures that health of body and vigour of mind, which facilitate the invention of arts ; and when by the exertion of their skill or industry, productions multiply beyond domestic wants ; she furnishes the means of transporting them to other markets : and whenever by commerce they acquire wealth, she points the way to employ their riches rationally, nobly, benevolently ; in methods honourable and useful to themselves and their

descendants ; which add splendor to the state and yield benefit both to their cotemporaries and to posterity ; she farther teaches them to defend their possessions ; to secure their liberty and lives, from the attempts of lawless violence, or unrestrained ambition.

An art so variously conducive to the happiness of man, to the wealth, lustre, and safety of nations ; naturally commands protection and encouragement : in effect, it appears, that in all civilized times, and well regulated governments, it has been much attended to, and promoted with unremitting assiduity ; and the perfectioning of other arts, has ever been a certain consequence : for where building is encouraged ; painting, sculpture, and all the inferior branches of decorative workmanship, must flourish of course ; and these have an influence on manufactures, even to the minutest mechanic productions ; for design is of universal benefit, and stamps additional value on the most trifling performances, the importance of which, to a commercial people, is obvious ; it requires no illustration<sup>1</sup>.

Let it not however be imagined, that building, merely considered as heaping stone upon stone, can be of great consequence ; or reflect honor, either on nations or individuals : materials in architecture, are like words in phraseology ; having separately but little power ; and they may be so arranged, as to excite ridicule, disgust, or even contempt ; yet when combined with skill, expressed with energy, they actuate the mind with unbounded sway. An

<sup>1</sup> The influence of the arts of Design, if evidence were necessary to corroborate the author's assertion, is sufficiently manifest ; for example, in one branch of our manufactures, that of Pottery. Let the fictile vessels in use a century back be compared in respect of form with those of the present day. The comparison is calculated to surprise and astonish us. [ED.]

able writer can move even in rustic language, and the masterly dispositions of a skilful artist, will dignify the meanest materials; while the weak efforts of the ignorant render the most costly enrichments despicable<sup>1</sup>. To such, the compliment of Apelles may justly be applied; who, on seeing the picture of a Venus magnificently attired, said to the operator, "Friend, though thou hast not been able to make her fair, thou hast certainly made her fine."

Hitherto architecture has been considered in a general light; under its different divisions of naval, military, and civil. I purpose, however, in the present work, to confine myself to the last of these branches, as being of more general use, and that, to which my own study and practice have been more immediately directed.

It is not to be supposed, that so difficult an art as architecture, after having lain many centuries absorbed in the general cloud of barbarism, should at once emerge in full perfection; or that the first restorers of the ancient manner of building, could at once bring it to a degree of purity, incapable of farther improvement. With very little assistance from books upon the subject, and that, often obscure, unintelligible, or erroneous; while they were

<sup>1</sup> Some of Palladio's finest examples are of Brick. The cortile of the Carità at Venice, is an instance. The Interiors of the Redentore and St. Giorgio, in the same city, have but a coat of plaister on them. The beautiful Palazzo Thiene at Vicenza, at least that part which was executed, is left with its rockworked basement in brickwork chipped out.—Form alone fastens on the mind in works of art. The rest is meretricious if used as a substitute to supersede this grand desideratum. Laugier says, "*Les Proportions sont si essentielles en Architecture, qu'un Batiment bien proportionné, n'eût il d'ailleurs d'autre mérite que le bel appareil des Matériaux, fera toujours de l'effet, tandis que l'ornement prodigue à un edifice sans proportions ne sauroit réussir.*"—*Observations sur L'Architecture.* La Haye, 1765. [ED.]

labouring to separate beauty from deformity; endeavouring to restore to light, what length of time, casualties, war, and violence, had been active to deface; to annihilate; we must neither censure with severity their omissions, nor wonder at their mistakes; yet with all due reverence for the memory of those illustrious artists, it may be remarked, that they left much undone; and taught many errors. Their measures and designs were, generally speaking, incorrect; their plates ill engraved<sup>1</sup>; and the want of method, and of precision in treating their subject, renders the study of it in their works exceedingly discouraging.

It is indeed true, that later writers have, in a great measure, supplied their omissions, and rectified their faults: few subjects have been more amply treated of than architecture; nor any, by persons better qualified; insomuch, that little remains either to be discovered or improved; every branch of the art having been maturely considered, and brought very near the utmost degree of certainty of which it is capable.

Yet one thing of great use remained to be done; at least, in our language<sup>2</sup>; which was, to collect in one volume,

<sup>1</sup> On Wooden Blocks; as in the works of Serlio. The Plates, however, to the different editions of Daniel Barbaro's Vitruvius do not deserve this character. They are accurately and tastefully executed, and may vie with any productions of the present day. [ED.]

<sup>2</sup> The following is a list of the chief works on Architecture in our own language, previous to the time of this third Edition:—

Aldrich, H., *Elements of Civil Arch.* 8vo. 1789, Oxford.

*Builder's Dictionary*, 2 vols. 8vo. London, 1734.

*City and Countrey Purchaser and Builder's Dictionary, or the Compleat builder's Guide*, by T. N. Philomath. 8vo. Lond. 1703.

————— *Second Edition*, by Richard Neve. 8vo. Lond. 1726.



what lay dispersed in many hundreds, much the greater part of them written in foreign languages : and to select, from mountains of promiscuous materials, a series of sound precepts, and perfect designs.

Whoever has applied to the study of architecture, will readily grant that there are few pursuits more perplexing : the vague foundation on which the more refined parts of the art are built, has given rise to such a multiplicity of jarring opinions, all supported by, at least, plausible arguments; that it is exceedingly difficult to discriminate, or distinguish what is real, from that which is merely specious :

Freart, Roland sieur de Chambray, parallel of the antient Architecture with the modern. Translated by Evelyn, fol. Lond. 1733.

Gerbier, Sir Balthazar's, Counsel and Advice to all Builders ; for the Choice of their Surveyours, Clerks of their Works, Bricklayers, Masons, Carpenters and other Workmen therein concerned, 18mo. Lond. 1663

————— Second Edition, 18mo, Lond. 1664.

Gwyn's, J., Essay on Design, 8vo. Lond. 1749.

————— Qualifications of a Surveyor, 8vo. Lond. 1752.

————— Essay upon Harmony as it relates chiefly to Situation and Building.

Le Clerc's, Sebast., Treatise of Architecture, 2 vols. 8vo. Translated by Chambers, Lond. 1733, another edition, 1732.

Morris's Lectures on Architecture, 8vo. Lond. 1734.

Nutshells (ΟΙΚΙΔΙΑ) being Ichnographic distributions for small villas, &c. by Jose Mac Packe (James Peacocke), 8vo. Lond. 1735.

Palladio's First Book of Architecture, translated by Godfrey Richards, 4to. Lond. 1663.

————— Architecture, by Giac. Leoni, with Notes and Remarks by Inigo Jones, fol. Lond. 1742.

There is another edition of this Book which purports by the title-page to contain the Notes of Inigo Jones, but they are nevertheless omitted.

—————, by Ware, fol. Lond. sine an.

Price's British Carpenter, 4to. Lond. (4th edit.) 1759.

Ware's, I., Complete Body of Architecture, fol. Lond. 1756.

Wotton's, Sir Henry, Elements of Architecture, 4to. Lond. 1624.

Wilsford's, Thomas, Art of Building, or an Introduction to all Young Surveyors in common Structures, 8vo. Lond. 1659. [ED.]



the connexions which constitute truth or fallacy, being often far distant, beyond the sight of superficial observers. Whence, the merit of performances is too often measured by the fame of the performer ; by the taste of the age in which they were produced ; by vulgar report ; party opinion ; or some other standard equally inadequate : and not seldom by precepts delivered some centuries ago, calculated for other climates, other men, and other customs.

To obviate these inconveniencies, the author ventured, soon after his return from Italy, upwards of thirty years ago, to attempt such a compilation as is above mentioned ; by a publication of the first edition of the present work. He flattered himself, that if well conducted, it would greatly shorten the labours of the student, and lead him to truth, by easy and more inviting paths ; that it might render the study of architecture, and its attendant arts, more frequent ; serve to promote true taste, and to diffuse the love of *Virtù*, among persons of high rank, and large fortune ; the fit encouragers of elegance.

His design was, without bias from national, or other prejudices ; candidly to consider what had been produced upon the subject ; and to collect from the works or writings of others, or from his own observations, in all parts of Europe, famed for taste ; such particulars, as seemed most interesting, or properest to give a just idea of so very useful and truly noble an art.

Sensible that all ages had produced bad, or indifferent artists ; and that all men, however excellent, must sometimes have erred ; it was his intention, neither to be influenced by particular times, nor by the general reputation of particular persons : where reason or demonstration could

be used, he purposed to employ them ; and where they could not, to substitute in their places, generally admitted opinions. Abstruse or fruitless arguments he wished carefully to avoid ; nor was it his intention to perplex the unskilful, with a number of indiscriminate examples : having judged it much more eligible to offer a few ; calculated to serve at once as standards for imitation, or guides to judge by, in similar productions. Precision, perspicuity, and brevity, were to be attempted in the style ; and in the designs, simplicity, order, character, and beauty of form.

The difficulty and extent of such a task, undertaken early in life, rendered success very uncertain ; and filled the writer's mind with many apprehensions ; but the indulgent encouragement, so liberally extended to the two former publications of this work ; and the frequent calls for a third ; are pleasing testimonies that his endeavours have not been wholly in vain. He ventures to consider the sale of two numerous editions written upon a subject rather instructive than entertaining ; and in a language generally unknown to foreign Artists ; as a proof of the utility of his undertaking ; at least, in the country where he most wished to have it useful. And stimulated by a desire of rendering it still more deserving public notice, he has carefully revised, and considerably augmented this third edition ; he does not presume to say improved it ; but flatters himself the experience gained by thirty years very extensive practice, since the original publication ; has enabled him to judge with some degree of certainty, at least, of what might be left out, be added, or altered to advantage.

Amongst the additions to this third edition<sup>1</sup>, there is an introductory discourse; designed to point out, and briefly to explain, the requisite qualifications and duty of an architect, at this time: and in the course of the work, many additional hints, explanations, and elucidations, have been inserted; wherever they seemed, either necessary for better understanding the text; for the farther information of the reader; or for giving additional force, and greater authority, to what had been before advanced. It has farthermore been attempted on different occasions, to point out to the student the course he ought to steer; the dangers he has to avoid; the object he must constantly keep in view.

To these additional articles in the text, are added four entire new plates; one of chimney pieces, the rest containing vases, urns, and other ornamental pieces, designed by the Author; and executed for their Majesties, his Grace the Duke of Marlborough, the Earl of Charlemont, and some other persons of high rank. Several of the old plates have also been altered; and it is hoped, somewhat improved.

The favourable reception this Treatise on the ornamental part of architecture has experienced, both in England and abroad, is such, as certainly required a full discharge of the original engagement: by treating upon the Art, in its remaining branches. But such, and so con-

<sup>1</sup> The title of the first as well as of the second edition is as follows:—"A Treatise on Civil Architecture, in which the Principles of that Art are laid down, and Illustrated by a great number of Plates, accurately designed and engraved by the best Hands," &c. &c. The first edition was published, 1759. The second, 1763. The third, 1791, in which the Title was changed (perhaps needlessly) by the author to that which is prefixed to the present Edition.

[ED.]

stant, have been the Writer's avocations ; that in the course of thirty years, it has never been in his power, properly to set about so extensive an undertaking : and a variety of concurring circumstances, render it less so now, than ever. Loose materials have, indeed, been abundantly collected ; and many designs have from time to time, been made ; with an eye to the general intention : but there are so many more to make ; so much to correct and methodize ; that he must, however reluctantly, relinquish the task, and consign the remainder to the execution of some future pen.

In the mean time, from the method throughout observed, in treating the present subject, it is presumed, that this part may now be, as it has hitherto been, considered as a distinct work : in all respects unconnected with any thing that might, or may follow : which form was originally fixed upon for the advantage of the subscribers, as well as for the security of the publisher ; and has now been continued, partly from necessity, and in part, for the benefit of purchasers ; many of whom, have little or no occasion to study any more of the art, than what the present publication contains ; the remaining branches, though very important to builders, being of little service to connoisseurs, or men of taste, who aspire to be judges of the beauties, or deformities of a structure, without caring much about the rest, or having the fatigue, of entering into particulars ; either concerning its value, its disposition, or construction.

## INTRODUCTION.

CIVIL ARCHITECTURE is that branch of the builder's art, which has for its objects all structures, either sacred or prophane, calculated to supply the wants and comforts ; or to promote, extend, and diversify, the pleasures of life : either contrived to facilitate the business ; give lustre to the duties ; or display the state and distinctions of society. Its purpose is to erect edifices, in which strength and duration, shall unite with beauty, convenience, and salubrity ; to ascertain their value ; and to build them with every attention to safety, ease, and economy.

Many, and singularly opposite, must be the qualities and attainments of him, who aspires to excel, in an art so variously directed. "Architecture," says father Laugier<sup>1</sup>, "is of all useful arts, that which requires the most distinguished talents ; there is perhaps as much genius, good sense, and taste requisite, to constitute a great architect ; as to form a painter or poet of the first class. It would be a strange error to suppose it merely mechanical ; and confined to digging foundations, or building walls, by rules of which the practice, supposes nothing more than eyes accustomed to judge of a perpendicular, and hands expert

<sup>1</sup> Introduction to "Essai sur l'Architecture," 8vo. Paris, 1755.

Laugier, Marc Antoine, was born in Provence, 1713 ; died 1769. He quitted the order of Jesuits of which he was early in life a member. His book entitled, "Observations sur l'Architecture," 12mo. La Haye, 1765, is worthy a place in every architectural library.

[ED.]



in the management of a trowel. In contemplating the builder's art, all indeed that strikes a vulgar imagination, are, confused mounds of incommodious ruins; formless heaps of collected materials; dangerous scaffoldings; a frightful clatter of hammers, tools, and working machinery; an army of slovenly bespattered labourers and workmen: but these are only as it were, the rough bark of an art, the ingenious mysteries of which, though only discoverable to few observers, excite the admiration of all who comprehend them. They perceive inventions of which the boldness, implies a genius, at once fertile and comprehensive; proportions of which the justness, announces a severe and systematic precision; ornaments of which the excellence, discovers exquisite and delicate feelings: and whoever is qualified to taste so many real beauties, will, I am certain, far from attempting to confound architecture with the inferior arts, be strongly inclined to rank it amongst those that are most exalted."

Vitruvius' requires that the architect should have both ingenuity and application, observing, that wit without labour, or labour without wit, never arrived at perfection. "He should," says he, "be a writer and draughtsman, understand geometry, optics, and arithmetic; be a good historian and philosopher, well skilled in music, and not ignorant in either physic, law, or astrology. The same author farther requires that he should be possessed of a great and enterprizing mind; be equitable, trusty, and totally free from avarice; without which, it would be impossible to discharge the duties of his station with due propriety: ever disinterested, he should be less solicitous

<sup>1</sup> Vitruvius, Lib. I. c. i.



of acquiring riches, than honour, and fame, by his profession."

And Pythius', another ancient writer, cited by Vitruvius, insisted, that an architect should be more expert in every profession, connected with his art; than the ablest professors of each art respectively.

To this however Vitruvius does not assent, observing, "that the human mind cannot arrive at perfection, in so many difficult and various parts of knowledge. It is," says he, "even rare in the course of a century to find a man superlatively excellent in any profession; why then is it expected, that an architect should equal Apelles in painting, Myron and Polycletus in sculpture, Hippocrates in medicine, Aristoxenus in music, or Aristarchus in purity of language: Pythius should have remembered, that every art consists of two parts, theory and practice: the latter of which, appertains peculiarly to its professors; but the former, is common to them, and to the learned in general. If, therefore, an architect be sufficiently master in all the arts connected with his profession, to judge perfectly of the merit of their productions, it is the most that should be insisted upon; and if so qualified, he shall not need to blush at his own insufficiency<sup>2</sup>."

In fact, the business of an architect requires him rather to be a learned judge, than a skilful operator; and when he knows how to direct, and instruct others, with precision; to examine, judge, and value, their performances with masterly accuracy; he may truly be said to have acquired all that most men can acquire; there are but few in-

<sup>1</sup> Pythius was the architect of a magnificent temple at Priene, dedicated to Minerva. Vitruv. Lib. I. c. i.

[ED.]

<sup>2</sup> Vitruv. *ibid.*

stances of such prodigies as Michael Angelo Buonaroti, who was at once the first architect, painter, geometrician, anatomist, and sculptor, of his time.

Vitruvius farthermore observes, that an art enriched with such variety of knowledge, is only to be learned by long and constant application ; and advises his cotemporaries never to assume the title of architects, till they are perfect masters of their own profession, and of the arts and sciences, with which it is connected : a caution, that even in the present times, may perhaps not be unnecessary.

It will not readily occur, why a man should be either historian, or philosopher ; musician, or physician ; lawyer, or astrologer ; before he ventures to commence architect. Our author, however, assigns his reasons ; which, for the sake of brevity, are here omitted. The curious reader will find them in the original book ; to which he is referred, for farther information<sup>1</sup>.

Some part of all this knowledge, though it might have been necessary to an artist of the Augustan age, is not absolutely so now ; some part of it too, seems rather ostentatiously introduced ; more to enumerate the learned writer's own qualifications than such as were indispensably necessary, to every man of his profession : the remaining

<sup>1</sup> The author hardly takes the meaning of Vitruvius, who certainly intended to say no more, than that an architect should be a man of very general information, which it is presumed nobody will deny. Vitruvius who inflated every thing whereof he treated, has doubtless made a vast show on the subject, in his first chapter, but he has nevertheless greatly qualified the extent to which the different sciences are required to be carried. Thus towards the end of the first chapter, he says, speaking of the architect—" Ergo satis abunde is videtur fecisse, qui ex singulis doctrinis partes et rationes earum mediocriter habet notas, easque quæ necessariae sunt ad architecturam, uti si quid de his rebus et artibus judicare et probare opus fuerit ne destituatur vel deficiat." Vitruv. Lib. I. c. i. [ED.]

part shall be mentioned in its place ; while I venture to give an opinion, concerning the requisite qualifications of an architect : differing in some particulars, from those above given ; but more adapted, I flatter myself, to the wants, customs, and modes of life of our cotemporaries, as well as to the duties and avocations of a modern architect.

Architecture being an active as well as speculative art, in which exertions of the body, the organs of sense, and of utterance, are equally necessary with efforts of the mind ; it naturally follows, that such as intend to make it their profession, should enter the lists with a good stock of health, vigor and agility ; they should neither be lame nor unwieldy ; neither awkward, slow, nor helpless ; neither purblind nor deaf ; nor have any thing ridiculous about them, either natural or acquired. Their understanding should be sound ; the sight and apprehension quick ; the reasoning faculties clear, and unwarped by prejudices ; the temper enterprising, steady, resolute, and though benevolent, rather spirited than passive, meek, or effeminate.

The necessity of these qualities, in one destined to direct and manage great works, to govern and control numerous bands of clerks, inspectors, artists, artificers, workmen, and labourers, must be sufficiently obvious. And as at the present time, few engage in any profession, till qualified for the world by a proper school education at least ; it must be supposed, that to a competent proficiency in the learned languages, the student adds a thorough knowledge of his own ; so as to speak and write it correctly at least, if not elegantly ; that he is a good penman ; versed in accounts ; a ready practitioner in arithmetic ; and has received and profited by such other instructions, as tend

to fix the moral character ; to inculcate integrity ; to polish the minds, and improve the manners of youth<sup>1</sup>.

Proficiency in the French and Italian languages is also requisite to him ; not only that he may be enabled to travel with advantage, and converse without difficulty, in countries where the chief part of his knowledge is to be collected, but also to understand the many, and almost only valuable books treating of his profession ; the greater part of which have never been translated. And as among seamen, there is a technical language, of which no admiral could be ignorant, without appearing ridiculous ; so in architecture, and the professions connected therewith, there are peculiar modes of expression, and terms of art, of which an architect must by no means be ignorant ; as that knowledge, impresses upon the minds of the workmen, a respectable idea of his abilities, consequently, a deference for his opinions, and farthermore enables him to explain to them intelligibly what he intends or wishes to be performed.

To these qualifications, mental and corporeal, must be united genius, or a strong inclination and bias of mind towards the pursuit in question ; without which little success can be expected. This quality, whether it be<sup>2</sup> the

<sup>1</sup> If success were a proof of talent, one might be inclined to question the necessity of good education and learning in any profession. The most ignorant often blunder through and make the largest fortunes. Corinthian cheeks are ever the most valuable possession. As the apothecary ends his career in the capacity of physician, so the carpenter, bricklayer, mason, *et alii de grege*, usually rise up and finally revolve in an architectural orbit. [ED.]

<sup>2</sup> ' The Lord hath called Bezaleel, and hath filled him with the spirit of God, in wisdom, in understanding, and in knowledge, and in all manner of workmanship, and to devise curious works.

' And he hath put it in his heart, that he may teach, both he and Aho-

gift of God, or a fortuitous propensity<sup>1</sup>; whether innate or acquired, has not unaptly been compared to those instincts implanted by nature in different animals; by which, they are enabled to comprehend, and to perform certain things with much ease, while others, not having the same natural disposition, neither comprehend, nor can perform them; thus the man of genius, or he whose mind is peculiarly adapted to the contemplation of his subject, comprehends with ease, distinguishes with perspicuity, treasures up with nice selection, whatever is ingenious, extraordinary, useful, or elegant; his imagination ever active in a favorite pursuit, will abound in ideas, combinations, and improvements, equally new, striking, and agreeable; while he who mistakes his way, and applies to studies for which nature, or early impressions, have not prepared him, labours sluggishly, without relish, as without effect; like Sisyphus, ever toiling up a hill, the summit of which he is never to reach.

As many sorts of knowledge, very opposite in their natures, come under the architect's consideration, his genius must be of a complex sort, endowed with the vivacity and powers of imagination, requisite to produce sub-

liab, them hath he filled with wisdom of heart to work all manner of work. Exodus xxxv. 30—34.

<sup>1</sup> In the window of his mother's apartment, lay Spenser's Fairy Queen; in which he very early took delight to read, till, by feeling the charms of verse, he became, as he relates, irrecoverably a poet. Such are the accidents, which sometimes remembered, and perhaps sometimes forgotten, produce that particular designation of mind and propensity for some certain science or employment, which is commonly called genius. The true genius is a mind of large general powers, accidentally determined to some peculiar direction. Sir Joshua Reynolds, the great painter of the present age, had the first fondness of his art excited by the perusal of Richardson's Treatise.—Dr. Johnson's Life of Cowley.



lime or extraordinary compositions ; and at the same time, with the industry, patience, and penetration, necessary to investigate mathematical truths, discuss difficult, sometimes irksome subjects, and enter into details of various sorts, often as tiresome, as they are necessary ; a genius equally capable of expanding to the noblest and most elevated conceptions, or of shrinking to the level of the meanest and minutest enquiries ; as Doctor Johnson expresses it, a mind, that at once comprehends the vast, and attends to the minute.

Dispositions of this nature are seldom found, their constituent qualities are in some degree incompatible, and hence, perhaps, chiefly arises the rarity of complete masters in the profession. The lively student naturally strikes into the paths which afford most scope for his fancy ; he exercises himself in the arts of composition, and in the different branches of design ; improves his knowledge of painting, sculpture, books, and structures ; forms his taste, and turns his whole attention towards the sublimer parts of the art, neglecting all the while, the inferior knowledge, so useful, so absolutely necessary, in practice, and of which a perfect master can never be ignorant. Ambitious to excel, he must not neglect attainments, without which he cannot operate, while they may be purchased at the expence of industry and steady perseverance<sup>1</sup>.

<sup>1</sup> The Architectural Student will do well to keep in mind what Sir Joshua Reynolds says on another art, and which is quite applicable in our own. " In this art, as in others, there are many teachers, who profess to shew the nearest way to excellence ; and many expedients have been invented by which the toil of study might be saved. But let no man be seduced to idleness by specious promises. EXCELLENCE IS NEVER GRANTED TO MAN, BUT AS THE REWARD OF LABOUR. It argues indeed no small strength of mind to persevere in habits of industry, without the pleasure of perceiving those advances, which, like the hand of a clock, whilst they



A celebrated Italian Artist <sup>1</sup>, whose taste and luxuriance of fancy were unusually great, and the effect of whose

make hourly approaches to their point, yet proceed so slowly as to escape observation." Second Discourse on Painting. [ED.]

<sup>1</sup> Giov. Battista Piranesi, the celebrated engraver, is here alluded to. He was a Venetian, and was born in 1720. His death happened in the year 1788; a list of his works may not be unacceptable and is therefore subjoined:—

1. His earliest work, the dedication to which is dated 1748—though published in 1743—is entitled, “*Antichità Romane de’ Tempi della Repubblica e de’ primi Imperatori.*” 2 Parts, 28 plates, Roma 1748.
2. *Architetture varie*, 27 plates, Roma 1750.
3. *Carceri d’Invenzione*, 16 plates, no date, but supposed 1750.
4. *Trofei d’Augusto, &c.* 10 plates, Roma 1753.
5. *Archi trionfali, Tempj ed Anfiteatri*, 31 plates, Roma, circa 1753.
6. *Antichità Romane.* This embraces the fragments of the antient plan of Rome in the Museum of the Capitol, 224 plates, 4 Vols. Roma 1756. To these there is a Supplement by the son, F. Piranesi, 2 Vols. 1785.
7. *Rovine del Castello dell’acqua Giulia*, 20 plates, Roma 1761.
8. *Antichità d’Albano e di Castel Gandolfo*, 55 plates, Roma 1761-2.
9. *De Romanorum magnificentiâ et Architecturâ*, 44 plates, Romæ 1761.
10. *Campus Martius antiquæ urbis*, 54 plates, Romæ 1762.
11. *Lapides Capitolini sive Fasti Consulares*, 12 plates, Romæ 1762. With this usually occurs the *Antichità di Cora*, 14 plates.
12. *Diverse maniere d’adornare i Cammini*, 69 plates, Roma 1769.
13. *Colonna Trajana*, large fol. 21 plates, Roma 1770.
14. *Vasi, Candelabri, &c.* 114 plates, Roma 1778.
15. *Vedute di Roma*, about 137 plates. Besides these there is also a small Work of this author now very scarce, in which, extremely irritated against Lord Charlemont, he assigns his reasons for not dedicating to him his *Antichità Romane*. For this work he etched, in quarto, exact copies of the four original Frontispieces which were to have immortalised the name of his patron, with views of the inscriptions re-engraved as they now stand, as though the first Inscriptions had been cut out of the stones, and the new ones inserted on small pieces let into them. There are also head and tail pieces alluding to the matters and persons involved in the dispute. This work is dated 1757. A representation of Lord Charlemont’s (the nobleman above mentioned) casino will be found among Sir W. C.’s plates. [ED.]

compositions, on paper, has seldom been equalled, knew little of construction or calculation, yet less of the contrivance of habitable structures, or the modes of carrying real works into execution ; though styling himself an architect. And when some pensioners of the French academy at Rome, in the Author's hearing, charged him with ignorance of plans, he composed a very complicated one, since published in his work, which sufficiently proves, that the charge was not altogether groundless. Indeed, it is not unfrequent in some countries of the continent, to find ingenious composers and able draughtsmen, with no other reading than Vignola's rules, and without any skill whatever in the executive parts ; or knowledge of the sciences belonging thereto.

On the other hand, the student of a more saturnine cast, unable, or fearful, perhaps, of soaring so high, applies his powers to the operative and economical branches of the art, resting satisfied in the parts of design and composition, to imitate or copy others ; content, if by borrowing whatever falls in his way, he avoids any striking absurdities ; and reaches that state of mediocrity, which though it may escape censure, commands no praise.

In countries where mechanics assume the profession, and arrogate the title of architects, men of this sort abound ; they are by foreigners stiled portfolio artists ; and their productions, collected without judgment, from different stores, must ever be discordant ; without determined stile, marked character, or forcible effect ; always without novelty, and having seldom either grandeur or beauty to recommend them. They are pasticcios in building, generally more imperfect than those of the stage.

But though genius be the basis of excellence, it can alone, produce but little ; the richest soil when neglected, affords no other crop than weeds ; and from the happiest disposition without culture, without knowledge of rules to guide, or judgment to restrain, little more can be expected than capricious conceits, or luxuriant extravagancies.

Of mathematical knowledge, geometry, trigonometry, and conic sections should be understood, as teaching the construction, properties, contents, and divisions of the forms used in building. Likewise mechanics and hydraulics, which treat of the formation, and ascertain the effects of all kinds of machinery, simple or complex, used in building ; likewise of the raising, conveyance, and application of water, as well for the common uses of life, as to produce many extraordinary effects, very ornamental in gardening, and efficacious in manufactures <sup>1</sup>.

These sciences farthermore treat of the gravitation of bodies, and in what manner, and by what laws, they move and act upon each other, under different circumstances ; with many other particulars of frequent and material use in an art, where vast weights are to be moved, and in which structures, of whatever form, must be calculated to

<sup>1</sup> Mathematics have, perhaps, been too much neglected by some of the Architects of this country. The consequence has been the establishment of a new branch of art whose professors are called civil Engineers. As art is open to all, we would not quarrel with these gentlemen, some of them possessing talents of the very highest nature, if they would be content with practising strictly in their vocation. In their designs, even the best that they have produced, though cried up by their partisans which they have in the high places, there are many violations of architectural propriety, so that it would surely not be asking too much of them, to submit to the advice and correction of those that have made the arts of design the principal study of their lives.

carry great and indeterminate burthens, to stand the shock of heavy laden carriages, and to resist the utmost fury of the elements.

By optics, particularly that part which is called perspective, the artist is enabled to judge with precision, of the effects of his compositions when carried into execution, and also to represent them more pleasingly in design, as well for his own satisfaction, as to give his employers a more perfect idea of his intentions than could be collected from geometrical drawings. And an acquaintance with the other branches will be useful on many occasions, in the distribution of light, to produce particular striking effects, and in the disposal of mirrors, to create deceptions, multiply objects, and raise ideas of far greater than the real magnitude or extent of that which is exhibited to view.

As to a painter, or sculptor, so to an architect, a thorough mastery in design is indispensably necessary; it is the *sine quâ non*, and the *mai a bastanza* of Carlo Maratta<sup>1</sup>, is full as applicable in one art as in the others; for if the architect's mind be not copiously stored with correct ideas of forms, and habituated by long practice to vary and combine them as the fancy operates: or if his hand has not the power of representing with precision and force, what the imagination suggests, his compositions will ever be feeble, formal, and ungraceful, and he will

<sup>1</sup> Carlo Maratta, a painter of the Roman School, born 1625, died 1713. He was nicknamed *Carluccio della Madonna* by Salvator Rosa, from his fondness for painting Madonnas. The allusion of the author relates to his never being satisfied with his forms and drapery, which he always employed himself in correcting to the last moment of finishing a picture. Fuseli very justly observes that his talent seldom rose above mediocrity. He was nevertheless extremely popular in his time in Rome, as the churches and palaces there amply testify. [ED.]

stand unqualified to discharge the principal part of his duty, which is, to invent and dispose all that enters into his design, and to guide the painter, sculptor, and every other artist or artificer, by advice and precise directions, as far at least, as relates to the outline and effect of their performances, that all may be the effort of one mind, master of its object, and all the parts be calculated to produce a general uniformly supported whole ; which never can be the case where artists and artificers are left to themselves, as each, naturally enough, considers the perfection of his own part, sometimes without comprehending, and always without attention to, the whole composition. Even Bernini<sup>1</sup>, though an able architect, could seldom refrain from sacrificing architecture to the graces of sculpture and painting, the ill consequences of which, are sufficiently conspicuous in several of his works, but particularly in his piazza of St. Peter's, where the statues placed upon the colonnades, instead of standing upright as they should do, in all such situations, are so whimsically contorted, that at a little distance they seem to be performing a dance, and very considerably injure the effect of that magnificent approach to the first building in the Christian world.

<sup>1</sup> Giovanni Lorenzo Bernini, born at Naples in 1589, died 1680. His residence was chiefly at Rome, where with great reputation he practised as an Architect and Sculptor. He was under Urban VIII, one of the Architects of St. Peter's, to which, besides other parts, he added those of the great colonnades in front of the Church and the Baldachino under the Cupola. He was in general request throughout Europe. At Paris he made designs for completing the Louvre (see a subsequent note on Chambray), and for England he executed three busts of Charles the First from a picture by Vandyke. Bernini was also a painter ; several of his pictures are in the Florentine Gallery ; he received the honour of Knighthood from Gregory V.



To the knowledge, practice, and facility of hand just mentioned, composers in architecture must unite a perfect acquaintance with all kinds of proportions, having relation either to the grandeur, beauty, strength, or convenience of structures, their variations as occasions require, and the different effects which situation, distance, light, or other circumstances have upon them ; which is a science of very considerable difficulty, and only to be attained by much experience and close observation.

He furthermore must be well versed in the customs, ceremonies, and modes of life of all degrees of men his cotemporaries, their occupations and amusements, the number and employments of their domestics, equipages and appurtenances, in what manner the business allotted to each is performed, and what is requisite or proper to facilitate the service, with many other particulars which, though seemingly trifling, must not be unknown to him who is to provide for the wants, and gratify the expectations of all.

Neither must he be ignorant of ancient history<sup>1</sup>, fable and mythology, nor of antiquities, as far as relates to the structures, sculpture, ornaments, and utensils of the Egyptians, Greeks, Romans, and Etrurians ; as the established stile of decoration collects its forms, combinations, symbols, and allusions, from these abundant sources, which time, and the concurring approbation of many ages, have rendered venerable.

The painter's canvas, and the sculptor's block, are their ultimate objects ; but the architect's attention must at

<sup>1</sup> The author somewhat contradicts himself: at page 86 he seems rather disinclined to admit Vitruvius's qualifications. See note on the passage.

[ED.]



once be directed to the grandeur or beauty, strength, duration, fit contrivance, and economical execution of his compositions ; qualities that ever clash, and which it often is exceedingly difficult to reconcile. His different plans, elevations, and sections, must all be considered at the same time, and like the parts of a piece of music, be contrived to harmonize and set each other off to most advantage.

To the excellence of the designer's art, must yet be added, the humbler, though not less useful skill, of the mechanic and accountant ; for however able the draughtsman, he should not deem himself an architect, nor venture upon practising in that capacity, till master of the executive parts of this profession.

These imply an acquaintance with all the known approved methods of building every kind of structure, securely, and for duration. How difficulties arising from situation, nature of soils, or other adventitious circumstances, are to be surmounted ; and precisely what precautions the occasion may require, in order to avoid superfluous expence, by avoiding to employ superfluous remedies.

They farther imply a power of conducting large works, with order and economy ; of measuring correctly according to established usages, of regulating the accounts with accuracy, of employing with discernment, directing and governing with skill and temper, many men of different professions, capacities and dispositions ; all without violence or clamour, yet with full effect.

To mastery in these particulars must be added, proficiency in all the arts, liberal or mechanic, having relation to the building or adorning structures ; a capacity of de-

termining exactly, the goodness of the different materials used, with the degree of perfection and consequent value at all times, of every kind of work, from the stately splendid productions of the pencil and chissel, to the most trifling objects employed in a fabric : together with all the circumstances constituting their value ; as upon these, its occasional fluctuation must depend.

Considerable as this detail may seem, it is yet insufficient. A builder, like a chemist, must analyze his substances ; be so much master of the constituent parts of his composition, their necessary forms and dimensions, that, as those of the profession term it, he may be able to take the whole building to pieces, and estimate from his designs, the total amount of the structure, before a single stone is prepared.

To ignorance, or inattention in this particular, of which for serious reasons, no architect should ever be ignorant, or careless, must be ascribed the distressful, often the ruinous, uncertainty of common estimates ; for some, who condescend to estimate their own productions, know perhaps, but imperfectly, how their designs are to be carried into execution, and consequently omit in the valuation, much that must be done. And some, who being too great for such minute investigations, employ others to estimate, without describing thoroughly the manner in which they intend to proceed, leave them so much in the dark, that even if capable, they can do little more than guess at the value, and are seldom or ever right in their conjectures <sup>1</sup>.

<sup>1</sup> The following ironical account of the close of the labours of some who assumed the name of architect, was a few years ago, not very far from the truth. It is extracted from an excellent little book, entitled

Others there are, who being either unqualified, or too idle to calculate themselves, and perhaps too parsimo-

OIKIALIA, or Nutshells, 8vo. Lond. 1785, by the late James Peacock, of Guildhall, whose virtues and moral excellence will be honoured as long as the memory of his surviving friends remains sound, under the fictitious anagrammatic name of JOSE MAC PACKE, a *bricklayer's labourer*. At the end of this book he says, "It will not be improper, perhaps, to close this little work with another intimation, respecting an operation to be performed when the building is finished, and the artist has all the workmen's accounts under his hand; this is called *docking*, and is performed two ways, the old manner proceeds cautiously, by analysis and detail, and being very generally known, requires nothing particular to be said of it here.

"The new method stands recommended, on account of the ease and expedition wherewith it is effected, and the great and respectable air the operator derives from it (the general and happy concomitant of ambiguity and mystery); it is certainly a grand objection to the old method, that it requires so great an insight into the nature, qualities and values of all sorts of materials, and workmanship; an inferior and intricate kind of knowledge, by far too mean and troublesome for gentlemen of exalted views to attend to. There is, however, one very capital objection to a general use of the new manner, which is that now and then a workman is turbulent and refractory, and pays no more regard to the fiat or dignity of an architect, than he would to those of an old apple woman; and would sooner squander his money away among those rogues the lawyers, than forego a single guinea of his property, to add to, or uphold the fame of any architect whatsoever; so that if the artist does not know his man, the old manner is abundantly to be preferred; or at least, such a degree of relaxation from the new mode, as after mature deliberation, prudence will naturally dictate. This may be very well done, without losing sight of that valuable quality or disposition, ever Argus like, awake to, and alert in seizing all kinds of advantages (very often maliciously called low cunning), and which may be exercised in its fullest extent, where the workman is known to be a poor ignorant and timorous wretch, foolishly afraid, that *law is not always justice*, and whose maxim is, that the first loss is generally the least."

Then follows an anecdote of a gentleman who had employed his architect to examine some bills, among them one of a smith whose bill had been *docked*, "who had been under very particular obligations to the gentleman, and from whose bill, apparently of 30*l.* stood a deduction of 6*l.*" The gentleman, after expostulating with him for his villanous ingratitude, as well as dishonesty, in attempting such an imposition upon him,

nious to employ any other person, for it is a work of time, and considerable expense, value by the square ; an operation, both easy and expeditious, but of all, the most fallacious, excepting in common buildings, of similar forms and dimensions, built and finished in the same manner ; where, the amount of what has been done, may be a guide to value by. But in extraordinary works, these rapid estimators never hit the mark, and are generally so far wide of it, as to draw shame and reproaches on themselves ; regret, difficulties, sometimes ruin, both on the employer and the tradesmen employed.

As one, in whose honour and judgment the employer confides, and to whom the employed look up for protection and justice ; as mediator and judge between them, on subjects generally important : the architect's skill, vigilance, and activity, should equal the consequence of his station, and studious to sustain his character, attentive to justify the confidence reposed in him, he must neither inadvertently, nor otherwise, bring on unexpected ruinous expenses ; neither countenance, nor suffer, imposition on the one hand ; oppressive parsimony, or ill directed liberality, on the other.

Let it not however be inferred, from any thing here said, that errors in estimation proceed on every occasion,

assured him he should have no future opportunity of exercising a similar conduct with respect to him." The smith humbly begged to know the reason. " Reason ! Sir, why Mr. ——— informs me here, you have overcharged me 6*l.* in this bill." " Why then, Sir," replies Vulcan, " I am 3*l.* in your honour's debt : this is the first time I ever made a charge of this strange nature." The truth is, Vulcan was but a lame scribe, and had inadvertently made the amount of his bill, which was 3*l.* appear so much like 30*l.* that any person looking no further than at the total, might have made exactly the same mistake the surveyor did.

from the ignorance or inadvertency of the architect : those who build, are often whimsical themselves, or advise with such as are : they are pleased to-day, disgusted to-morrow, with the same object : hence alterations commence ; deviation succeeds to deviation ; their first ideas are extended, improved, and varied, till, by insensible gradations, both the form and value of the original design are entirely changed.

All that, in such cases, the architect can do, and in discharge of his duty should do, is, at the time, to notify by written information, the consequences of the alterations taking place. I say written, for words are soon forgot ; or, if remembered, explained away ; and sometimes denied. But written testimony admits of no equivocation, it cannot be disputed, and will fix the blame where it should be fixed ; not on the architect's want of care or judgment, but on the builder's wavering disposition.

Ornamental gardening<sup>1</sup>, which in Italy, France, and

<sup>1</sup> Ornamental gardening was a favorite subject with Sir W. Chambers. In 1772 he published a treatise, in 4to. entitled, a "Dissertation on Oriental Gardening"—which went to a second edition in the next year.—This was much ridiculed in a publication which soon followed it, entitled, "An Heroical Epistle to Sir William Chambers, Knight, Comptroller General of his Majesty's Works, and Author of a late Dissertation on Oriental Gardening," generally attributed to Mason, the author of "The English Garden." It opens with the following verses:—

Knight of the Polar Star ! by fortune placed  
To shine the cynosure of British taste ;  
Whose orb collects, in one refulgent view,  
The scattered glories of Chinese virtù :  
And spreads their lustre in so broad a blaze,  
That Kings themselves are dazzled while they gaze.

To this succeeded an "Heroic Postscript to the Public," occasioned by the favorable reception of the Epistle, 4to. Lond. 1774. Then came "A



other countries of the European continent, constitutes a part of the architect's profession ; is here in other hands : and, with a few exceptions, in very improper ones. Should that pleasing art be ever practised by men, who have made composition in general, a study ; who by having seen much, have stored the fancy with copious imagery ; and by proficiency in the arts of design, formed a correct and elegant taste ; we might expect to find much more variety and far higher perfection in works of that sort, than can now be expected, or is yet to be boasted of.

It seems almost superfluous to observe, that an architect cannot aspire to superiority in his profession, without having travelled ; for it must be obvious, that an art founded upon reasoning and much observation, is not to be learnt without it ; books cannot avail ; descriptions, even drawings or prints, are but weak substitutes of realities : and an artist who constantly inhabits the same place, converses with the same people, and has the same objects always obtruding on his view, must necessarily have very confined notions, few ideas, and many prejudices. Travelling rouses the imagination ; the sight of great, new, or uncommon objects, elevates the mind to sublime conception ; enriches the fancy with numerous ideas ; sets the reasoning faculties in motion : he who has beheld with attentive consideration, the venerable remains of ancient magnificence ; or studiously examined the splendor of modern times, in the productions of the sublime Buonarroti, Bramante, Vignola, Palladio, Raffaello, Polidoro, Peruzzi, Sansovino, Sanmicheli, Ammanati,

Familiar Epistle to the Author of the Heroic Epistle." The bitterness however of the " Heroic " was adequately retorted in the " Familiar Epistle."

[ED.]

Bernini, Pietro da Cortona, and many other original masters; whose works are the ornament and pride of the European continent; must have acquired notions, far more extensive, and superior to him, whose information has been gleaned from the copiers, or feeble imitators, of these great men, and their stupendous works: he must be in composition more animated, varied, and luxuriant; in design, more learned, correct, and graceful: ever governed by a taste formed at the fountain's head, upon the purest models; and impressed with the effect of those great objects, which some time or other in life, have been the admiration of most who either claim distinction, or aspire to elegance; he must always labour with greater certainty of success.

By travelling, a thorough knowledge of different countries, their language and manners, are alone to be attained in perfection: and by conversing with men of different nations, we learn their opinions, hear their reasons in support of them, and are naturally led to reason in our turn: to set aside our national prejudices, reject our ill founded maxims, and allow for granted, that only which is clearly proved; or is founded on reason, long experience, and careful observation.

Thus habituated to consider with the rigour of critical accuracy, we learn to see objects in their true light; without attention, either to casual approbation or dislike: to distinguish truth through the veil of obscurity, and detect pretence however speciously sustained. Travelling to an artist, is, as the university to a man of letters, the last stage of a regular education; which opens the mind to a more liberal and extensive train of thinking, diffuses an air of importance over the whole man, and stamps

value upon his opinions: it affords him opportunities of forming connections with the great, the learned, or the rich; and the friendships he makes while abroad, are frequently the first causes of his reputation, and success at home<sup>1</sup>.

<sup>1</sup> Ridolfi (Part i. c. 20) justly observes, “La Cognizione di quest’ arte non è conceduta ad ognuno, ma riservata a coloro, che con lungo studio hanno di così difficile e laboriosa materia gli ultimi termini appresi.”

[ED.]

OF THE ORIGIN AND PROGRESS OF BUILDING.

BUILDINGS were certainly among the first wants of mankind; and architecture must, undoubtedly be classed, among the earliest antediluvian arts. Scripture informs us, that Cain built a city<sup>1</sup>: and soon after the deluge, we hear of many cities; and of an attempt to build a tower that should reach the sky<sup>2</sup>: a miracle stopped the progress, and prevented the completion of that bold design<sup>3</sup>.

The first men, living in a warm climate, wanted no habitations: every grove afforded shade from the rays of the sun, and shelter from the dews of the night; rain fell but seldom, nor was it ever sufficiently cold, to render closer dwellings than groves, either desirable or necessary, even in the hours of repose: they fed upon the spontaneous productions of the soil, and lived without care, as without labour.

But when the human species increased, and the produce of the earth, however luxuriant, was insufficient to supply the requisite food; when frequent disappointments drew on contention, with all its train of calamities, then separation became necessary; and colonies dispersed to

<sup>1</sup> Genesis iv. 17. "And he builded a City, and called the name of the City after his son Enoch." [ED.]

<sup>2</sup> Genesis xi. 3 to 8.

<sup>3</sup> "Tant que les descendans de Noë demeurèrent reunis, ils furent à portée de cultiver ce qu'on avoit pu conserver de découvertes antérieures au déluge. Le projet qu'ils conçurent et exécutèrent en partie, de bâtir une Ville dans la plaine de Sennaar, le dessein d'y élever une tour d'une hauteur prodigieuse, prouvent que les nouveaux habitans de la terre n'étoient pas entièrement destitués de connoissances en Architecture." L'Origine des Lois par Goguet, 1re Ep. liv. ii. c. 3. [ED.]

different regions: where frequent rain, storms and piercing cold, forced the inhabitants to seek for better shelter than trees.

At first they most likely retired to caverns, formed by nature in rocks; to hollow trunks of trees; or to holes, dug by themselves in the earth; but soon disgusted with the damp and darkness of these habitations, they began to search after more wholesome and comfortable dwellings<sup>1</sup>.

The animal creation pointed out both materials, and manners of construction; swallows, rooks, bees, storks; were the first builders: man observed their instinctive operations, he admired; he imitated; and being endued with reasoning faculties, and of a structure suited to mechanical purposes, he soon outdid his masters in the builder's art.

Rude and unseemly, no doubt, were the first attempts; without experience or tools, the builder collected a few boughs of trees, spread them in a conic shape, and covering them with rushes, or leaves and clay; formed his hut: sufficient to shelter its hardy inhabitants at night, or in seasons of bad weather<sup>2</sup>. But in the course of time, men naturally grew more expert; they invented tools to shorten and improve labour; fell upon neater, more durable modes of construction; and forms, better adapted than the cone, to the purposes for which their huts were intended. They felt the want of convenient habitations, wherein to taste the comforts of privacy, to rest securely, and be effectually screened from troublesome excesses of

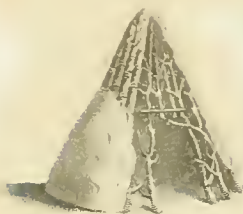
<sup>1</sup> Diodorus Sic. lib. i. sect. 8. Vitruvius, lib. i. c. 2. Pausanias, Phocic. c. 17. [ED.]

<sup>2</sup> Diod. Siculus; lib. i. sect. 43. Καὶ τὰς οἰκήσεις ἐκ τῶν καλύμνων καὶ ἀσκιναῖς θίσθαι. [ED.]



THE PRIMITIVE BUILDINGS &c

The First sort of Huts



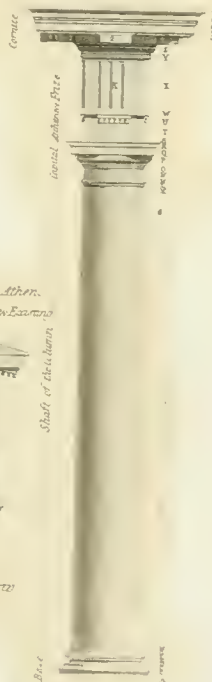
The Second sort of Huts.



The Third sort of Huts which gave birth to the Doric Order



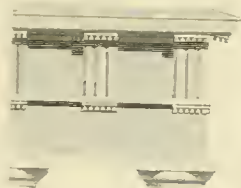
The Doric Order in its Improved State



Origin of The Corinthian Capital



The Doric Temple of Theseus at Athens.  
One of the most Ancient Monuments of that Order now Existing



- |                             |                              |                            |                    |
|-----------------------------|------------------------------|----------------------------|--------------------|
| A. Flank.                   | K. Gorge.                    | T. Frieze or frieze frieze | 4. Cornice or Drip |
| B. Lower Torus.             | L. Fillet or upper Gutter.   | U. Drops                   | 5. Cope.           |
| C. Fillet or Square.        | M. Astragal                  | W. Ridge or Torus          | 6. Capital.        |
| D. Scotia.                  | N. Neck or Groove of Capital | X. Trochilus               | 7. Fillet          |
| E. Fillet.                  | O. Fillet or Astragal        | Y. Capital of J. Trochilus |                    |
| F. Upper Torus.             | P. Ovolo or Echinus          | Z. Circle or Quarter round |                    |
| G. Fillet or inner astragal | Q. Abacus                    | 1. Mould or Moulding Band  |                    |
| H. Gorge.                   | R. Inner Capital or Cope     | 2. Mould                   |                    |
| I. Shaft of the Column      | S. Fillet                    | 3. Cope                    |                    |

W. Collins del.

W. Chambers sculp.

J. Roffe

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weathers. They wanted room to exercise the arts, to which necessity had given birth; to deposit the grain, that agriculture enabled them to raise in abundance; to secure the flocks, which frequent disappointments in the chase, had forced them to collect and domesticate. Thus stimulated, their fancy and hands went arduously to work, and the progress of improvement was rapid.

That the primitive hut was of a conic figure, it is reasonable to conjecture; from its being the simplest of solid forms: and most easily constructed. And wherever wood was found, they probably built in the manner above described; but, soon as the inhabitants discovered the inconvenience of the inclined sides, and the want of upright space in the cone; they changed it for the cube: and, as it is supposed, proceeded in the following manner.

Having, says Vitruvius, marked out the space to be occupied by the hut; they fixed in the ground, several upright trunks of trees, to form the sides; filling the intervals between them with branches, closely interwoven, and spread over with clay. The sides thus completed, four beams were laid on the upright trunks; which being well fastened together at the angles of their junction, kept the sides firm; and likewise served to support the covering or roof of the building; composed of smaller trees, placed horizontally, like joists: upon which were laid several beds of reeds, leaves, and earth or clay<sup>1</sup>.

By degrees, other improvements took place; and means were found to make the fabrick lasting, neat, and handsome: as well as convenient. The bark and other protuberances were taken from the trees that formed the

<sup>1</sup> Vitruvius, lib. ii. c. 1. Strabo, lib. iv. Tacitus de Moribus Germ.

[ED.]

sides, these trees were raised above the dirt and humidity on stones; were covered at the top with other stones; and firmly bound round at both ends with ozier or cords, to secure them from splitting. The spaces between the joists of the roof, were closed up with clay or wax, and the ends of them either smoothed, or covered with boards. The different beds of materials that composed the covering, were cut straight at the eaves, and distinguished from each other by different projections. The form of the roof too, was altered; for being, on account of its flatness, unfit to throw off the rains which sometimes fell in great abundance; it was raised in the middle, on trees disposed like rafters; after the form of a gable roof.

This construction, simple as it appears, probably gave birth to most of the parts that now adorn our buildings; particularly to the orders, which may be considered as the basis of the whole decorative part of architecture: for when structures of wood were set aside, and men began to erect solid stately edifices of stone, having nothing nearer to imitate, they naturally copied the parts which necessity introduced in the primitive hut<sup>1</sup>; inso-much that the upright trees, with the stones and cordage at each end of them, were the origin of columns, bases, and capitals; the beams and joists gave rise to architraves

<sup>1</sup> See the scriptures<sup>a</sup>, Homer<sup>b</sup>, Herodotus<sup>c</sup>, Strabo<sup>d</sup>, Diodorus Siculus<sup>e</sup>, Pausanias<sup>f</sup>, Pliny<sup>g</sup>, Justin<sup>h</sup>, Quintus Curtius<sup>i</sup>.

<sup>a</sup> See preceding notes p. 105, and Daniel, iv. 30. Gen. x. 11. Jonah iii. 3, 4, and iv. 11. on Nineveh;—whose size was such that there were in it more than six score thousand persons who could not discern between their right hand and their left hand, and also much cattle.

<sup>b</sup> Iliad I. 381.

<sup>c</sup> Herodotus, lib. i.

<sup>d</sup> Strabo, lib. xvi; also Arrian. de Exped. Alex. lib. vii.

<sup>e</sup> Diodorus, lib. i. ii.

<sup>f</sup> Pausanias, lib. viii. 33.

<sup>g</sup> Plin. lib. xxxvi. Sect. xvii.

<sup>h</sup> Justin, lib. i. Cap. 2.

<sup>i</sup> Quintus Curtius, lib. v. c. 1.

and frizes, with their triglyphs and metopes; and the gable roof was the origin of pediments, as the beds of materials forming the covering, and the rafters supporting them, were of cornices, with their corona, their mutules, modillions, and dentils.

That trees were the originals of columns seems evident, from some very ancient Egyptian ruins still existing; in which are seen columns composed of many small trees tied together with bandages, to form one strong pillar; which, before stone was in use, became a necessary operation in a country, where no large timber was to be had; and in which, the stupendous size of their structures, constituted the principal merit. Herodotus describes a stately stone building, which stood in the court of the temple of Minerva at Sais, the columns of which were made to imitate palm trees.

The form of the bundle pillar<sup>1</sup> above mentioned, though

<sup>1</sup> Stone as a material in building, was not likely to succeed to the wood of the huts mentioned by the author. The cutting and dressing it must have taken considerable time to conquer. Bricks dried in the sun, most probably followed timber as a material for enclosures. These indeed were employed in building the tower of Babel. "And they said one to another, go to, let us make brick, and burn them thoroughly. And they had brick for stone, and slime had they for mortar." Gen. xi. 3. Brick was much used at a remote period among the Egyptians. Exod. i. 14. v. 7. [ED.]

It is an inference by no means clear or necessary, that the basis of decorative architecture is indebted to the earlier timber framework for its origin—inasmuch as the step between the hut and the Grecian Temple is, if the Greeks gained any knowledge of the art from the Egyptians, which it is presumed cannot be denied, the flat roofed Temple of Egypt, in whose large hollowed crown moulding, mutules or blocks are not readily traced. It is not meant to mislead the student by denying the Hypothesis; he is only cautioned against an admission of it entirely, without much more research than can be entered into here of the current story on this point



deriving its existence from necessity, is far from disagreeable. It was evidently a beauty in the eyes of the ancient Egyptians, since it was imitated by them in stone. And it seems more natural to suppose, that fluted columns owe their origin to the intermediate hollows, between the trees composing these pillars, than to the folds of a woman's garment; to which they have but very little resemblance.

Vitruvius, the only remaining ancient writer upon the decorative part of architecture, ascribes almost every invention in that art to the Greeks,—as if till the time of Dorus, it had remained in its infant state, and nothing had till then appeared worth notice: and most, if not all the modern authors, have echoed the same doctrine. Yet, if ancient history be credited, the Egyptians, Assyrians, Babylonians, and other nations of remote antiquity, had exhibited wonders in the art of building, even before the Grecians were a people'.

It must indeed be confessed, that though the works of the Asiatic nations were astonishing in point of size and extent, yet in other respects they were of a nature calculated rather to give a high idea of the power and wealth

which has been so generally adopted. It is doubtless from the covering of roofs with timber, that the pediment has its origin, but this was probably at a late period and at a time when the art was considerably advanced. The student will do well to read carefully the chapters on Architecture in Goguet's "*Origine des Lois*." [ED.]

'The favourite system of reducing each component part of an order to its corresponding type in an assemblage of timbers, is one which, at this distant period from the origin of the art, is, to say the least of it, not likely to prove satisfactory. The timber system has had its admirers in these later days, even in Gothic architecture, whose invention is so much nearer our own time, see the wood and wicker churches in Sir James Hall's "*Essay on the Origin, History and Principles of Gothic Architecture*," 4to, Lond. 1813. But the result has not been attended with conviction. [ED.]

of the founders, than of their skill or taste. We plainly see that all their notions of grandeur were confined to dimension; and all their ideas of elegance or beauty, to richness of materials, or gaudiness of colouring. We observe a barrenness of fancy in their compositions, a simplicity and sameness in their forms, peculiar to primitive inventions. But, even in the early works of the Egyptians, beside their prodigious dimensions, there are evident marks of taste and fancy. It is in them we trace the first ornamental forms in architecture, and to their builders we are most probably indebted for the invention of columns, bases, capitals, and entablatures. We likewise read of roofs, supported by figures of Colossal men and animals<sup>1</sup>, in the works of the Egyptians, several ages before the introduction of Persians or Caryatides in the structures of Greece: and of temples adorned with stately porticos, enriched with columns, and sculpture, and built, before there were any temples in Greece.

Hence it may be inferred that the Grecians were not the inventors of ornamental architecture, but had that art, as well as their religion and gods, from the Egyptians,—or from the Phœnicians their nearer neighbours, whose skill in arts is said to have been anterior to theirs,—though both were of Egyptian origin.

Diodorus Siculus observes<sup>2</sup>, that the Egyptian priests proved, both by their sacred records, and also by other undoubted testimonies, that not only the poets and phi-

<sup>1</sup> See subsequent note under the section on Persians and Caryatides.  
[ED.]

<sup>2</sup> Καίπερ γὰρ τῆς χώρας τὸ παλαιὸν τοῖς ξένοις δυσπεπιδάτου οὔσης διὰ τὰς προειρη-  
μένας αἰτίας ὅμως ἔσπευσαν εἰς αὐτὴν παραβαλεῖν, τῶν μὲν ἀρχαιοτάτων Οἰφείδης, καὶ  
ὁ ποιητὴς Ὅμηρος· τῶν δὲ μεταγενεστέρων ἄλλοι τὲ πλείους καὶ Πυθαγόρας ὁ Σάμιος,  
ἔτι δὲ καὶ Σόλων ὁ νομοθέτης. Diod. Sic., lib. i. [ED.]

losophers of Greece, travelled anciently into Egypt to collect their knowledge, but also their architects and sculptors; and that every thing in which the Grecians excelled, and for which they were famous, was originally carried from Egypt into Greece.

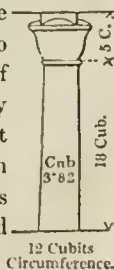
The Phœnicians however were very early celebrated for their proficiency in the arts of design'; and there is no doubt, but the Greeks availed themselves of their inventions.

We are told that Hiram<sup>2</sup> made two capitals for the pillars Jachin and Boaz, in Solomon's temple; which, as far as can be collected, from the accounts given of them in several parts of scripture, very much resembled the Corinthian capitals, both in form and proportions; though executed some centuries before Callimachus, is reported by Vitruvius, to have invented it at Corinth. The cherubim of Hiram too, and the colossal figures of men and animals, in the structures of the Egyptians, were prior in-

<sup>1</sup> 1 Kings, v. 6.

"Ils s'appliquèrent à cultiver les arts, et bientôt ils y firent les plus grands progrès." Goguet, *Origine des Lois*, 1re Epoque, liv. iv. The Tyrian dye is sufficiently celebrated. See on this point, Bochart, *Phaleg*. lib. iv. 35. [ED.]

<sup>2</sup> 1 Kings, vii. 13. 14.—"And King Solomon sent and fetched Hiram out of Tyre. He was a widow's son of the tribe of Naphtali, and his father was a man of Tyre, a worker in brass: and he was filled with wisdom and understanding, and cunning to work all works in brass.—And he came to King Solomon, and wrought all his work. For he cast two pillars of brass, of eighteen eubits high a piece: and a line of twelve eubits did compass either of them about," et seq. By the diagram in the margin constructed on the text, it is evident that the proportions were similar to those of the Egyptian column. The lily work mentioned as decorating the chapiters will no less bring to the reader's mind, the lotus leaves found in almost all the Egyptian capitals. [ED.]



ventions ; and undoubtedly suggested to the Greeks, their ideas of Persians and Caryatides.

And though architecture is certainly indebted to the Grecians, for considerable improvements, yet, it may with confidence be averred, that they never brought the art to its utmost degree of excellence. The art of building, says Leon Baptista Alberti<sup>1</sup>, “ sprung up, and spent its adolescent state in Asia ; after a certain time, it flowered in Greece ; and finally acquired perfect maturity in Italy, among the Romans.” And whether we call to mind the descriptions given by ancient writers of Nineveh,

<sup>1</sup> Leonis Baptistæ Alberti, Florentini, *Libri de re ædificatoriâ decem*, Lib. vi. c. 3.

Alberti, an eminent Italian architect, and one of the earliest scholars that appeared on the revival of letters, was born at Venice in the end of the fourteenth or beginning of the fifteenth century. Milizia gives the year 1398 as that of his birth. He died about 1472. In 1447 he became a canon of Santa Maria del Fiore at Florence—in the conduct of the works of which fabric he succeeded Brunelleschi. He was one of the restorers of pure architecture in Italy, which abounds with his works.—The Church of San Francesco at Rimini is considered his best. The works of Alberti, written in Latin, are—His dialoguc, entitled, “ *Momus de Principe*,” Rome, 1520.—“ *Trivia, sive de causis senatoriis*,” 4to. Basil, 1538.—He composed 100 “ Fables” or Apologues, and a poem, entitled “ *Hecatomphe*,” on the art of Love, which was translated by Bartoli into Italian 1568, and into French in 1534 and 1584. Many treatises on Philosophy, Mathematics, and Antiquity. One on Sculpture, and another “ *De Picturâ, præstantissimâ et nunquam satis laudatâ arte*.” His treatise “ *De re ædificatoriâ*,” was first published by his brother Bernard after his death, Fol. Florence, 1485. It is addressed by Politian to Lorenzo de Medici, by whom it was patronised. Another Edition in 4to. was printed in Paris, 1512. It was translated into Italian by Peter Lauro, small 4to. Venice, 1546, Chalmer’s Biog. Dict. says 1549 ; by Cosimo Bartoli, Fol. Florence, 1550, and into English by James Leoni, from the Italian of Bartoli, 3 Vols. Fol. London, 1726 ; in 1 Vol. 1755. The last Edition was printed at Bologna, 1782. Vasari attributes to Alberti the invention of the camera obscura.

[ED.]



Babylon, Thebes, Memphis; the Egyptian pyramids, the sepulchres of their kings, their temples, and other public monuments: or contemplate, among the Roman works; their palaces, amphitheatres, baths, villas, bridges, mausoleums, and numerous other, yet existing, testimonies of their splendor; it must candidly be confessed, that the Grecians have been far excelled by other nations, not only in the magnitude and grandeur of their structures, but likewise in point of fancy, ingenuity, variety, and elegant selection.

How distant the Grecians were from perfection in proportions, in the art of profiling, and other parts of the detail; will soon be evident to any impartial examiner, who compares the publications of Le Roi, Stuart, Revett, and other ingenious Levantine travellers<sup>3</sup>; with the anti-

<sup>3</sup> It is but fair to give the answer of Mr. Willey Reveley, to the remarks which the author thought right to make on Grecian architecture, with a caution however, to the reader, against a belief that Sir William Chambers would have been fearful of entering the lists during Stuart's lifetime. an insinuation which the ingenious Editor of the Third Volume of Stuart's Athens has, perhaps, in the heat of the controversy inadvertently thrown out.

<sup>4</sup> Though I can add nothing to the high reputation of Grecian art, it seems incumbent upon me, as having superintended the publication of the present work, not to pass wholly unnoticed, the observations which have been lately given to the world by Sir W. Chambers on this subject—observations which have so little foundation in real facts, or in just taste, as must detract greatly from his weight and consequence as an author, and produce a general regret, amongst those best acquainted with the subject, that a work of such real merit should labour under so unfavourable a prejudice. What, indeed, but the most determined antipathy could have led him to the extremity of attempting utterly to exclude the architectural productions of the Grecians from the studies of the artist? Thus it is that men are ever prone to undervalue the advantages they do not possess: and it is with equal propriety that other artists might represent travelling as wholly unnecessary, and maintain, that prints and descriptions convey



quities of the Romans: either on the spot, or as they have been given in books; by Palladio, Serlio, Desgodetz, Sandrart, Piranesi, and other authors. The last of those here mentioned, has published a parallel, between

as complete a knowledge of the most celebrated buildings of antiquity as actual inspection. Crude and incoherent attempts at execution would then bring the art itself into contempt." Stuart and Revett's *Antiq. of Athens*. Vol. III. Lond. 1794. Preface, pa. x.

Again, Preface pa. xi. "The task of replying to the arguments and insinuations of this author would no doubt have been performed by Mr. Stuart, had they been published in his life-time, as Sir William seems to have first intended (pa. 26, Sir W. C.). But they were kept back from the public till the death of that indefatigable and valuable traveller. I feel it therefore incumbent upon me to defend him against this posthumous attack."

Same page, we have "Sir William has taken his notions on Grecian architecture from "books and prints" only, expressly contrary to his own advice to Students; and has been guided by the imperfect *Specimens of Le Roi*; who, though an ingenious author, is well known to have visited Greece in the most rapid and cursory manner, and has therefore fallen, as might be expected, into the most glaring errors. A flagrant instance of Sir W's inaccuracy occurs, where he speaks of the *Lantern of Demosthenes*, and the *Parthenon*; which by mentioning together, he treats as if they were similar, and respecting which he affirms, in direct contradiction to the fact, that the *Parthenon* is not so considerable as the church of *St. Martin in the Fields*. The comparative dimensions of each are as follows:

	St. Martin's.		Parthenon.		Excess in favor of the Parthenon.
	Feet.	Inches.	Feet.	Inches.	Feet. Inches.
Length.....	161	. 9	227	. 7	65 . 10
Breadth .....	80	. 9	101	. 1	20 . 4
Height of Columns.....	33	. 4	34	$2\frac{8}{10}$	0 . $10\frac{8}{10}$
Diameter of Ditto .....	3	. 4	6	$1\frac{8}{10}$	2 . $9\frac{8}{10}$
Number of Ditto .....			16		58
Height of the Entablature					
Supposed $\frac{2}{9}$ of the Column	7	. 4	11	$2\frac{8}{10}$	about 3 . 10
Height of the whole Order...	40	. 8	45	$5\frac{6}{10}$	5 . $9\frac{6}{10}$
Breadth of Portico.....	66	. 10	101	. 1	34 . 3

The measures of both are taken on the upper step. Artists who ever saw an antique temple or ever read *Vitruvius*, know, that *St. Martin's Church*, though one of the best in London, is no more than a very inferior

the fairest monuments of Greece and Rome ; which is recommended to the inspection and perusal of those who have not yet seen it.

Indeed, none of the few things now existing in Greece, though so pompously described, and neatly represented in various publications of our time, seem to deserve great notice, either for dimension, grandeur of style, rich fancy, or elegant taste of design ; nor do they seem calculated to throw new light upon the art, or to contribute towards its advancement : not even those erected by Pericles or Alexander ; while the Grecian arts flourished most ; néither the famous lantern of Demosthenes, nor the more famous<sup>1</sup> Parthenon ; which, though not so considerable as the church of St. Martin, in St. Martin's Lane, exclusive of its elegant spire ; had for its architects, Phidias, Calliocrates, and Ictinus ; was the boast of Athens ; excited the envy and murmurs of all Greece. We find indeed, in Pliny, and other ancient writers, very pompous descriptions of temples, such as, that of Apollo at Miletus ; of Ceres and Proserpine at Eleusis ; of the Olympian Jupiter

imitation of the Greek Prostyle temple, and will not enter into the slightest degree of comparison with the chaste grandeur, the dignified simplicity, and sublime effect of the Parthenon."

This note has already extended to such length, that the reader must refer to the pages of Mr. Reveley's preface for the remainder of the contest — they are too long to extract : it is therefore closed by observing, that the advocates of what may be truly called the sublime architecture of Greece seem to forget the lines of Virgil :

Fraxinus in sylvis pulcherrima, pinus in hortis,  
Populus in fluviis, abies in montibus altis;

and that the deposit of a Greek temple in the streets of London cannot be considered a mark of good taste ; or if it be, that the Banqueting House at Whitehall ought to be held up in derision. [ED.]

<sup>1</sup> Plutarch in Pericl. [ED.]

at Athens; and above all, of Diana at Ephesus; one of the seven wonders of the world. But if the Grecian architecture was defective in the time of Alexander, it must have been more so some centuries earlier: and concerning temples built in bogs<sup>1</sup>, and founded upon wool, to resist earthquakes, and of which, the stones were set with sand bags, some doubts may be indulged: as well as of those made of wax<sup>2</sup>, yet resisting the ardor of a Grecian sun; or those of brass, yet catching fire and melting down.

At first sight, it may appear extraordinary, that a people so renowned in arms; so celebrated for poetry, rhetoric, and every sort of polite learning; and who carried sculpture farther than any of the ancient nations; should be so deficient in architecture: yet upon farther consideration, many reasons will occur why it necessarily should be so.—Greece, a country small in itself, was divided into a number of little states; none of them very powerful, populous, or rich: so that they could attempt, no very considerable works in architecture; having neither the space, the hands, nor the treasures that would have been necessary. “It must be owned,” says Monsieur D’Ablancourt<sup>3</sup>, “that Greece, even in the zenith of her greatness, had more ambition than power: we find Athens flattering herself with the conquest of the universe, yet unable to defend her own territories, against

<sup>1</sup> Pliny, lib. xxxvi. c. 14. [ED.]    <sup>2</sup> Pausanias Phocid. c. 6. [ED.]

<sup>3</sup> Nicholas Perrot, sieur D’Ablancourt, a man, says Bayle, more celebrated for his Translations than his original productions, was born in 1606 and died 1664. He published Versions of many ancient authors, among which were the Works of Tacitus, Lucian, Cæsar, Thucydides and Arrian. See his Thucydides for the quotation of the author. And for a list of his Works, Moreri’s Diet. [ED.]

the incursions of her neighbours: and who can refrain from laughter at the Lacedemonians; rivals in fame with the Athenians; yet, in despair, and reduced to sue for peace; by the loss of four hundred men."—The lake of Mœris would have deluged all Peloponnesus, and ruined all Greece; Babylon would have covered Attica, and more men had been employed to build that city, than there were inhabitants in all the Grecian states. The Egyptian labyrinth, was a hundred times larger than that of Crete; and more materials have been employed in one of the Egyptian pyramids, than were used in all the public structures of Athens.

If, at the same time it be recollected, that Greece, while divided into many governments, was constantly harassed with domestic wars, and from its union, always in an unsettled situation. That, an uncommon simplicity of manners prevailed among the Grecian states; and the strictest maxims of equality, were zealously adhered to in most of them; it will be easy to account for the small progress made by the Greeks in architecture. Demosthenes<sup>1</sup> observes, that the houses of Aristides, Miltiades, or any other of the great men of their time; were no finer than those of their neighbours: such was their moderation, and so steadily did they adhere to the ancient manners of their country. One of the laws of Lycurgus ordained, that the ceilings of houses should only be wrought by an axe; and their gates and doors be left

<sup>1</sup> Demosthenes merely mentions the great frugality of Aristides, saying nothing respecting his private dwelling. The houses of Themistocles and Miltiades are alluded to, in the *Oratio adv. Aristocratem*. The words are *Τεκμήριον δὲ Θεμιστοκλέους μὲν γὰρ οἰκίαν, καὶ τὴν Μιλτιάδου, καὶ τῶν τότε λαμπρῶν, οὔτις ἄρα οἶδεν ὑμῶν ὅποια ποτ' ἔστιν, ὅρᾳ τῶν πολλῶν εὐδὲν σεμνολίξαν οὕσαν.* [ED.]

rough from the saw ; no other tools than these, being permitted : which law, was so scrupulously observed among the Lacedemonians, that when King Leotychidas, saw at Corinth a ceiling, of which the timbers were neatly wrought, it was so new a sight to him, that he asked his host, if trees grew square in that country. It seems, indeed, as if these sumptuary laws of Lycurgus, had made a general impression ; and inspired the Greeks, rather with contempt than veneration, for splendid structures : even in their best time, they accounted it an effeminate folly to be ostentatious in that respect. “All the states of Greece, says Plutarch, clamoured loudly against Pericles for decorating Athens like a vain fantastic woman, and adorning it with statues and temples, which<sup>1</sup> cost a thousand talents<sup>2</sup>.”

What magnificence the Grecians displayed in their structures, was confined to their public buildings ; which were chiefly temples : wherein there appears to have been nothing very surprising, either for dimensions, ingenuity of contrivance, or excellence of workmanship. Greece, almost constantly the theatre of war, abounded not like Italy, in magnificent villas, where the richest productions of art were displayed. Their public roads were not adorned with mausoleums, to commemorate their heroes ; nor the towns, with arches or bridges to celebrate their triumphs. The Grecian theatres were inconsiderable,

<sup>1</sup> The Parthenon is said to have cost a thousand talents ; not quite so much as was expended in onions and radishes at the building of a pyramid : see Diodorus Siculus<sup>a</sup>.

<sup>2</sup> ‘Ὅσπερ ἀλαζόνα γυναῖκα περιεπιομένην λίθοις πολυτελεῖς, καὶ ἀγάλματα, καὶ ναοὺς χιλιολαλάνοις.’—Plutarchi Perieles. [ED.]

<sup>a</sup> Lib. i. ‘Ἐπιγέγραπται δ’ ἐπὶ τῆς μείζονος τοῦ πλῆθους τῶν ἀναλωθέντων χρημάτων ὡς εἰς λάχανα καὶ σαρμασίαν τοῖς ἱργάταις ; καὶ μινύσται διὰ τῆς γραφῆς διδασκάνεσθαι ταλάντα πλείων τῶν χιλίων καὶ ἑξακοσίων.’ [ED.]



compared with those of the Romans; the *naumachiae* and amphitheatres, unknown amongst them; as were also the *thermæ*, in which the Romans affected so much splendor.

In latter times indeed the Greeks, particularly the Athenians; abated of their original severity; the orator abovementioned observes, that in his time, there were some private houses more magnificent than public edifices: but this does not appear to have been very common, and consequently could not be productive of much additional splendor; even Alcibiades, the most luxurious Greek of his time, for he was accused of wearing a purple cloak, and of sleeping upon a bed with a canvas bottom, doth not seem to have been better lodged, than other Athenians; excepting, that his house was painted.

Since therefore the Grecian structures are neither the most considerable, most varied, nor most perfect; it follows that our knowledge ought not to be collected from them; but from some purer, more abundant source; which, in whatever relates to the ornamental part of the art, can be no other than the Roman antiquity yet remaining in Italy, France, or elsewhere: vestiges of buildings erected in the politest ages, by the wealthiest, most splendid, and powerful people of the world. Who, after having removed to Rome, from Carthage, Sicily, Egypt, and Greece, the rarest productions of the arts of design; as also the ablest artists of the times; were constantly employed, during many centuries, in the construction of all kinds of edifices that either use, convenience, luxury, or splendor required. Pliny<sup>1</sup> informs us, that the works of

<sup>1</sup> Pliny in his 36th book, to which the reader must refer for a more extended account, dilates on the magnificence of the city. Speaking of the palace of Lepidus, which at the time of its construction

the Romans were much more considerable than those of any other people; that in the course of thirty-five years, more than a hundred sumptuous palaces had been erected in Rome, the most inconsiderable of which was fit for the residence of a king: and that in his own time, the time of Vespasian; there were a great number, much more splendid, than any of the hundred abovementioned. The palaces of Caligula and Nero, were in extent like towns; and enriched with everything that the most exquisite taste, and the most unbounded liberality, could suggest.

The Romans began early to cultivate architecture. Several considerable works were erected by their kings, and many more, during the magistracy of their consuls. Julius Cæsar was passionately fond of that art; and besides the buildings erected by him in Rome<sup>1</sup>; he embellished with considerable structures, says Suetonius, the principal cities of Italy, France, Spain, Asia, and Greece<sup>2</sup>. Augustus, boasted on his death bed; that he had converted Rome into a city of marble<sup>3</sup>: he not only built

was considered in the first rank, he says "At hercule intra annos xxxv eadem centesimum Locum non obtinuit." Plin. Hist. Nat. 4to. Delph. 1685. Tom. v. pa. 311. [ED.]

<sup>1</sup> Nam de ornandâ instruendâque urbe, item de tuendo ampliandâque imperio, plura ac majora in dies destinabat. In primis Martis Templum, quantum nusquam esset, exstruere, repleto et complanato lacu in quo nauticæ spectaculum ediderat; theatrumque summæ magnitudinis Tarpeio monti adnubans. Suetonius in Vitâ Jul. Cæsar. sect. 44, see also sect. 36. Dio Cassius, lib. xliii. cap. 22, 25. Plin. xxxvi. 15, &c. [ED.]

<sup>2</sup> Superque Italiæ, Galliarumque et Hispaniarum, Asiæ quoque et Græciæ potentissimas urbes præcipuis operibus exornans. Suetonius in Vitâ Jul. Cæsar. sect. 28. [ED.]

<sup>3</sup> Urbem neque pro majestate imperii ornatam, et inundationibus incendiisque obnoxiam, excoluit adeo, ut jure sit gloriatus, marmoream se relinquere, quam latericiam accepisset. Suetonius, Cæsar Octavian. sect. 28. Dio Cassius, lib. li. c. 22: liii. c. 1, 2, 27: liv. c. 25, 26: lv. c. 8, 12: lvi. c. 25, 27. [ED.]

much himself, but excited his friends to follow the example; and Mæcenas, his favorite and minister, was the patron of arts, as well as of letters.

Caligula<sup>1</sup> and Nero<sup>2</sup>, were to the utmost, splendid in their buildings. The latter, carried his passion for architecture, as it is said, even to the extravagant excess of burning Rome, that he might have the pleasure of rebuilding it with greater regularity, and magnificence; which he afterwards did.

During the reigns of Claudius<sup>3</sup>, Vespasian<sup>4</sup>, Titus<sup>5</sup>, Domitian<sup>6</sup> and Nerva, many very considerable public works were erected; both at Rome, and in other parts of the Roman dominions; and Vespasian, not only re-edified the capitol with greater magnificence than before; but also all the other public buildings of Rome; which had suffered by the outrages of the Vitellians. He obliged the proprietors of ruined houses to rebuild them; and caused to be erected, several new edifices of great cost and magnificence; such as the temple of Peace; the largest covered building of antiquity: another, dedicated to Minerva, of the richest and most exquisite workman-

<sup>1</sup> Suetonius, Cæs. Calig. lib. iv. sect. 21, 22, 37. Dio Cassius, lib. v. c. 7.

<sup>2</sup> Formam ædificiorum urbis novam excogitavit: et ut ante insulas ac domos porticus essent, de quarum solariis incendia arcerentur: easque sumtu suo exstruxit. Suetonius, Nero, sect. 16, 31 also, wherein is an account of the *Domus Aurea*, 38. Suetonius, Vita Neronis. Dio Cassius. lib. lxii. c. 16, 18.

<sup>3</sup> Dio Cassius, lib. lvi. c. 10. c. 13.

<sup>4</sup> Ibid. lib. lxvi. c. 15. Suetonius, lib. viii. c. 8, 9, 18.

<sup>5</sup> Suetonius, lib. viii. c. 8.

<sup>6</sup> Ibid. Vita Domitiani, c. 5, "Plurima et amplissima opera incendio absumpta restituit," but he deprived the Founders of all share of praise, "Omnia sub titulo tantum suo, ac sine ullâ pristini auctoris memoriâ."

ship, ever exhibited in Rome : the first artists then alive, having been employed to paint, carve, and incrustate the same. He also built the largest amphitheatre in the world ; capable of containing eighty thousand spectators, and many other works of less note. His care and munificence extended themselves in like manner, to all other parts of the Roman empire ; in which he erected new cities and towns, repaired, adorned and fortified, such as were old, or ruinous.

Titus, his successor, was so attentive to the beauty of his metropolis ; that, when a dreadful fire had destroyed many of its temples, and public buildings ; he resolved to re-edify them at his own charge, with all possible expedition : disposing of the furniture and ornaments of his own palaces, to defray the expence. Death, prevented the completion of his intentions ; but Domitian, finished what he had left undone ; and also adorned Rome with many new structures ; particularly with a palace, surprising for the magnificence of its colonades, the number of its rooms, the splendor of its baths and female apartments. His love for building was such ; that he wished to be another Midas, to the end that he might indulge his passion without control.

Trajan, in whose reign the Roman empire was in its most flourishing state, cultivated all the arts of design ; and with the assistance of the celebrated Apollodorus, his principal architect ; executed many very considerable works. He erected a bridge of stone over the Danube, sixty feet wide, one hundred and fifty feet high, and almost two miles in length. He also built several cities among the Dacians ; embellished Rome and other parts of Italy, with many public edifices ; rebuilt Antioch,

which had been almost totally destroyed by an earthquake; and also repaired many other towns in Syria, that suffered at the same time, by the same calamity<sup>1</sup>.

Adrian<sup>2</sup>, whose skill in different branches of polite knowledge is well known; particularly in the arts of design; embellished various parts of the Roman empire with splendid and beautiful structures; such as his bridge, and mausoleum at Rome; his villa near Tivoli; his wall in Britain, which extended from the river Eden in Cumberland to the Tyne in Northumberland: many temples and other public buildings in Gaul, in Greece, and in Africa: where he re-edified a considerable part of Carthage. He also rebuilt Jerusalem, which Titus had demolished about sixty years before; and erected in Egypt, a stately pillar to the memory of Pompey.

Antoninus Pius<sup>3</sup> re-edified a great part of Rome, Nar-

<sup>1</sup> Dio Cassius, Lib. lxxiii. c. 13, where the reader will find an account of this extraordinary Bridge. See also the same book, c. 15 and 16, for other works by him. His architect, Apollodorus, is mentioned in a subsequent note. [ED.]

<sup>2</sup> Dio Cassius, Lib. lxxix. c. 16. *Ælius Spartianus, in vitâ Adriani Cæsaris. Hist. Aug. Scriptores, Lug. Bat. 1671, pa. 179 et seq.* [ED.]

<sup>3</sup> *Opera ejus hæc extant Romæ, Templum Adriani honori patris dicatum, Græco-stadium post incendium restitutum, instauratum amphitheatrum, Sepulchrum Adriani, Templum Agrippæ, Pons Sublicius, Phari restitutio, Cajetæ portus, Tarraeinensis portus restitutio, Lavaerum Ostiense, Antiatum aquæduetus, Templa Lanuviana. Multas etiam civitates adjuvit pecuniâ, ut opera vel nova facerent, vel vetera restituerent. Julius Capitolinus, Vitâ Antonini Pii.* [ED.]

“In less than a century, Constantinople disputed with Rome itself the pre-eminence of riches and numbers,” A.D. 334, Gibbon’s *Decline and Fall*, Vol. III. 8vo. edit. But taste and skill were on the wane. In another part he states, that “The magistrates of the most distant provinces were therefore directed to institute schools, to appoint professors, and by the hopes of rewards and privileges to engage in the study and practice of Architecture a sufficient number of ingenious youths, who had



bonne, Antioch, and Carthage: all which cities had suffered considerably by fire. And it was his custom, whenever any damage happened to a city by an earthquake, a fire, an inundation, or other calamitous accidents; to repair it with money taken out of the public treasury. He greatly improved the ports of Terracina and Gaeta: built considerable baths at Ostia; aqueducts at Antium; temples at Lavinium: and all must be sensible, how powerfully the example of princes, operates upon the minds of their subjects; inspires the same passions, and excites to the same pursuits.

In short, architecture continued to flourish among the Romans, though with abated lustre; till Constantine removed the seat of empire to Byzantium: and the number of stately structures, with which Rome, and the Roman dominions abounded, is almost incredible. Their very remains, excite at this day, the astonishment and admiration, of every judicious beholder: in spite of all that length of time, wars, party rage, barbarism, casual events, superstition, and avarice have done to destroy them.

In these remains, there will be found abundant materials to work upon, and form a compleat system of decorative architecture. The labours of the celebrated masters of the fifteenth, sixteenth, and seventeenth centuries, may, perhaps, be added to enrich the stock; and we may avail ourselves of their labours, to facilitate, or

received a liberal education. The buildings of the new city were executed by such artificers as the reign of Constantine could afford." "To revive the genius of Phidias and Lysippus surpassed indeed the power of a Roman emperor." Ibid. At a later period, namely in the time of Justinian, the church of St. Sophia shewed an accession of skill, which however wanted art to captivate.

[ED.]

shorten our own ; but, it should always be remembered, that though the stream may swell in its course, by the intervention of other supplies : yet it is purest at the fountain's head. And whoever aims at being superiorly eminent in any profession, must not receive his information at second hand, from others ; but mount himself to the origin and reason of things. The man, says Michael Angelo, who follows another, always is behind ; but he who boldly strikes into a different path, may climb as high as his competitor : and though the road be somewhat more rugged, yet, if his efforts are crowned with success, the reward will amply compensate, for the risque and labour of the enterprize.

An anonymous Italian writer observes, that the superiority of Raphael, may perhaps be owing, to his having been so universally admired and copied ; that the modern sculptors never equalled the ancient, because they have done nothing but imitate them ; and if, says he, all the ancient paintings hitherto discovered, are inferior to the modern ; it is, perhaps owing, to our painters not having had the works of an Apelles to copy.

Nature is the supreme and true model of the imitative arts, upon which every great artist must form his idea of the profession, in which he means to excel ; and the antique is to the architect, what nature is to the painter or sculptor ; the source from which his chief knowledge must be collected ; the model upon which his taste must be formed.

But as in nature few things are faultless, so neither must it be imagined that every ancient production in architecture, even among the Romans, was perfect, or a fit model for imitation ; as blind adorers of antiquity are

sometimes disposed to believe. On the contrary, their remains are so extremely unequal, that it requires the greatest circumspection, and effort of judgment, to make a proper choice. The Roman arts, like those of other nations; had their rise, their æra of perfection, their decline. At Rome, as in London or Paris, there were few great architects, but many very indifferent ones; and the Romans had their connoisseurs, as we have ours; who sometimes would dictate to the artist, and cramp the fortunate sallies of his genius; force upon him and the world, their own whimsical productions; promote ignorant flatterers; discourage, even oppress, honest merit.

Vitruvius, supposed to have lived in the Augustan age, complains loudly of this hardship; and there is a remarkable instance of the vindictive spirit of an ancient connoisseur, in Adrian; who put to death the celebrated Apollodorus<sup>1</sup>, for having ventured a shrewd remark upon a temple, designed by that emperor, and built under his direction.

In the constructive part of architecture, the ancients

<sup>1</sup> The story is to be found in Dio Cassius, Reimari Ed. Hamburg, 1752, Fol. 1153. Hadrian had sent the designs of a temple he proposed to build in honor of Venus and Rome for the opinion of Apollodorus, or rather to shew the architect that he could manage without his assistance, a bravado to which the artist replied by observing that the building would be too low if the statues of the Goddesses should ever be inclined to rise up from their seats for the purpose of walking out to take the air, “*ἀν γὰρ αἱ θεαὶ, ἔφην, ἐξαναστήσεσθαι τε καὶ ἐξελθεῖν ἐθειλήσωσιν, οὐ δύνηθήσονται.*” Another anecdote of this independent architect, from the same author and just preceding what has just been alluded to will perhaps be better given in the words of Casaubon. Note on a passage of *Ælius Spartianus* in his life of Hadrian. See the *Historiæ Augustæ Scriptores*, “*Apollodoro architecto, de suis operibus aliquid cum Trajano communicanti, cepit παραλαβεῖν et obstrepere Hadrianus: cui architectus, Abi et cucurbitas γράφει: nam horum nihil scis. Videtur respexisse ad aliquam Hadriani tabulam ubi cucurbitas feliciter pinxisset.*”

do not seem to have been great proficient. I am inclined to believe, that many of the deformities observable in the Grecian buildings, must be ascribed to their deficiency in that particular: such as their gouty columns; their narrow intercolumniations; their disproportionate architraves; their hypæthral temples, which they knew not how to cover; and their temples with a range of columns running in the center, to support the roof; contrary to every rule, either of beauty or convenience.

Neither were the Romans much more skilful; the precepts of Vitruvius and Pliny on that subject are imperfect, sometimes erroneous; and the strength or duration of their structures, is more owing to the quantity and goodness of their materials, than to any great art in putting them together. It is not therefore from any of the ancient works, that much information can be obtained in that branch of the art.

To those usually called Gothic architects, we are indebted for the first considerable improvements in construction; there is a lightness in their works, an art and boldness of execution; to which the ancients never arrived: and which the moderns comprehend and imitate with difficulty. England contains many magnificent examples of this species of architecture, equally admirable for the art with which they are built, the taste and ingenuity with which they are composed<sup>1</sup>.

<sup>1</sup> There is more constructive skill shewn in Salisbury and other of our Cathedrals, than in all the works of the ancients put together. The balance of the thrusts of the different arches—the adjustment of thickness in the vaultings and the exceeding small ratio of the points of support in these buildings to their whole superficies—and added to these the consequent lightness and elegance of form which they exhibit, leave us nothing to desire in this respect. [ED.]

One cannot refrain from wishing, that the Gothic structures were more considered, better understood, and in higher estimation, than they hitherto seem to have been. Would our dilettanti instead of importing the gleanings of Greece; or our antiquaries, instead of publishing loose incoherent prints; encourage persons duly qualified, to undertake a correct elegant publication of our own cathedrals, and other buildings called Gothic, before they totally fall to ruin; it would be of real service to the arts of design; preserve the remembrance of an extraordinary stile of building now sinking fast into oblivion; and at the same time publish to the world the riches of Britain, in the splendor of her ancient structures'.

Michael Angelo, who skilled as he was in mathematical knowledge, could have no very high opinion of the ancient construction; boasted that he would suspend the largest temple of antiquity, meaning the Pantheon, in the air: which he afterwards performed, in the cupola of St. Peter's at Rome. And Sir Christopher Wren, has conducted all parts of St. Paul's, and many others, his numerous admirable works, with so much art; that they are, and ever will be, studied and admired by all intelligent observers. To him, and to several ingenious artists and artificers since his time, we owe many great improve-

' Since the author's time, this desideratum has been, in a great measure, accomplished by the great and valuable labors of the author of the *Architectural Antiquities of Great Britain*. The indefatigable exertions of John Britton, Esq. F.S.A. and the care with which he has perpetuated the remains of our ancient architecture, entitle him to the gratitude of all lovers of the fine arts. The descriptions and delineations of the Cathedrals now in course of publication are of the highest class. That which in another nation would have been done at the expence of the Government, this enterprising and able antiquarian has nearly completed at his own risk, in the most judicious and elegant manner. [ED.]



ments in carpentry; which the English have established upon better principles, and carried to higher perfection, than any other nation.

Some of the French architects have likewise been very skilful in construction. The mason's art in particular, has been considerably improved by that nation. And we are indebted to the French, to the Italians, and to a few of our own countrymen, for many valuable books<sup>1</sup>; in which the manner of conducting great works is taught; the necessary machines, tools, carriages, and other appa-

<sup>1</sup> *Architettura di Andrea Palladio*<sup>a</sup>. *Architettura Universale di Vincenzo Scamozzi*<sup>b</sup>. *Architettura di Sebastiano Serlio*<sup>c</sup>. *Leo. Bapt. Alberti de re Edificatoriâ*<sup>d</sup>. *Architecture de Philibert de Lorme*<sup>e</sup>. *Secret d'Architecture and l'Art de Charpente de Matheinen Jousse*<sup>f</sup>. *Felibien principes*

<sup>a</sup> Palladio (Andrea). 1 Quattro Libri dell' Architettura, 1st Edit. Venetia, fol. 1575.  
2nd Edit. ibid. 1581.  
3rd Edit. ibid. 1601.

There is a modern spurious Edition which it will be sufficiently easy upon inspection to detect. The principal Translations into English are by Ware and Leoni, both in fol. The latter has Inigo Jones's Notes on the author—of this there are two Editions one of which does not carry the Notes in question, though the title-page states the contrary. The proper Edition of the latter is in fol. Lond. 1742. The portrait of Palladio is an imposition in both. The buildings of Palladio by Ottavio Bertotti Scamozzi in 4 vols. fol. Vicenza, 1776—83, with a 5th vol. containing Lord Burlington's publication of the Roman baths, Lond. 1730, should be in the library of every architect. [ED.]

<sup>b</sup> Scamozzi (Vincenzo) *Idea dell' Architettura*, 2 vols. fol. Venezia, 1615: a reprint of this Edition appeared, fol. Piazzola, 1687. Scamozzi's Works have been translated into French by D'Aviler and Dury, fol. La Haye, 1736: the edition of 1713, Leyden, which professes to be the work of Scamozzi has no relation to the above work. [ED.]

<sup>c</sup> Serlio (Sebastiano) *L'Architettura di*, 4to. Vicenza, 1584; Venetia, 1619; both good editions. [ED.]

<sup>d</sup> Alberti (Leo. Bapt.) *Libri de Re ædificatoriâ decem*, 1st Edit. Florence, 1485, fol.: reprinted in 4to. Paris, 1512. Translated into Italian by Peter Lauro, small 4to. Venice, 1546; by Cosimo Bartoli, fol. Florence, 1550: and into English by Leoni, fol. Lond. 1726—1755, and Bologna, 1782. [ED.]

<sup>e</sup> Lorme (Philibert de) *Œuvres d'Architecture*, fol. 2 vols. in 1. Paris, 1626, or Rouen, 1648. The first Edition, the Treatise on Architecture, in 9 books, was published in Paris, 1567. The 10th book, on Carpentry, entitled "*Nouvelles Inventions pour bien bâtir et a petit frais*" was published in fol. Paris, 1561, 1568, 1576. [ED.]

<sup>f</sup> Jousse (Math.) *Secrets d'Architecture*, fol. 1642. *The Art of Carpentry, &c.* by this author, was corrected and augmented by De la Hire, fol. Paris, 1751. [ED.]

ratus described ; together with the properties, modes of preparing, and of employing, all kinds of materials used in building. They likewise have treated of the nature of

de l'Architecture, &c.<sup>g</sup>. *La Pratique du trait* par Desargues<sup>h</sup>. Belidor *Sciences des Ingenieurs and Architecture Hydraulique*<sup>i</sup>. Gautier *traité des Ponts et des Chemins*<sup>k</sup>. Blondel *Cours d'Architecture*<sup>l</sup>. *Architecture des Voutes* par Derrand<sup>m</sup>. *De la Rue traité de la Coupe des Pierres*<sup>n</sup>. Evelyn's *Silva*<sup>o</sup>. Wotton's *Remains*<sup>p</sup>. Zabaglia *Opere*<sup>q</sup>. Price's *British Carpenter*<sup>r</sup>. Savot *Archi. Francoise*<sup>s</sup>. Neve's *Builder's Dictionary*<sup>t</sup>. Frezier *Coupe des*

<sup>g</sup> Felibien. *Les Principes de l'Architecture, de la Sculpture, et de la Peinture*, 4to. Paris, 1699. [ED.]

<sup>h</sup> Published by Abraham Bosse, in 1643. The title of the work, which is in one vol. 8vo. is "*Système de Desargues sur la pratique du trait à preuve pour la coupe des pierres.*" [ED.]

<sup>i</sup> Belidor (Bern.) "*Architecture Hydraulique, ou l'Art de conduire, d'élever et de ménager les eaux pour les differens besoins de la vie,*" 4 vols. 4to. Paris, 1737—53. There was another Edition, 1780, of which copies are to be found, with a new title page, bearing the name of Didot and with some new plates. The last Edition by Navier, 4 vols. 4to. 1819, published by Didot, contains some additions.

<sup>l</sup> "*La Science des Ingenieurs dans la conduite des travaux de fortifications et d'architecture militaire,*" 4to. Paris, 1729 and 1749: a new Edition was published in 1814, with the Notes of Navier. [ED.]

<sup>k</sup> Gautier (H.) *Traité de la construction des ponts et chaussées*, 8vo. Paris, 1721—65.

<sup>l</sup> Blondel. There are two of this name, uncle (Francois) and nephew (Jacques Franc.) both of whom published a "*Cours d'Architecture,*" the former in 5 vols. fol. Paris 1675 and 1698; the latter 9 vols. 8vo. Paris, 1771: but the second part of the last mentioned work, published 1773, is imperfect owing to the death of the author. [ED.]

<sup>m</sup> Derrand (Fr.) "*L' Architecture des Voûtes, ou l' art des Traits et coupe des voûtes.*" Fol. Paris, 1642 and 1742. [ED.]

<sup>n</sup> *De la Rue* (J. B.) "*Traité de la Coupe des Pierres, ou par une methode facile et abrégée, l'on peut aisément se perfectionner en cette Science.*" Fol. Paris, 1728. [ED.]

<sup>o</sup> Evelyn's (John) "*Sylva,*" best Edition by Dr. Hunter, 2 vols. 4to. York, 1786. [ED.]

<sup>p</sup> Wotton's (Sir Henry) "*Remains.*" It is singular that the author should have alluded to this copy (12mo.) of the "*Elements of Architecture*" which was edited by old Izaak Walton, in the *Reliquiæ Wottonianæ*, because the treatise was published by itself in 4to. London, 1624. [ED.]

<sup>q</sup> Zabaglia (Nic.) "*Castelli e Ponti con alcune ingeniose pratiche e con la descrizione del trasporto dell' obelisco Vaticano e di altri, del Dom. Fontana.*" Fol. Roma, 1743. The Latin title is "*Contignationes ac Pontes.*" [ED.]

<sup>r</sup> Price's (Francis) "*The British Carpenter: or a Treatise on Carpentry,*" &c. Several Editions: the 4th is the best. 4to. Lond. 1759. [ED.]

<sup>s</sup> Savot (Louis) *L' Architecture Francoise des Batimens particuliers*. 8vo. Paris, 1685. [ED.]

<sup>t</sup> Neve's "*City and Countrey Purchaser and Builder's Dictionary: or the Compleat Builder's Guide.*" There are two editions of this book, both 8vo. The first, Lond. 1703, by T. N. Philomath. The other, Lond. 1726, by Richard Neve Philomath: the latter is the better book though not the most curious. [ED.]

soils, and the manner of laying foundations, of raising superstructures, and of every other particular, having relation to the mechanic arts, connected with building.

These books', the structures abovementioned, and many others to be found in England or elsewhere, are the schools from which the architect must collect the rudiments of construction ; but practice, experience, and attentive observation ; are requisite to render him consummately skilled in this important part of his profession<sup>2</sup>.

The architect's aim being, as has been observed, to erect handsome, strong, convenient, salubrious, and comfortable edifices ; to ascertain their value ; and to build them with safety, ease, and frugality : the principles of

Pierres" (with the translations in English, French, or Italian, of those that are translated) ; and many others of less note.

<sup>1</sup> See note page 130.

<sup>2</sup> The number of works on Architecture which have issued from the presses of the Continent, leave the student no reason to complain of the want of theoretical or practical Treatises on his art.

A few may be named as worthy a place in the Architect's Library :—

Article "Architecture" of the *Encyclopédie Méthodique*, by Quat. de Quincy, 4 Parts, already published, 4to. Paris, 1788—1820.

"*Traité theorique et pratique de l'art de bâtir*," par M. Rondelet, architecte, 8vo. 4 Vols. Paris.

"*Traité de la construction des ponts, suivi de divers Memoires concernant les canaux de Navigation*," par Gauthey, 3 Vols. 4to. Paris, 1809—16.

"*Memoires sur les objets les plus Important d'Architecture*," par M. Patte, 4to. Paris, 1769.

"*Architecture considérée sous le rapport de l'art, des mœurs, et de la législation*," par C. N. Ledoux," fol. Paris, 1804.

"*Plans, Coupes, Elevations de diverses Productions de l'art de la Charpente*," par Krafft, Paris, 1805.

And many others.

[ED.]

"Frezier (Amédée Fr.) *Traité de Stereotomie, ou la Theorie et la pratique de la coupe des pierres et des bois*," Strasburg, 1738, or 3 Vols. 4to. Paris, 1754.—An abridgment of this work under the title of "*Elemens de Stereotomie*," was published 1759. [KO.]

his art may be ranged under four distinct heads, which are distribution ; construction ; decoration ; and economy.

Of construction and decoration, it has been shown whence his knowledge should be collected ; and of distribution, which comprehends all particulars relative to health, convenience, comfort, pleasure and profit ; the artist may collect his general idea, from books or observations, made upon buildings erected for various purposes, in different climates and ages ; but it is only by practice that he can become expert, in discovering the advantages, or defects of situation ; the nature of climates, or expositions ; the qualities of air, water, soil, and many other things necessary to be known : and it is only by a thorough acquaintance with the customs, and modes of living of his own times ; and with the dispositions, amusements, occupations, and duties, of his cotemporaries ; that he can effectually learn, how to supply their wants, or gratify their wishes.

In countries where general custom governs most things, and where all persons of the same rank think, act and live, nearly after the same manner ; the distributive part of architecture has not so many difficulties : but wherever that is not the case, every new employer opens a fresh field for investigation ; and the artist's task is never at an end.

The economy of architecture is of so complicated, so extensive a nature, that it is almost impossible for any man to know it perfectly ; much more for an architect, whose mind must be loaded with a great variety of other knowledge. When therefore an artist has fixed his abode in any particular country, or great city ; it will be best, to



limit his researches at first, to that place alone : informing himself of the different quarries, woods, kilns, sea ports or other markets from whence it is supplied with materials for building ; as also of the different natures and degrees of goodness of these materials, the properest times for providing them, the best means of transporting them to the places of their destination ; their value ; and upon what circumstances that value depends : to the end that he may be enabled at all times, to account for the fluctuation of price, and to ascertain what they are justly worth.

The principal difficulty of this enquiry arises, not only from the many causes upon which the value of things and their rise or fall depends, but from the caution with which dealers and tradesmen of almost all denominations, conceal the secrets of their trade ; and the real profits they have thereon.

His next step must be to find out all the able artists and artificers of the place, and its environs ; to form an acquaintance with them, and examine carefully, in what branches they particularly excel ; how far their skill extends ; what their dispositions, circumstances, and tempers are ; with their characters and connections : that by combining these particulars, he may employ their abilities upon every occasion, to most advantage, as well for them, as for himself.

He must then make diligent enquiry into the usual prices allowed for every sort of labour, or workmanship ; according to its degree of perfection : how much time and what materials are requisite to produce given quantities thereof ; what profits, according to the usage of the place, are allowed thereon to the master workmen ; and



in what manner it is measured, or accounted for when done : that he may be entire master of his subject, and enabled to judge equitably between the employer and employed, as his station requires. These enquiries will at the first be attended with considerable difficulty, for the reasons beforementioned ; but like propositions in geometry, one information will facilitate another, and in the course of a few years practice, the artist, if he be industrious, and skilfully inquisitive, will have acquired a thorough acquaintance with whatever concerns his own circle : and then he may extend his enquiries to other parts. What is already known, will serve as a clew to farther knowledge ; and by degrees, he may become a very competent judge of every economical particular, in all the provinces of an extensive kingdom.

If in this chapter, or in other parts of the work (for it may be as well to apologize at once, for all) the author has ventured to think for himself, and sometimes to start opinions, differing from those of other men ; he begs leave to say, that it proceeds not from the affectation of being either singular, or dogmatical ; but from conviction that his notions are always founded in reason, or proved by well attested facts : and delivered with a wish to guide the reader right. All that has been said, respecting the superiority of the Roman architecture, was written a considerable time ago, when the Grecian had been extolled into repute ; and structures were erecting in different parts of England, after Attic designs. Fortunately, the sight of these first specimens, excited no desires for more : after a few ineffectual struggles, the Roman manner obtained a complete victory. There seemed, at that time, no farther necessity to fight its cause ; and these

observations, intended for the second edition of this work, were then suppressed. But latterly, the *Gusto Greco*, has again ventured to peep forth, and once more, threaten an invasion'. What therefore was omitted in the second edition, it has been judged necessary to insert in this, as a caution to stragglers.

' No one can be insensible to the exquisite beauties of Greek art, nor unmoved by the elegant and captivating arrangement of the Greek Temple. It is in the application of the severer Greek architecture to English religious ceremonies and English habits, without that modification which circumstances and the climate itself seem to require, that the objections arise. Let the reader survey the metropolis, and compare the new churches and other public buildings with the works of Jones, Wren, Burlington, Sir Robert Taylor, and those of our Author, and he will be satisfied that our better acquaintance with Grecian architecture has not generally improved the style of our public edifices. [ED.]

OF THE PARTS WHICH COMPOSE THE ORDERS OF  
ARCHITECTURE AND OF THEIR PROPERTIES, APPLI-  
CATION, AND ENRICHMENTS.

As in many other arts, so in architecture, there are certain elementary forms, which, though simple in their nature, and few in number, are the principal constituent objects of every composition ; however complicated or extensive it may be.

Of these there are in our art, two distinct sorts ; the first consisting of such parts, as represent those that were essentially necessary, in the construction of the primitive huts, as the shaft of the column, with the plinth of its base, and the abacus of its capital ; representing the upright trees, with the stones used to raise, and to cover them. Likewise the architrave and triglyph, representing the beams and joists ; the mutules, modillions, and dentils, either representing the rafters, or some other pieces of timber, employed to support the covering : and the corona, representing the beds of materials, which composed the covering itself. All these are properly distinguished by the appellation of essential parts ; and form the first class. The subservient members, contrived for the use and ornament of these ; and intended either to support, to shelter, or to unite them gracefully together, which are usually called mouldings, constitute the second class.

The essential parts were, most probably, the only ones employed, even in the first stone buildings ; as may be

collected from some ancient structures, yet remaining : for the architects of those early times, had certainly very imperfect ideas of beauty in the productions of art, and therefore contented themselves, with barely imitating the rude model before them ; but coming in time to compare the works of their own hands, with animal and vegetable productions, each species of which, is composed of a great diversity of forms, affording an inexhaustible fund of amusement to the mind, they could not but conceive a disgust, at the frequent repetition of square figures in their buildings, and therefore thought of introducing certain intermediate parts, which might seem to be of some use, and at the same time be so formed, as to give a more varied, pleasing appearance, to the whole composition : and this, in all probability, was the origin of mouldings.

Of regular mouldings, there are eight<sup>1</sup> ; which are, the Ovolo<sup>2</sup>, the Talon<sup>3</sup>, the Cyma<sup>4</sup>, the Cavetto<sup>5</sup>, the Torus<sup>6</sup>, the Astragal<sup>7</sup>, the Scotia<sup>8</sup>, and the Fillet<sup>9</sup>.

<sup>1</sup> See plate of regular mouldings.

<sup>2</sup> Ovolo, or Echinus, or quarter round<sup>a</sup>.

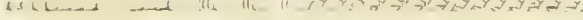
<sup>3</sup> Talon or Ogee, or reversed Cyma<sup>b</sup>.

<sup>a</sup> *Echinus*—"It is indeed a quarter round, and sometimes more, swelling above the *Cinctures*, and commonly next to the *Abacus*, carved with *Ovals* and *Dorts* (by our workmen called *Eggs* and *Ankers* as little politely,) which is frequently shut up with a smaller *Ovolo* of *Beads* and *Chuplets*, or like ornament ; but so adorned, it commonly runs under the *Ionic Voluta*, and that of the *Composito*, and next the *Doric Abacus* ; as in that singular example of the *Trajan Column* it creeps under the *Plinth* of the *Capital*. Such as pretend to *Etymologies* for every thing they hear, will have it *ἰχίος*, *παρὰ τὸ ἰχθυῖν*, or *εὐίχθυον* *ἑαυτὸν*, because of a kind of self contraction ; others more rationally from the resemblance and roughness in the carving, *ἰχίον* *παρυύστεος*, as bristling with darts like a *Hedge-Hog*, or rather the thorny husk of a *Chest-nut*, which being opened discovers a kind of oval figured kernel, which dented a little at the top the *Latins* call *Decacuminata Ora*." "In the *Corinthian* an *Echinus* frequently comes in between the *Corona* and *Deutilli*." An Account of Architects and Architecture, &c. by John Evelyn, Esq. Fellow of the Royal Society, Fol. 1696, page 21. [ED.]

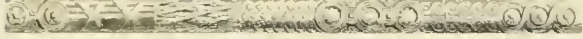
<sup>b</sup> "*Cymatium* inverted, which is no more than a wrought or plain *O-gee* as our workmen

# Regular Moldings with their proper Ornaments.

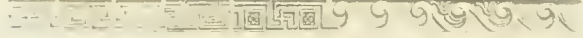
Ornaments for the Architrave



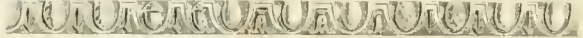
Ornaments for the Frieze



Ornaments for the Cornice



Ornaments for the Base



Ornaments for the Capital

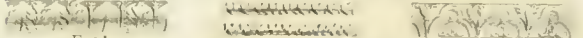
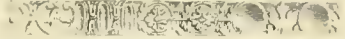


Fig. 1.

Ornaments for the Frieze



Ornaments for the Cornice



Ornaments for the Base



Ornaments for the Capital

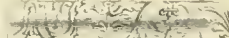
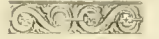


Fig. 2.

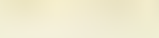
Fig. 3.

F

Ornaments for the Frieze



Ornaments for the Cornice



Fluted

Angled or Bevel

Torus or Torus

Various Mouldings or Cornices

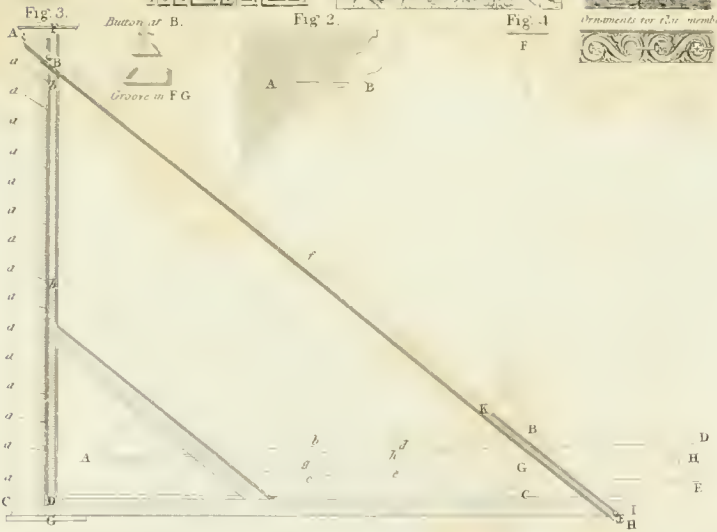
Various Profiles of other mouldings

Inverted Cornice Taper or Spire

Cornice Cornice Reverse Cornice

Cornice or Hollow

For the Capital



H do.

W. do. number

do. number





The names of these are allusive to their forms; and their forms are adapted to the uses, which they are intended to serve. The Ovolo and Talon, being strong at their extremities, are fit for supports. The Cyma and Cavetto, though improper for that purpose, as they are weak in the extreme parts, and terminate in a point, are well contrived for coverings, to shelter other members: the tendency of their outline being very opposite, to the direction of falling water, which for that reason, cannot glide along their surface, but must necessarily drop. The

<sup>4</sup> Cyma, cyma recta, Cymatium<sup>c</sup>.

<sup>5</sup> Cavetto, or mouth, or hollow.

<sup>6</sup> Torus or Tore<sup>d</sup>.

<sup>7</sup> Astragal, Bead, or Baguette<sup>f</sup>.

<sup>8</sup> Scotia or Trochilos<sup>e</sup>.

<sup>9</sup> Fillet, Listel, Annulet.

barbarously name it. The term is *κομάτιον*, *undula*, and signifies a *rolling Wave*, to the resemblance whereof it is moulded. By some it is called the *Throat*, as from the *Italian* and *French*, *Gola*, *Geule*, or *Doucine*, and of these there are *two* kinds, the *first* and principal hath always its cavity *above*, and doth constantly jett over the *Corona* or *Drip* like a *Wave* ready to fall, and then is properly called *Sima*" "the *other* has its hollow below, and is named *Inversa*; the one *Conver*, the other *Concave*. The letters { thus placed do reasonably well express these kind of *Mouldings*." An Account of Architects and Architecture, &c. by John Evelyn, Esq. Fellow of the Royal Society, Fol. 1696, page 30. [ED.]

<sup>c</sup> Cyma—see preceding Note. [ED.]

<sup>d</sup> Torus, "from *τόρεος*, denoting the roundness and smoothness of it. *Torus enim quicquid rotundum*; or rather as *Scaliger*, *quod artificialiter elaboratur & torquetur*, because artificially made so; but why not from its Swelling and Brawniness? It much resembles the shape of a round cushion," &c. Ibid. page 18. [ED.]

<sup>e</sup> "Astragal, which besides divers other things, as the *Septem Spinæ Vertebræ* near the Neck, has here its analogy from that bone a little above the *Hecl*, &c. Ibid. page 18. [ED.]

<sup>f</sup> "Trochile, from *τρέχω* or *τρέχων*, a Rundle or Pully-wheel, which it much resembles, and is that cavity appearing next to the *Torus*: The *Italians* name it *Bastone*, or more properly *Cavetto*, and *Cortice*, *tanquam baculi cortex*, the hollow rind of a tree, as *Barbaro*. Our workmen retain the ancient *Scotia*, from *σκοτία*, its obscurity proceeding from the shade of the Hollowness, but more vulgarly they call it the *Casement*, &c. Ibid. page 18.

It is singular that Sir William should have omitted to notice the situations which the several mouldings should and should not occupy.

For instance—The Ovolo should be used only above the level of the eye of the spectator.

The Cavetto must not be seen in bases or capitals.

The Cyma recta only to be used in crowning members, though in Palladio's Doric, and other examples, it is found occasionally in the bed mouldings under the corona.

The Scotia always below the eye, and always between the fillets attached to Tori.

The Fillet at all heights, and in most situations.

[ED.]

Torus and Astragal, shaped like ropes, are intended to bind and strengthen the parts on which they are employed; and the use of the Fillet and Scotia, is only to separate, contrast, and strengthen the effect of other mouldings, to give a graceful turn to the profile, and to prevent that confusion, which would be occasioned by joining several convex members together.

That the inventors of these forms, meant to express something by their different figures, will scarcely be denied; and that the abovementioned were their destinations, may be deduced, not only from their figures, but from the practice of the ancients in their most esteemed works: for if we examine the Pantheon, the three columns in the Campo Vaccino, the temple of Jupiter Tonans, the fragments of the frontispiece of Nero, the basilica of Antoninus, the forum of Nerva, the arches of Titus and Septimius Severus, the theatre of Marcellus; and indeed, almost every ancient building, either at Rome, or in other parts of Italy and France, it will be found, that in all their profiles, the Cyma and the Cavetto are constantly used as finishings, and never applied where strength is required: that the Ovolo and Talon, are always employed as supporters to the essential members of the composition, such as the modillions, dentils, and corona: that the chief use of the Torus and Astragal, is to fortify the tops and bottoms of columns, and sometimes of pedestals, where they are frequently cut in the form of ropes: as on the Trajan column<sup>1</sup>, in the temple of Concord, and on several fragments which I have seen both at Rome, and at Nismes

<sup>1</sup> The author seems to have forgotten that the Torus of the Trajan column is decorated with laurel leaves bound with bands at certain intervals, and by no means bearing any resemblance to a rope. [E.D.]

in Languedoc : and that the Scotia, is employed only to separate the members of bases, for which purpose the Fillet is likewise used, not only in bases, but in all kinds of profiles.

Hence it may be inferred, that there is something positive and natural, in these primary forms of architecture ; and consequently in the parts which they compose : and that Palladio erred, in employing the Cavetto under the Corona, in three of his orders, and in making such frequent use through all his profiles of the Cyma, as a supporting member. Nor has Vignola been more judicious, in finishing his Tuscan cornice with an Ovolo ; a moulding, extremely improper for that purpose, and productive of a very disagreeable effect : for it gives a mutilated air to the whole profile, so much the more striking, as it resembles exactly that half of the Ionic cornice, which is under the Corona. Other architects have been guilty of the like improprieties, and are therefore equally reprehensible<sup>1</sup>.

There are various manners of describing the Contour or out-line, of mouldings ; the simplest however, and the best, is to form them of quadrants of circles<sup>2</sup>, as in the annexed designs ; by which means, the different depressions and swellings, will be more strongly marked ; the transitions be made, without any angle ; and the projections be agreeable to the doctrine of Vitruvius, and the practice of the ancients : those of the Ovolo, Talon, Cyma, and Cavetto, being equal to their height ; that of the

<sup>1</sup> All sense in the application of appropriate forms in mouldings seems now extinct, and Palladio set at defiance.—He who can in the present day produce the newest and most extraordinary moulding in profiling an order is the greatest genius.

<sup>2</sup> Pl. Mouldings.

Scotia to one third, and those of the curved parts of the Torus and Astragal, to one half thereof.

On particular occasions, however, it may be necessary sometimes to increase, and at other times to diminish these projections, according to the situation, or other circumstances attending the profile, as will hereafter appear. And whenever it so happens; the Ovolo, Talon, Cyma, and Cavetto, may either be described from the summits of equilateral triangles, or be composed of quadrants of the Ellipsis; of which the latter, should be preferred, as it produces a stronger opposition of light and shade, and by that means, marks the forms more distinctly. The Scotia may likewise be framed of elliptical portions, or quadrants of the circle, differing more or less from each other, than in the annexed designs<sup>1</sup>; by which means, its projection may either be increased or diminished; but the curved part of the Torus and Astragal, must always be semi-circular, and the increase in their projection, be made by straight lines.

In some antiques, and likewise in various modern buildings, where the parts are far removed from the eye, or where, from the extraordinary size of the structure, it has not been practicable to give to every member its due projection, recourse has been had to artifice, in order to produce the desired effect. At St. Peter's of the Vatican, this practice is very frequent; and I have given a section of the Cornice<sup>2</sup>, terminating the pendentives of the dome, which may serve as a guide, in cases where the like is necessary.

It will however be proper to observe, that a frequent

<sup>1</sup> Pl. Mouldings.

<sup>2</sup> Pl. Mouldings, Fig. 1.



use of this expedient is to be avoided ; as the artifice never succeeds, but where, by reason of the great distance, it is undiscoverable : for the incisions and contortions made in the mouldings, entirely destroy the natural beauty of their form.

Certain of the modern Italians, and likewise some of our own learned Virtuosi, who eagerly grasp at every innovation, having observed these forms in the works of Michael Angelo, and in some of the temples of antiquity, without sufficiently considering why they were there introduced, have very injudiciously made use of them, in all their own works ; by which practice, their compositions, though having in other respects, a certain degree of merit ; are, in this particular, highly censurable.

An assemblage of essential parts and mouldings, is termed a profile ; and on the choice, disposition, and proportions of these, depend the beauty or deformity of the composition. The most perfect profiles, are such as consist of few mouldings ; varied, both in form and size ; fitly applied, with regard to their uses ; and so distributed, that the straight and curved ones, succeed each other alternately. In every profile, there should be a predominant member, to which all the others ought to seem subservient, and made, either to support, to fortify, or to shelter it, from injuries of weather : and whenever the profile is considerable, or much complicated, the predominant, should always be accompanied with one or more other principal members ; in form and dimension, calculated to attract the eye ; create momentary pauses ; and assist the perception of the beholder. These predominant and principal members, ought always to be of the essential class, and generally rectangular. Thus in a

Cornice, the Corona predominates; the Modillions and Dentils are principals in the composition; the Cyma and Cavetto, cover them; the Ovolo and Talon, support them.

When Ornaments are employed to decorate a profile, some of the mouldings should always be left plain, in order to form a proper repose: for when all are enriched, the figure of the profile is lost in confusion. In an Entablature, the corona should not be ornamented, nor the modillion band, nor the different fascias of the architrave: neither should the plinths of columns, fillets, nor scarcely any square members be carved. For generally speaking, they are either principal in the composition, or used as boundaries to other parts; in both which cases, their figures should be simple, distinct and unembarrassed. The Dentil Band should remain uncut, where the Ovolo and Talon immediately above and below it are enriched; as in the Pantheon at Rome, and at St. Paul's in London. For when the Dentils are marked; particularly if they be small, according to Palladio's Corinthian design; the three members are confounded together, and being covered with ornaments, become far too rich, for the remainder of the composition: which are defects at all times, studiously to be avoided: as a distinct outline, and an equal distribution of enrichments, must on every occasion, strictly be attended to.

Scamozzi observes<sup>1</sup>, that ornaments should neither be

<sup>1</sup> Parte Seconda, Libro vi. c. 3, "Inoltre gli ornamenti non si deono porre, nè profusi, nè troppo abbondanti, nè meno scarsamente, nè con alcuna avaritia: perciò allhora saranno lodati, quando si metteranno con giudicio, e temperatamente, e sopra tutto di bellissime forme, e con esatissime proportioni, così nelle loro parti, come nelle membra particolari: essendo gli ornamenti, che si pongono nelle parti de gli edifici à punto come le gioie, con le quali si sogliono adornare i Prencipi, e le Principesse, i gran Signori, e Dame; poiche quelle non si lodano à ragione, che sono

too frugally employed, nor distributed with too much profusion; their value will increase, in proportion to the judgment and discretion shewn in their application. For, in effect, says he, the ornaments of sculpture used in architecture, are like diamonds in a female dress, with which it would be absurd to cover the face, or other principal parts, either in themselves beautiful, or appearing with greater propriety, in their natural state.

Variety in ornaments, must not be carried to an excess. In architecture they are only accessories, and therefore they should not be too striking, nor capable of long detaining the attention from the main object. Those of the mouldings in particular, should be simple, uniform, and never composed of more than two different representations upon each moulding: which ought to be cut equally deep, be formed of the same number of parts, all nearly of the same dimensions; in order to produce one even uninterrupted hue throughout; that so the eye may not be more strongly attracted, by any particular part, than by the whole composition.

When mouldings of the same form and size, are employed in one profile, they should be enriched with the same kind of ornaments; by which means, the figure of

*disposte nelle parti naturali gratiose, e belle: onde vediamo, che non si adorna giamai nè le guancie, nè il petto, nè simiglianti luoghi."* Piazzola Edit. Fol. 1687.

Vincenzo Scamozzi, an architect of great talent, was born at Vicenza, 1550. He was educated in his profession by his father, and at Palladio's death succeeded to the chief employments in the above city. His publications were "*L'Idea dell' Architettura Universale*," 2 vols. fol. 1615: reprinted in 1687: and "*Discorsi sopra le antichità di Roma*," 1583, fol. He must not be confounded with another person, who took the same surname, for reasons which the reader will find in Milizia's *Lives of the Architects*, and who was the Editor of Palladio's *Buildings*, 4 vols. fol. [ED.]

the profile will be better apprehended, and the artist will avoid the imputation of a puerile minuteness, neither much to his own credit, nor of any advantage to his works.

It must be observed, that all ornaments of mouldings, are to be regularly disposed, answering perpendicularly above each other, as at the three columns in the Campo Vaccino, where the middles of the modillions, dentils, eggs, and other ornaments, are all in one perpendicular line. For, nothing is more careless, confused and unseemly, than to distribute them without any order, as they are in many of the antiques, and in most of the buildings of this metropolis: the middle of an egg answers in some places to the edge of a dentil, in some to its middle, and in others to the interval; all the rest of the ornaments being distributed in the same slovenly, artless manner. The larger parts must regulate the smaller; all the ornaments in the entablature are to be governed by the modillions, or mutules; and the distribution of these, must depend on the intervals of the columns; and be so disposed, that one of them may come directly over the axis of each column. It is farther to be observed, that the ornaments must partake of the character of the order they enrich. Those used in the Doric and Ionic orders, are to be of simpler forms, and of larger bulk, than those employed in the Composite or Corinthian.

When Frizes or other large members are to be enriched, the ornaments may be significant, and serve to indicate the destination or use of the building; the rank, qualities, profession and achievements of the owner: but it is a foolish practice to crowd every part with arms, crests, cyphers, and mottos; for the figures of these things are generally bad, or vulgar, and their introduction betrays

an unbecoming vanity, in the master of the fabric. Hogarth has humorously ridiculed this practice, by decorating a nobleman's crutch, with a coronet.

In sacred places all obscene, grotesque, and heathenish representations ought to be avoided: for indecent fables, extravagant conceits, or instruments and symbols of Pagan worship, are very improper ornaments in structures consecrated to christian devotion.

With regard to the manner of executing ornaments, it is to be remembered, that as in sculpture a drapery is not estimable, unless its folds are contrived to grace and indicate the parts and articulations of the body it covers; so in architecture the most exquisite ornaments lose all their value, if they load, alter, or confuse the form they are designed to enrich and adorn.

All ornaments of mouldings must therefore be cut into the solid<sup>1</sup>, and never be applied on their surface, as Daviler erroneously teaches: because it alters both their figure and proportion. The profile must first be finished plain, and afterwards be adorned; the most prominent parts of the ornaments, being made equal with the surface of the mouldings they enrich: and great care must be taken that the angles, or breaks, be kept perfect and untouched with sculpture; for which reason it is customary at the angles of most mouldings, to place water leaves, or other plain leaves, the middle filament of which forms the angle, and keeps its outline entire.

The method of the ancient sculptors, in the execution

<sup>1</sup> One of the most delightful examples in verification of this sound principle, is the Capital of the order used in the circular Temple at Tivoli, in which the leaves, instead of being *appliquées* to the bell of the capital, are absolutely cut out of it.—The effect is wonderful as well as pleasing.

[ED.]



of architectonic ornaments, was, to aim at a perfect representation of the object they chose to imitate ; so that the chestnuts, acorns, or eggs, with which the ovolo is commonly enriched, are in the antiques, cut round, and almost entirely detached ; as are likewise the berries, or beads on the astragal : which are generally as much hollowed into the solid of the body, as the moulding projects beyond it : but the leaves, shells, and flowers, that adorn the Cavetto, Cyma, Talon, and Torus, are kept flat, like the things they represent.

In the application of their ornaments, they observed to use such as required a considerable relief, on mouldings that in themselves are clumsy, as the Ovolo and Astragal ; which by means of the deep incisions made in them to form these enrichments acquired an extraordinary lightness : but on more elegant parts, as the Cavetto, and Cyma, they employed thin bodies, which could be represented without entering too far into the solid. The ornaments of their cornices were boldly marked, that they might be distinguished from afar ; but those of the bases of Columns, or of Pedestals being nearer the eye, were more slightly expressed ; as well on that account, as because it would have been improper to weaken these parts, and impossible to keep them clean, had there been any deep cavities in them, to harbour dust and filth.

When objects are near, and liable to close inspection, every part of the ornament should be expressed, and well finished : but when they are much exalted, the detail may be slightly touched, or entirely neglected ; for it is sufficient if the general form be distinct, and the principal masses strongly marked. A few rough strokes from the hand of a skilful master, are much more effectual, than

the most elaborate finishings of an artless imitator, which seldom consisting in more than smoothing and neatly rounding off the parts, are calculated to destroy, rather than to produce effect.

## OF THE ORDERS OF ARCHITECTURE IN GENERAL.

THE orders of Architecture, as has been observed, are the basis upon which the whole decorative part of the art is chiefly built, and towards which the attention of the artist must ever be directed, even where no orders are introduced. In them, originate most of the forms used in decoration ; they regulate most of the proportions ; and to their combination multiplied, varied, and arranged in a thousand different ways, architecture is indebted, for its most splendid productions.

These orders, are different modes of building, said, originally to have been imitated from the primitive huts ; being composed of such parts as were essential in their construction, and afterwards also in the temples of antiquity ; which, though at first simple and rude, were in the course of time, and by the ingenuity of succeeding architects, wrought up and improved, to such a pitch of perfection, that they were by way of excellence distinguished by the name of orders.

Of these there are five<sup>1</sup> : three said to be of Grecian origin, are called Grecian orders ; being distinguished by the names of Doric, Ionic, and Corinthian : they exhibit three distinct characters of composition ; supposed to have been suggested, by the diversity of character in the human frame. The remaining two being of Italian origin, are called Latin orders ; they are distinguished by the names of Tuscan and Roman, and were probably invented

<sup>1</sup> Pl. Orders.

*Assyrian*



*Egyptian*



*Grecian*



*Roman*



*Corinthian*



*The Orders of the Columns*

1848

1848

Printed by J. B. B. & Co. New York.

A





with a view of extending the characteristic bounds, on one side, still farther towards strength and simplicity ; as on the other, towards elegance and profusion of enrichments.

At what time the orders were invented, or by whom improved to the utmost, remains at least, doubtful. Of their improvement we can now only judge, from the structures and fragments of antiquity, built in different ages, and still remaining to be seen in various parts of Europe, Asia, and Africa. And of their origin little is known but from the relation of Vitruvius<sup>1</sup>, the veracity of which, has been much questioned, and is probably not much to be depended upon.

“ Dorus, says he, son of Hellen and the nymph Orseis<sup>2</sup>, king of Achaia and of all the Peloponnesus ; having formerly built a temple to Juno, in the ancient city of Argos ; this temple, happened to be in the manner which is called Doric, and was afterwards imitated in many others, built in the several cities of Achaia.

“ About the same time the Athenians, after having consulted the oracle of Apollo at Delphi, by the common consent of all Greece, sent into Asia thirteen colonies ; each, under the command of a separate captain : but all, under the general direction of Ion, son of Xuthus and Creusa. Ion being arrived in Asia, conquered all Caria, and founded thirteen large cities ; the inhabitants whereof, having expelled the Carians and Lelegæ, called the

<sup>1</sup> Lib. iv. c. 1. For a learned and impartial examination of the account given by Vitruvius relating to the origin of the Greeian Orders of Architecture, which it is much regretted would exceed the limits of a note, the student is most particularly recommended to the perusal of Goguet “*L’Origine des Lois des Arts et des Sciences.*” 2<sup>e</sup> Epoque Livre ii. and 3<sup>e</sup> Epoque, Liv. ii.—See also page 30 *suprà*. [ED.]

<sup>2</sup> Chambers has it Optica, which he seems to have adopted without consulting Philander’s note *in loco*. [ED.]

country Ionia ; in honour of Ion their leader : and erected temples, of which the first dedicated to Apollo Panionius, was built after the manner of those they had seen in Achaia, which they called Doric ; because temples of the same sort, had been erected in the cities of the Dorians.

“ But some time after, building a temple to Diana, different from these, and of a more delicate structure ; being formed upon the proportions of a female body, as the Doric had been on those of a robust man ; and adorning the capitals of their columns with volutes, to represent the curls of a woman’s hair ; and the shafts with flutings, to express the folds of her garment : they gave to this second manner of building the name of Ionic ; because it was invented and first used by the Ionians.

“ The third sort of columns, which are called Corinthian ; and represent the delicate figure of a young girl, owe their birth to the following accident.

“ A young woman of Corinth being dead<sup>1</sup>, her nurse placed on her tomb a basket, containing certain trinkets in which she delighted when alive ; covering it with a tile, to shelter them from the weather. The basket happened accidentally to be set on a root of the acanthus, which pushing forth its leaves and sprigs in the spring, covered the sides of it ; and some of them, longer than the rest, being obstructed by the angles of the tile, were forced downwards ; and by degrees, curled into the form of volutes.

“ Callimachus, a celebrated sculptor, passing near the tomb, observed the basket, and in how graceful a manner the leaves of the acanthus had surrounded it : the form pleased him exceedingly, he imitated it on the tops of

<sup>1</sup> Pl. Primitive Buildings.

some columns, which he afterwards executed at Corinth ; establishing and regulating, by this model, the manner and proportions of the Corinthian order.”<sup>1</sup>

Of the two Latin orders, the Tuscan is said to have been invented by the inhabitants of Tuscany, before the Romans had intercourse with the Greeks, or were acquainted with their arts, whence, it is called Tuscan. Probably however, these people, originally a colony of Greeks, only imitated in the best manner they could, what they remembered in their own country : simplifying the Doric, either to expedite their work, or perhaps to adapt it to the abilities of their workmen.

The second Latin order, though of Roman production, is but of modern adoption ; the ancients never having considered it as a distinct order. It is a mixture of the Ionic and Corinthian, and is now distinguished by the names of Roman, or Composite.

The ingenuity of man has, hitherto, not been able to produce a sixth order, though large premiums have been offered, and numerous attempts been made, by men of first rate talents, to accomplish it. Such is the fettered human imagination, such the scanty store of its ideas, that Doric, Ionic, and Corinthian, have ever floated uppermost ; and all that has ever been produced, amounts to nothing more, than different arrangements and combinations of their parts, with some trifling deviations, scarcely deserving notice ; the whole generally tending

<sup>1</sup> The capitals of many of the Egyptian columns furnish a much more probable origin of the Corinthian capital, even to the invention of the volute. See plates 32. 34. 44. and 45. in Denon's work.—The story is so very pretty, that one regrets to have the charge of undermining it. See also introductory Essay on Grecian Architecture page 15. [ED.]

more to diminish, than to increase the beauty of the ancient orders.

The substitution of cocks<sup>1</sup>, owls, or lions' heads, &c. for roses; of trophies, cornucopias, lilies, sphinxes, or even men, women, and children, for volutes; the introduction of feathers, lyres, flower de luces, or coronets, for leaves; are more alterations, than improvements; and the suspension of festoons of flowers, or collars of knighthood, over the other enrichments of a capital, like lace on embroidery: rather tends to complicate and confuse the form, than to augment its grace, or contribute to its excellence.

The suppression of parts of the ancient orders, with a view to produce novelty, has of late years, been practised among us, with full as little success. And though it is not wished to restrain sallies of imagination, nor to discourage genius from attempting to invent; yet it is apprehended, that attempts to alter the primary forms invented by the ancients, and established by the concurring approbation of many ages, must ever be attended with dangerous consequences, must always be difficult, and seldom, if ever, successful. It is like coining words, which, whatever may be their value, are at first but ill received, and must have the sanction of time, to secure them a current reception.

An order is composed of two principal members<sup>2</sup>, the column and the entablature, each of which is divided into three principal parts<sup>3</sup>. Those of the column are the base, the shaft, and the capital; those of the entablature are the architrave, the frieze, and the cornice. All these are again subdivided into many smaller parts, the disposi-

<sup>1</sup> Pl. Composite Entablatures and Capitals.

<sup>2</sup> Pl. of Primitive Buildings.

<sup>3</sup> Ibid.

tion, number, forms, and dimensions of which, characterize each order, and express the degree of strength or delicacy, richness or simplicity, peculiar to it.

The simplest and most solid of all, is the Tuscan<sup>1</sup>. It is composed of few and large parts, devoid of ornaments, and is of a construction so massive, that it seems capable of supporting the heaviest burdens; whence it is, by Sir H. Wotton<sup>2</sup>, compared to a sturdy labourer, dressed in homely apparel.

The Doric order<sup>3</sup>, next in strength to the Tuscan, and of a grave, robust, masculine aspect<sup>4</sup>, is by Scamozzi, called the Herculean<sup>5</sup>. Being the most ancient of all the orders, it retains more of the structure<sup>6</sup> of the primitive huts in its form than any of the rest, having triglyphs in the frieze, to represent the ends of joists, and mutules in its cornice, to represent rafters, with inclined soffits, to express their direction in the originals, from which they were imitated. Its column too is often seen in

<sup>1</sup> Pl. of Orders.

<sup>2</sup> “First, therefore, the Tuscan is a plain, massie, rurall Pillar, resembling some sturdy well-limb’d Labourer, homely clad, in which kinde of comparisons, Vitruvins himself seemeth to take pleasure, Lib. iv. cap. 1.” —Elements of Architecture. [ED.]

<sup>3</sup> Pl. of Orders.

<sup>4</sup> “The *Dorique order* is the gravest that hath been received into civill use, preserving, in comparison of those that follow, a more *Masculine Aspect*, and little trimmer then the *Tuscan* that went before, save a sober garnishment now and then of *Lions’ heads* in the *Cornice*, and of *Triglyphs* and *Metopes* always in the *Frieze*.” “To discern him will be a piece rather of good *Heraldry* then of *Architecture*, for he is best knowne by his place, when he is in company, and by the peculiar ornament of his *Frieze*, before mentioned, when he is alone.” —Elements of Architecture, by Sir Henry Wotton. [ED.]

<sup>5</sup> Parte seconda, lib. vi. c. 10, “L’ordine Dorico, il quale tiene del forte, & Herculeo,” &c. [ED.]

<sup>6</sup> Pl. Primitive Buildings.



ancient works, executed without a base, in imitation of the trees used in the first buildings, without any plinths to raise them above the ground. Freart de Chambray', speaking of this order, observes, that delicate ornaments are repugnant to its characteristic solidity, and that it succeeds best in the simple regularity of its proportions: "Nosegays and garlands of flowers," says he, "grace not a Hercules, who always appears more becomingly with a rough club and lion's skin; for there are beauties of various sorts, and often so dissimilar in their natures, that those which may be highly proper on one occasion may be quite the reverse, even ridiculously absurd, on others."

The Ionic<sup>2</sup>, being the second of the Grecian orders,

' Roland Freart, sieur de Chambray, native of Chambray, a learned Architect of the seventeenth century, died in 1676. About 1640, he was employed by Louis the Thirteenth in a mission to the Pope, to collect antiquities, and engage the ablest artists to reside in France. Among the latter he brought Poussin to Paris. His works are, a French translation of Da Vinci on Painting, fol. Paris, 1651, and one of Palladio's Architecture, Paris, 1650. Of this, a fine edition was printed by Nicolas du Bois, at the Hague, in 1726, who has divided the translator into two persons, asserting that Freart published one edition of Palladio, and the Sieur de Chambray another. Freart's most valuable work was the "Parallele de l'Architecture antique avec la moderne," Paris, 1650, fol., reprinted by Erard in 1702. This was translated by Sir John Evelyn, and enriched by him with much additional matter. Bernini was associated with Chambray in the works at the Louvre, and the following anecdote from Milizia (*Memorie degli Architetti antichi e moderni*), is as creditable to one as to the other of those architects. "Quando fu in Francia il Bernini il Re incaricò M. de Chambray di lavorar di concerto con quell' Architetto, il quale riconobbe subito le cognizioni superiori del Francese, ed ebbe il coraggio di confessarlo al Re stesso, dicendogli, che sua Maestà avrebbe potuto dispensarsi di farlo venire sì da lontano, poichè egli avea trovato in M. de Chambray un Maestro ch'ei si farebbe onore di seguitare, e ch'ei non era sì temerario da cambiar niente al suo progetto del Louvre."—Vita di Rolando Freart de Chambray. [ED.]

<sup>2</sup> Pl. of Orders.

holds a middle station between the other two, and stands in equipoise between the grave solidity of the Doric, and the elegant delicacy of the Corinthian. Among the antiques, however, we find it in different dresses; sometimes plentifully adorned, and inclining most towards the Corinthian; sometimes more simple, and bordering on Doric plainness, all according to the fancy of the architect, or nature of the structure where employed. It is throughout of a more slender construction than either of the afore-described orders; its appearance, though simple, is graceful and majestic; its ornaments should be few, rather neat than luxuriant, and as there ought to be nothing exaggerated, or affectedly striking in any of its parts, it is, not unaptly, compared to a sedate matron, rather in decent than magnificent attire<sup>1</sup>.

"The Corinthian<sup>2</sup>," says Sir Henry Wotton, "is a column lasciviously decked, like a wanton courtesan<sup>3</sup>. Its proportions are elegant in the extreme, every part of the order is divided into a great variety of members, and abundantly enriched with a diversity of ornaments." "The ancients," says De Chambrai, "aiming at the representation of a feminine beauty, omitted nothing either calculated to embellish, or capable of perfecting their work." And he observes, "that in the many examples

<sup>1</sup> "The *Ionique* order doth represent a kinde of feminine slendernesse; yet, saith *Vitruvius*, not like a light housewife, but in a decent dressing, hath much of the *Matrone*." "Best knowne by his trimmings, for the bodie of this *Colonne* is perpetually chaneled, like a thicke pleighted gowne. The *Capitall* dressed on each side, not much unlike womens Wires, in a spirall wreathing, which they call the *Ionian Voluta*." [ED.]

<sup>2</sup> Pl. of Orders.

<sup>3</sup> Sir Henry adds, "and therein much participating, as all inventions do, of the place where they were first born; *Corinthe* having been without controversie one of the wantonest townes in the world." [ED.]

left of this order, such a profusion of different ornaments is introduced, that they seem to have exhausted imagination in the contrivance of decorations for this masterpiece of the art. Scamozzi calls it the Virginal<sup>1</sup>, and it certainly has all the delicacy in its form, with all the gaiety, gaudiness, and affectation in its dress, peculiar to young women."

The Composite order<sup>2</sup>, being, properly speaking, only a different species of the Corinthian, distinguished from it merely by some peculiarities in the capital, or other trifling deviations, retains, in a great measure, the same character, and requires no particular description<sup>3</sup>.

To give a striking idea of these different properties, and to render the comparison between the orders more easy, I have represented<sup>4</sup> them all of the same height, by which means the gradual increase of delicacy and richness is easily perceivable, as are likewise the relations between the intercolumniations of the different orders, and the proportions which their pedestals, imposts, archivolts, and other parts, with which they are on various occasions accompanied, bear to each other.

<sup>1</sup> Parte seconda, lib. vi. cap. 10, "Gracile e Virginale." [ED.]

<sup>2</sup> Pl. Orders.

<sup>3</sup> "The last is the *Compounded Order*, his name being a briefe of his *Nature*: for this Pillar is nothing in effect but a *Medlic*, 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."—Sir Henry Wotton's *Elements of Architecture*. There is much quaintness in the description of the orders by the most worthy and excellent Provost of Eton College, but there is more than an equal quantity of truth, feeling, and artist-like discrimination in his writing on the subject. He was a man worthy such an amiable, simple-minded, and pious biographer as honest Izaak Walton. [ED.]

<sup>4</sup> Pl. Orders.

The proportions <sup>1</sup> of the orders were by the ancients formed on those of the human body, and consequently, it

<sup>1</sup> Proportion (*proportione*, according to a certain measure or size, or in a certain relation), is, in architecture, those ratios of the whole to its parts, and of the parts among themselves, which are suitable to their use and situation. In numbers, it is a similitude of ratios, a term with which proportion is often confounded, though their meanings are altogether different; ratios being the relation to each other of two things or magnitudes, whilst proportion relates to four or more terms or things, or two or more ratios, each having two or more terms. There are various species of proportions in numbers, as, *arithmetical*, where there is an equality between the differences of the terms, as 12, 9, 6; *geometrical*, wherein there is an equality between the quotients of the terms, as 9, 6, 4, for 9 divided by 6 is the same as 6 divided by 4, each being  $1\frac{1}{2}$ ; *harmonic*, wherein the first term is to the third as the difference between the first and second is to the difference between the second and third, or in four terms, where the first is to the fourth as the difference between the first and second is to the difference between the third and fourth, as 6, 4, 3, or with four terms 24, 16, 12, 9; a *scsqualteral* ratio is that wherein the greater term contains the less once, with a remainder equal to exactly half the less term, as 3 to 2.

Wren, in one of his Essays published in the *Parentalia*, says, "There are two causes of beauty, natural and customary. Natural is from geometry, consisting in uniformity (that is, equality), and *proportion*. Customary beauty is begotten by the use of our senses to those objects which are usually pleasing to us for other causes, as familiarity or particular inclination breeds a love to things not in themselves lovely. Here lies the great occasion of errors, here is tried the architect's judgment, but always the true test is natural or geometrical beauty."

The most obvious principle in respect to proportion, seems to be, that no support should be burthened with a greater quantity of matter than itself contains, or, in other words, that the weight placed on a column should not more than equal its own weight, or that in a series of columns, as in a portico for instance, the cubical contents of the entablature and pediment, if any, should not be greater than those of the supports or columns. How far the ancients acted on this principle will be presently seen, by a comparison in this respect of some of the finest remains of their works. Wren, at all events, seems, though a shrewd and accurate observer, to have had no idea of such a principle, because he remarks that though the Corinthian was slenderer, yet it bore a greater weight of entablature than the

could not be their intention to make a Corinthian column, which, as Vitruvius observes, is to represent the delicacy

more antient orders, forgetting that its columns are, or ought to be, always placed nearer to each other.

It is astonishing that the author, a man of sound understanding, should place in the passage any reliance on the dreams of Vitruvius, in respect of the orders of architecture having been formed on the proportions of the human body. It is as absurd a proposition as one more recently broached (O. B. Scamozzi's *Palladio*), wherein an analogy is pretended to be discovered between the musical concords and the proper proportions of buildings. These doctrines will not do for the present age. The laws of statics, though not perhaps in the earliest periods so well understood as now, were nevertheless so intuitively felt as to guide the first architects in their proportions, rather than those laws deducible from things which were heterogeneous, if indeed at all known.

When the principle of weight for weight is abandoned, the work can only be stable from the application of science to counteract the tendency to ruin by some means of re-action. This is particularly observable in the Gothic structures, wherein we always find an equipoise for the thrusts of their stone vaulting, by the most obvious and scientific means.

To return, however, more strictly to the subject, we have taken five examples of celebrated buildings, wherein, as a method of ascertaining the truth of the principle just adverted to, the superficies of the columns, cut through their axes vertically by a plane parallel to the front of the building, are compared with the area of the entablature and pediment of each respectively. The weights of each being as the cubes of the square roots of the areas, these areas will equally represent the supports and weights in either of the terms.

IN THE PARTHENON, the supports are to the	
weights as .....	1546 : 1843 or 1 : 1.19
But if the steps be reckoned the ratio will be as	2183 : 1843 or 1 : 0.84
IN THE DORIC PORTICO, the supports are to the	
weights as .....	4070 : 3990 or 1 : 0.98
IN THE PSEUDO-DIPTERAL TEMPLE AT PÆSTUM,	
the supports are to the weights as .....	1090 : 1103 or 1 : 1.01
IN THE TEMPLE OF ERETHEUS, as .....	2640 : 2800 or 1 : 1.07
IN THE PANTHEON AT ROME, as .....	1566 : 1723 or 1 : 1.10

So that there is every appearance of this theory being far from fanciful. The reader may consult with advantage Lebrun's "*Theorie de l'Archi-*



of a young girl, as thick and much taller than a Doric one, which is designed to represent the bulk and vigour of a muscular full-grown man. Columns so formed could not be applied to accompany each other, without violating the laws both of real and apparent solidity; as, in such case, the Doric dwarf must be crushed under the strapping Ionic, or gigantic Corinthian virago, triumphantly riding uppermost, and reversing the natural, the necessary predominance in the composition.

Nevertheless Vignola<sup>1</sup>, Palladio<sup>2</sup>, Scamozzi<sup>3</sup>, Blondel<sup>4</sup>,

itecture Grecque et Romaine, deduites de l'Analyse des Monumens Antiques," fol. Paris, 1807, a work which first induced the Editor to turn his attention to the subject.

In the progress of the orders from Tuscan to Composite, that is from seven to eleven diameters in height, if the entablature be a constant quantity equal to one quarter the height of the column, its bulk increases as the intercolumniations decrease, and is in an inverse ratio to the width of the intercolumniations.

For in the Tuscan ...  $\frac{1}{4}$  of  $\frac{7}{1} = 1\frac{3}{4}$  in terms of the diameter.

Doric .....  $\frac{1}{4}$  of  $\frac{8}{1} = 2$  do.

Ionic .....  $\frac{1}{4}$  of  $\frac{9}{1} = 2\frac{1}{4}$  do.

Corinthian  $\frac{1}{4}$  of  $\frac{10}{1} = 2\frac{1}{2}$  do.

Composite  $\frac{1}{4}$  of  $\frac{11}{1} = 2\frac{3}{4}$  do.

[ED.]

<sup>1</sup> Giacomo Barozzi of Vignola, in the territory of Modena, according to Chalmers, of Bologna, whence he takes his name, was born in 1507, and died 1573, though Chalmers says 1575. In his early days he delighted in painting, but his success was not equal to his love for that branch of the arts. He afterwards applied himself to architecture, and the study of perspective, in which his genius led to better results. He succeeded Michael Angelo as architect of St. Peter's, and his fame as an architectural author is not less than his reputation as a practical artist. His works are, "Regole dei cinque ordini d'Architettura," fol. no date, 32 plates. The best, according to Chalmers, is that printed at Amsterdam in 1631 or 1642, fol. The French editions are not valuable. [ED.]

<sup>2</sup> Andrea Palladio, born in the territory of Vicenza, in the year 1518, died in 1580. To his birth and existence this country is especially indebted for its progress in architecture, and for the formation of a school which has done it honor, and given it a character of the first class, in the opinion

Perrault<sup>s</sup>, and many others, if not all the great modern artists, have considered them in this light; that is, they

of its continental neighbours. Among the names which that school enrols are those of Inigo Jones, Sir Christopher Wren, Nicholas Hawksmoor, James Gibbs, Lord Burlington, Carr of York, Sir Robert Taylor, our author himself, and a long list whose works reflect a lustre on the name of Palladio, which all the new churches and Grecian profiles of this age will not eclipse.

The celebrated Gian-Giorgio Trissino was his Mæcenas. At his charge he visited Rome three several times, where he applied himself to the study and restoration of the remains of the magnificent structures of the antient city. The result was a happy modification of the orders and their proportions to domestic habitations, unknown, and hence unpractised, till his time.

Of his numerous and captivating buildings, this note does not afford the space for a list. Every one, however, has heard of the Church of the Redeemer at Venice, and of the Villa Capra at Vicenza. "These," if the language may be used without profanation, "are the work of his hands." What an age must that have been for our art wherein two such master spirits as Sanmicheli and Palladio were cotemporaries, for the former lived till 1559.

Palladio, at the age of sixty-two years, was snatched away from this world. His funeral was attended by all the Olympic academicians of Vicenza, and his remains deposited in Santa Corona, a church of the Dominicans in that city. His figure was rather small, his countenance remarkably mild and benign, and the height of his forehead involuntarily reminds us of our immortal Shakspeare's face. His demeanour and conduct were modest and obliging, and the esteem in which he was held, on these accounts, by all persons with whom he had business, is a strong proof of the truth of the accounts of his biographers. Milizia says of his works, "*Le Nazioni più colte d'Europa studiano i suoi libri, e gl' Inglesi specialmente lo stimano il loro Newton dell' Architettura.*" Palladio furnished D. Barbaro with the plates for his translation of Vitruvius.

The edition, 4 vols. fol., of this architect's buildings was published under the following curious circumstances. Vincenzo Scamozzi, of whom see in a preceding note, page 145, left his property to any one of his countrymen, Vicentines, who should become the best architect of his day, under the obligation however of assuming his name. Ottavio Bertotti, born 1726, in the judgment of the family of Capra, was that person; to him was adjudged the patrimony, and, having taken the name of Scamozzi, he celebrated himself by the publication in question. This Ottavio Bertotti was not without employment in his profession in the neighbourhood of his native place. For the edition of his works see a preceding note, page 130. [ED.]

have made the diameters of all their orders the same, and consequently their heights increasing, which, besides giving a wrong idea of the character of these different compositions, has laid a foundation for many erroneous precepts and false reasonings to be found in different parts of their works, of which, notice will in due time be taken.

In the opinion of Scamozzi, columns should not be less than seven of their diameters in height, nor more than ten; the former being, according to him, a good proportion in the Tuscan, and the latter in the Corinthian order. The practice of the ancients in their best works being conformable to this precept, I have, as authorized by the doctrine of Vitruvius, made the Tuscan column seven diameters in height, and the Doric eight, the Ionic nine, as Palladio and Vignola have done, and the Corinthian and Composite ten; which last measure is a mean between the proportions observed in the Pantheon, and at

<sup>3</sup> See note, page 145.

[ED.]

<sup>4</sup> See note, page 131, for Blondel's Works.

[ED.]

<sup>5</sup> Claude Perrault, who was one of the greatest architects France ever produced, was born at Paris in 1613, and died Oct. 9, 1688. Bred a physician, he exhibited an early taste for the fine arts and liberal sciences, of which he acquired consummate knowledge. His greatest work was the admirable façade of the Louvre. Voltaire pronounced it one of the most august monuments of architecture in the world, but there have been and are many persons more capable of judging on this matter than M. Voltaire. It is however, notwithstanding its architectural inaccuracies, a very splendid design, and an honor to the French capital.

By the advice of Colbert, Perrault translated Vitruvius into French and illustrated it with notes and plates. The first edition was in 1673, fol. The second edition, which is the best, is fol. Paris, 1684. His other work on architecture was "*Ordonnance des cinq Espèces de colonnes selon les Anciens*," fol. 1683. Besides these he published several other of his productions.

[ED.]

the three columns in the Campo Vaccino, both which are esteemed most excellent models of the Corinthian order.

The height of the entablature, in all the orders, I have made one quarter of the height of the column, which was the common practice of the ancients, who, in all sorts of entablatures, seldom exceeded, or fell much short of, that measure.

Nevertheless Palladio, Scamozzi, Alberti, Barbaro<sup>1</sup>, Cataneo<sup>2</sup>, Delorme<sup>3</sup>, and others of the modern archi-

<sup>1</sup> Daniel Barbaro, born in 1513, died in 1570, was a man of very considerable learning, and was ambassador from Venice to England, which he quitted in 1551. His architectural works are "*Pratica della Prospettiva*," fol. Venice, 1568, and an Italian translation of Vitruvius, with copious notes, and plates furnished by Palladio, 4to. Venice, 1584. This translation has passed through many editions. [ED.]

<sup>2</sup> Pietro Cataneo, an Italian architect, who wrote a commentary on Vitruvius in his own language, fol. Venice, 1554—67. [ED.]

<sup>3</sup> Philibert Delorme, a native of Lyons, was born in the beginning of the 16th century. He may be fairly ranked among the restorers of architecture in France; but as the father of constructive skill, more especially in carpentry, he has the highest claims on our gratitude. His employment in Paris and its vicinity, was very extended; in the former the Palace of the Tuilleries in its original state was from his designs, Jean Bullant being said to have been associated with him, for the purpose of carrying them into execution. Both these architects have been honored by Chambray, who thought them not unworthy to stand by the side of the greatest masters in his celebrated "*Parallele*."

The taste of the age decoyed Delorme into the customary division of his façades into "*pavillons*," as the French term them, with towers whose quoins are heavily rusticated, a practice destructive of all effect, as well as unity of design, and calculated to make that appear *petite* which its volume alone would otherwise have rendered imposing.

Delorme was the author of two works on architecture, viz. a complete Treatise, in 9 books, fol. Paris, 1567, and the other on carpentry, entitled "*Nouvelles Inventions pour bien bâtir et a petits frais*, fol. Paris, 1561. The latter contains an entirely new system of carpentry, in which the chief feature is a substitution of comparatively thin curviform ribs for the heavy trussed roofs, then in general use. These ribs are formed of planks in



fects, have made their entablatures much lower in the Ionic, Composite, and Corinthian orders, than in the Tuscan or Doric. This, on some occasions, may not only be excusable, but highly proper; particularly where the intercolumniations are wide, as in a second or third order, in private houses, or inside decorations, where lightness should be preferred to dignity, and where expense, with every impediment to the conveniency of the fabric, are carefully to be avoided; but to set entirely aside a proportion which seems to have had the general approbation of the ancient artists, is surely presuming too far.

The reason alledged, in favor of this practice, is the weakness of the columns in the delicate orders, which renders them unfit for supporting heavy burdens; and where the intervals are fixed, as in a second order, or in other places, where wide intercolumniations are either necessary or not to be avoided, the reason is certainly sufficient, but, if the artist is at liberty to dispose his columns

thicknesses rarely more than three or four feet long, about a foot wide, and one inch thick; their forms, of course, depending on those of the plan and section. They are secured at their feet by a strong wall plate, laid horizontally. The joint of each plank is broken in the middle of the contiguous plank. As the whole security of the system depends on the perpendicularity of the ribs, they are kept in their vertical direction by keys which pierce them, pinned or wedged on each side of the rib. The most magnificent specimen of this species of carpentry, was in the dome of the Halle aux Bleds at Paris, designed by Legrand and Molinos, now replaced, in consequence of its destruction by fire, with a cast iron ribbed dome.

Not the least merit of Delorme's invention is, that of its requiring but small timbers for very extended spans, independent of its consequent lightness. Specimens of this sort of construction will be found in Kraaft's *L'Art de Charpente*, fol. Paris.

Quatremère de Quincy, under the art. *Delorme*, *Encyc. Methodique*, says of this architect's works, that they "assurent a son nom une gloire peut être plus réelle, mais a coup sûr plus durable, que celle qu'il doit a ses edifices en partie detruits ou denaturés."

[ED.]



at pleasure, the simplest and most natural way of conquering the difficulty, is to employ more columns, by placing them nearer to each other, as was the custom of the ancients. And it must be remembered that though the height of the entablature in a delicate order is made the same as in a massive one, yet it will not, either in reality or in appearance, be equally heavy<sup>1</sup>; for the quantity of matter in the Corinthian cornice A, is considerably less than in the Tuscan cornice B, and the increased number of parts composing the former of these, will, of course, make it appear far lighter than the latter<sup>2</sup>.

With regard to the parts of the entablature, I have followed the method of Serlio<sup>3</sup>, in his Ionic and Corinthian orders, and of Perrault, who, in all his orders, excepting the Doric, divides the whole height of the entablature into ten equal parts, three of which he gives to the architrave, three to the frize, four to the cornice; and in the Doric order, he divides the whole height of the entablature into eight parts, of which two are given to the architrave, three to the frize, and three to the cornice.

These measures deviate very little from those observed in the greatest number of antiques now extant at Rome, where they have stood the test of many ages; and their simplicity renders them singularly useful in composition, as they are easily remembered and easily applied.

<sup>1</sup> Fig. 2, Plate of Mouldings.

<sup>2</sup> See note at pages 160-1.

<sup>3</sup> Sebastian Serlio a Bolognese, who died in 1552, was a scholar of Baldassare Perruzzi and was the first architect who measured, and published representations of, the principal remains of Roman architecture. His death occurred at Fontainebleau, whilst in the service of Francis I. The first edition of his work is 4to, Vicenza, 1584; one also at Venice, same size, 1619.

[ED.]

Of two manners used by architects, to determine the dimensions of the mouldings, and the lesser parts that compose an order, I have chosen the simplest, readiest, and most accurate ; which is, by the module or semi-diameter of the column, taken at the bottom of the shaft, and divided into thirty minutes.

There are indeed many who prefer the method of measuring by equal parts, imagining beauty to depend on the simplicity and accuracy of the relations existing between the whole body and its members, and alledging that dimensions, which have evident affinities, are better remembered than those whose relations are too complicated to be immediately apprehended.

With regard to the former of these suppositions, it is evidently false, for the real relations subsisting between dissimilar figures, have no connection with the apparent ones ; and with regard to the latter, it may or may not be the case, according to the degree of accuracy with which the partition is made : for instance, in dividing the Attic base, which may be numbered among the simplest compositions in architecture, according to the different methods, it appears to me as easy to recollect the numbers 10,  $7\frac{1}{2}$ , 1,  $4\frac{3}{4}$ , 1,  $5\frac{5}{8}$ , as to remember that the whole height of the base is to be divided into three equal parts ; that two of these three, are to be divided into four ; that three of the four, are to be divided into two ; and that one of the two, is to be divided into six, which are to be divided into three.

But admitting it were easier to remember the one than the other, it doth not seem necessary, nor even advisable, in a science where a vast diversity of knowledge is required, to burden the memory with a thousand trifling

dimensions. If the general proportions be known, it is all that is requisite in composing, and when a design is to be executed, it is easy to have recourse to figured drawings, or to prints. The use of the module is universal throughout the order and all its appurtenances ; it marks their relations to each other, and being susceptible of the minutest divisions, the dimensions may be speedily determined with the utmost accuracy, while the trouble, confusion, uncertainty, and loss of time, in measuring by equal parts, are very considerable, seeing it is necessary to form almost as many different scales as there are different parts to be divided.

Columns, in imitation of trees from which they drew their origin, are tapered in their shafts. In the antiques, the diminution is variously performed ; sometimes beginning from the foot of the shaft, at others from one quarter, or one third of its height, the lower part being left perfectly cylindrical. The former of these methods was most in use amongst the ancients, and being the most natural, seems to claim the preference, though the latter has been almost universally practised by modern artists, from a supposition, perhaps, of its being more graceful, as it is more marked and strikingly perceptible.

The first architects, says Mons. Auzoult, probably made their columns in straight lines, in imitation of trees, so that their shaft was a frustrum of the cone ; but finding this form abrupt and disagreeable, they made use of some curve, which, springing from the extremities of the superior and inferior diameters of the column, swelled beyond the sides of the cone, and, by that means, gave a more pleasing figure to the outline. Vitruvius', in the

' Lib. iii. cap. 2. " De adjectione, quæ adjectur in mediis Columnis ;

second chapter of his third book, mentions this practice; but in so obscure and cursory a manner, that his meaning has not been understood; and several of the modern architects, intending to conform themselves to his doctrine, have made the diameters of their columns greater in the middle, than at the foot of the shaft. Leon Baptista Alberti<sup>1</sup>, with others of the Florentine and Roman architects, carried this practice to a very absurd excess, for which they have been justly blamed: as it is neither natural, reasonable, nor beautiful.

Monsieur Auzoult further observes, that a column, supposing its shaft to be the frustrum of a cone, may have an additional thickness in the middle, without being swelled there, beyond the bulk of its inferior parts; and supposes the addition mentioned by Vitruvius, to signify nothing more than the increase towards the middle of the column, occasioned by changing the straight line, which at first was in use, into a curve.

This supposition, is exceedingly just, and founded on what is observable in the works of antiquity, where there is no single instance of a column thicker in the middle, than at the bottom, though all, or most of them, have the swelling hinted at by Vitruvius, all of them being termi-

quæ apud Græcos *ἐντασις* appellatur, in extremo libro erit formatio ejus." —Wotton in his *Elements of Architecture* says, "And here I must take leave to blame a practice 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 *Dropsie*, without any authentique Paterne or Rule, to my knowledge, and unseemely to the very judgment of sight." [ED.]

<sup>1</sup> This learned author divides the height of the column into seven parts, and places the greatest swelling at the height of the third division of these parts from the base, so that, as he takes Vitruvius in the strict letter, it is nearer the middle of the height of the column. [ED.]

nated by curves; some few granite columns excepted, which are bounded by straight lines: a proof, perhaps, of their antiquity, or of their having been wrought in the quarries of Egypt, by unskilful workmen.

Blondel in his book, entitled *Resolution des quatre principaux Problèmes d' Architecture*, teaches various manners of diminishing columns; the best and simplest of which, is by means of the instrument invented by Nicomedes, to describe the first conchoid: for this, being applied at the bottom of the shaft, performs at one sweep, both the swelling and the diminution; giving such a graceful form to the column, that it is universally allowed to be the most perfect practice hitherto discovered. The columns in the Pantheon, accounted the most beautiful among the antiques, are traced in this manner, as appears by the exact measures of one of them, to be found in Desgodetz's<sup>1</sup> antiquities of Rome.

To give an accurate idea of the operation, it will be necessary first to describe Vignola's method of diminution, on which it is grounded. "As to this second method, says Vignola<sup>2</sup>, it is a discovery of my own; and although it be less known than the former, it will be easily comprehended by the figure. Having therefore determined the measures of your column (that is to say, the height of the shaft, and its inferior and superior dia-

<sup>1</sup> Desgodetz (A.) "Edifices de Rome dessinés et mesurés tres exactement, Fol. Paris, 1682. The student is cautioned against Marshall's translation of this book, which is as inaccurate as it is ill-executed—it was published in two Vols. Fol. 1771, Lond. The work on the Antiquities of Rome, lately published by G. L. Taylor and Edward Cresy, Architects, may be consulted by the student with great advantage, and reflects the highest credit on the exertions of those gentlemen. [ED.]

<sup>2</sup> "De' cinque ordini D' Architettura," cap. 7, page 51. Stampani's Ed. Fol. Rome, 1770. [ED.]



meters), ' draw a line indefinitely from C through D, perpendicular to the axis of the column :'' this done, set off the distance C D, which is the inferior semi-diameter, from A, the extreme point of the superior semi-diameter, to B, a point in the axis. Then from A, through B, draw the line A B E, which will cut the indefinite line C D in E ; and from this point of intersection E, draw through the axis of the column any number of rays as E b a, on each of which from the axis towards the circumference, setting off the interval C D, you may find any number of points a, a, a, through which if a curve be drawn, it will describe the swelling and diminution of the column.

Though this method be sufficiently accurate for practice, especially if a considerable number of points be found, yet, strictly speaking, it is defective ; as the curve must either be drawn by hand, or by applying a flexible ruler to all the points ; both which are liable to variations. Blondel therefore, to obviate this objection (after having proved the curve passing from A to C through the points a, a, to be of the same nature with the first conchoid of the ancients), employed the instrument of Nicomedes to describe it ; the construction of which is as follows :—

Having determined, as above, the length of the shaft, with the inferior and superior diameters of the column, and having likewise found the length of the line C D E ; take three rulers, either of wood or metal, as F G, I D, and A H ; of which let F G and I D be fastened together at right angles in G. Cut a dove-tail groove in the middle of F G, from top to bottom ; and at the point E on the ruler I D (whose distance, from the middle of the

<sup>1</sup> Figure 3, Plate of Mouldings.

groove in F G, is the same as that of the point of intersection from the axis of the column), fix a pin; then on the ruler A H set off the distance A B, equal to C D the inferior semi-diameter of the column, and at the point B fix a button, whose head must be exactly fitted to the groove made in F G, in which it is to slide; and, at the other extremity of the ruler A H, cut a slit or channel from H to K, whose length must not be less than the difference of length between E B and E D, and whose breadth must be sufficient to admit the pin fixed at E, which must pass through the slit, that the ruler may slide thereon.

The instrument being thus completed; if the middle of the groove, in the ruler F G, be placed exactly over the axis of the column, it is evident that the ruler A H, in moving along the groove, will with its extremity A, describe the curve A a a C; which curve is the same as that produced by Vignola's method of diminution, supposing it done with the utmost accuracy: for the interval A, B, a, b, is always the same, and the point E, is the origin of an infinity of lines, of which the parts B A, b a, b a, extending from the axis to the circumference, are equal to each other, and to D C. And if the rulers be of an indefinite size, and the pins at E and B be made to move along their respective ruler, so that the intervals A B and D E may be augmented or diminished at pleasure, it is likewise evident, that the same instrument may be thus applied to columns of any size.

In the remains of antiquity, the quantity of the diminution is various; but seldom less than one eighth of the inferior diameter of the column, nor more than one sixth of it. The last of these is by Vitruvius, esteemed the

most perfect, and Vignola has employed it in four of his orders, as I have done in all of them: there being no reason for diminishing the Tuscan column more, in proportion to its diameter, than any of the rest; though it be the doctrine of Vitruvius, and the practice of Palladio, Vignola, Scamozzi, and almost all the modern architects. On the contrary, as Monsieur Perrault<sup>1</sup> justly

<sup>1</sup> The following Table is extracted and amplified from Perrault's "Ordonnance des cinq Especes de Colonnnes," Partie Iere, cap. 8.—The heights are in terms of the French foot, which is to the English, as 1.066 : 1.000.

		Height of Shaft.		Diameter.		Diminution.	Ratio of
		Feet.	Inches.	Feet.	Inches.	Minutes.	Diminution.
DORIC	Theatre of Mar-						
	cellus .....	21	0	3	0	12	0.200
	Coliseum .....	22	10½	2	8¼	4½	0.077
IONIC	Temple of Concord	36	0	4	2½	10½	0.182
	Temple of Fortuna						
	Virilis.....	22	10	2	11	7½	0.125
	Coliseum .....	23	0	2	8¾	10	0.166
CORINTHIAN	Temple of Peace	49	3	5	8	6½	0.111
	Portico of Pantheon	36	7	4	6	6⅙	0.106
	Altars of Pantheon	10	10	1	4½	8	0.133
	Temple of Vesta	27	5	2	11	6½	0.111
	Temple of Sybil at						
	Tivoli .....	19	0	2	4	8	0.133
	Temple of Faustina	36	0	4	6	8	0.133
	Columns of Campo						
	Vaccino .....	37	6	4	6½	6½	0.111
	Basilica of Anto-						
	ninus .....	37	0	4	5½	6⅙	0.106
	Arch of Constantine	21	8	2	8⅔	7	0.117
COMPOSITE	Interior of Pantheon	27	6	3	5	8	0.133
	Portico of Septimius	37	0	3	4	7⅓	0.125
	Baths of Diocletian	35	0	4	4	11⅓	0.200
	Temple of Bacchus	10	8	1	4¼	6½	0.111
	Arch of Titus .....	16	0	1	11⅔	7	0.117
	Arch of Septimius						
	Severus .....	21	8	2	8½	7	0.117

[ED.]

observes, its diminution ought rather to be less than more ; as it actually is in the Trajan column, being there only one ninth of the diameter. For even when the same proportion is observed through all the orders ; the absolute quantity of the diminution in the Tuscan order, supposing the columns of the same height, exceeds that in the Corinthian, in the ratio of ten to seven ; and if, according to the common practice, the Tuscan column be less by one quarter at the top, than at its foot ; the difference between the diminution in the Tuscan and in the Corinthian columns, will be as fifteen to seven ; and in the Tuscan and Doric nearly as fifteen to nine : so that notwithstanding there is a very considerable difference between the lower diameters of a Tuscan and of a Doric column, both being of the same height, yet the diameters at their top will be nearly equal, and consequently the Tuscan column will in reality be no stronger than the Doric one, which is contrary to the character of the order.

Vitruvius<sup>1</sup> allots different degrees of diminution, to columns of different heights ; giving to those of fifteen foot, one sixth of their diameter ; to such as are from twenty to thirty foot, one seventh ; and when they are from forty to fifty foot high, one eighth only : observing, that as the eye is easily deceived in considering distant objects, which always seem less than they really are ; it is necessary to remedy the deception, by an increase of their dimensions : otherwise the work will appear ill-constructed and disagreeable to the eye.

Most of the modern architects have taught the same doctrine : but Perrault in his notes, both on this passage,

<sup>1</sup> Lib. iii. cap. 2.

[ED.]

and on the second chapter of the sixth book, endeavours to prove the absurdity thereof. In fact, it is on most occasions, if not on all, an evident error; which Vitruvius and his followers have probably been led into, through neglect of combining circumstances. For, if the validity of Perrault's arguments be not assented to, and it is required to judge according to the rigour of optical laws; it must be remembered, that the proper point of view, for a column of fifty foot high, is not the same as for one of fifteen: but on the contrary more distant, in the same proportion, as the column is higher: and that consequently, the apparent relation between the lower and upper diameters of the column will be the same, whatever be its size. For, if we suppose<sup>1</sup> A to be a point of view, whose respective distance from each of the columns f g, F G, is equal to the respective heights of each, the triangles f A g, F A G, will be similar; and A f, or A h, which is the same, will be to A g, as A F, or its equal A H, is to A G: therefore if d e, be in reality to b c, as D E is to B C, it will likewise be apparently so; for the angle d A e, will then be to the angle b A c, as the angle D A E, is to the angle B A C; and if the real relations differ, the apparent ones will likewise differ.

I have supposed the eye of the spectator, to be in a line perpendicular to the foot of the shaft; but if the columns be proportionably raised to any height above the eye, the argument will still remain in force, as the point of view must of course be proportionably more distant: and even when columns are placed immediately on the ground, which seldom or ever is the case, the alteration

<sup>1</sup> Fig. 4, Plate of Mouldings.



occasioned by that situation, is too trifling to deserve notice.

When therefore a certain degree of diminution, which by experience is found pleasing, has been fixed upon, there will be no necessity for changing it, whatever be the height of the column; provided, the point of view is not limited: but in close places, where the spectator is not at liberty to choose a proper distance for his point of sight, the architect, if he inclines to be scrupulously accurate, may vary. Though it is in reality, a matter of no importance; as the nearness of the object, will render the image thereof indistinct; and consequently, any small alteration imperceptible<sup>1</sup>.

Scamozzi<sup>2</sup>, who esteems it an essential property of the delicate orders, to exceed the massive ones in height; has applied the above cited precept of Vitruvius, to the different orders: having diminished the Tuscan column one quarter of its diameter; the Doric one fifth; the Ionic one sixth; the Roman one seventh; and the Corinthian one eighth. In the foregoing part of this chapter, I have shewn the fallacy of his notion, with respect to the heights of his orders, and likewise endeavoured to prove the error of diminishing the Tuscan column, more than any of the others: so that it will be needless to say any thing farther on these subjects now; for as the case is similar, the same arguments may be employed in confutation thereof.

My intention being to give an exact idea of the orders

<sup>1</sup> It is by an attentive consideration of all these circumstances, and of the aspect of a building, that the intelligent architect is enabled to "snatch a grace beyond the reach of art." [ED.]

<sup>2</sup> Parte Seconda, Lib. vi. c. 6.

of the ancients, I have represented them under such figures and proportions, as appear to have been most in use in the esteemed works of the Romans, who, in the opinion of Leon Bap. Alberti, and other eminent writers, carried architecture to its perfection. It must not however be imagined that the same general proportions will on all occasions succeed. They are chiefly collected from the temples, and other public structures of antiquity, and may by us be employed in churches, palaces, and other buildings of magnificence, where majesty and grandeur of manner, should be extended to their utmost limits; and where the whole composition being generally large, the parts require an extraordinary degree of boldness, to make them distinctly perceptible, from the proper general points of view. But in less considerable edifices, and under various circumstances of which I shall hereafter give a detail, more elegant proportions may often be preferable.

## OF THE TUSCAN ORDER.

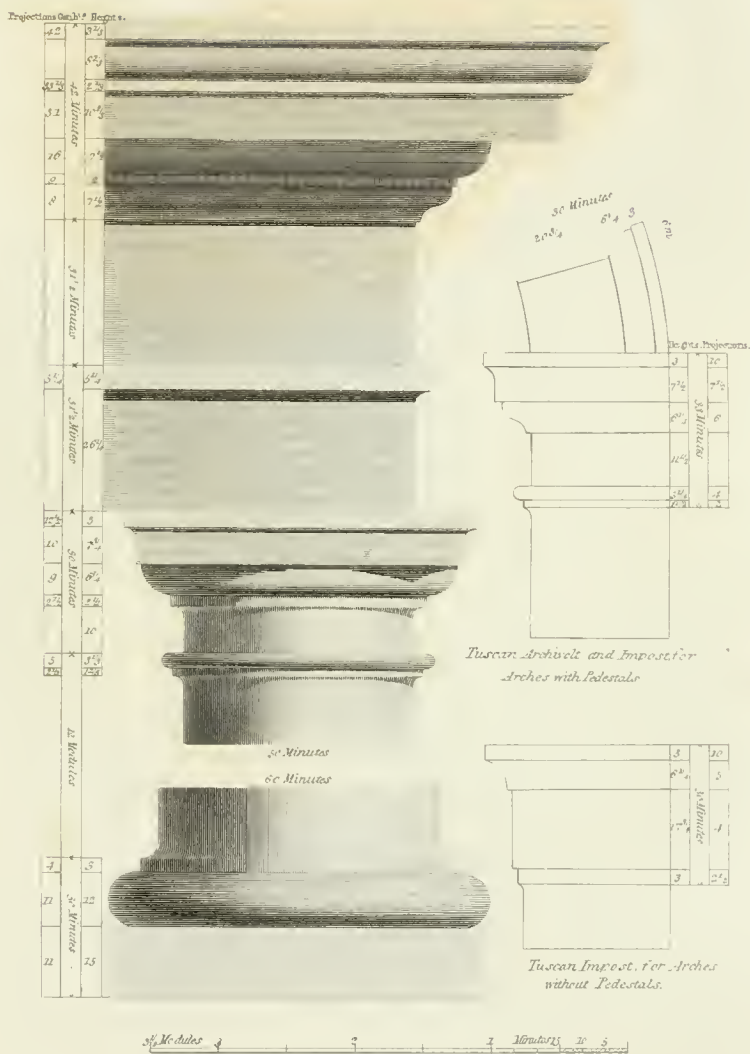
AMONG the antiques, there are no remains of a regular Tuscan order; the doctrine of Vitruvius upon that subject is obscure; and the profiles of Palladio, Scamozzi, Serlio, Delorme, and Vignola, are all, more or less imperfect.

Of the two designs left us by Palladio, that taken from the description of Vitruvius, is unpleasingly rustic. The other again is too rich', and injudiciously composed. That of Scamozzi is yet richer, and much too like the Doric. Serlio's is heavy; and Vignola's, though superior to the others, is defective in the cornice, which is clumsy, compared with the rest of the order, ill proportioned in its parts, and incorrectly profiled, as it finishes with a supporting moulding, which has nothing to support, and consequently must excite the idea of a mutilation; the more striking, as the general outline of the composition, resembles exactly the bed moulds of the Ionic cornice; supposing the dentil band left uncut, as is often the case.

In the design here annexed, I have chiefly imitated Vignola's, who in this order has been almost universally followed. Even Inigo Jones, who was so close an adherer

' It cannot be properly called *rich*. The only differences between Palladio's profile and the author's are, that in the former there is one more member, viz. in the architrave which has two fasciæ, and that in the bed mouldings, Palladio has a cyma recta, fillet, and cavetto. Sir William has changed these for an ovolo fillet and cyma reversa, and the projection of his capital is greater than that in Palladio's profile.—The greatest fault of the author's profile lies in the relative proportions of the frieze and architrave, and has been induced by his desire to get rid of Palladio's lower fascia.

THE TUSCAN ORDER



F H. Groves del.

W Chambers inv.

Kof1 86

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to Palladio, has employed Vignola's profile in his York Stairs, and others, his buildings. But as the cornice appears to me far inferior to the rest of the composition, I have not scrupled to reject it, and to substitute in its place that of Scamozzi, with such alterations as were evidently necessary to render it perfect. Conformable to the doctrine of Vitruvius<sup>1</sup>, and to the almost general practice of the moderns, I have given to the height of the column fourteen modules, or seven diameters, and to that of the whole entablature, three and a half modules; which being divided into ten equal parts, three of them are for the height of the architrave, three for that of the frieze, and the remaining four for the cornice. The capital is in height one module, the base, including the lower cincture of the shaft, is also one module, and the shaft, with its upper cincture and astragal, twelve modules. These are the general measures of the order.

With respect to the particular dimensions of the minuter parts, they may be collected from the design, whereon the heights and projections of each member are figured, the latter of these being counted from perpendiculars raised at the extremities of the inferior and superior diameters of the shaft,—a method preferable to that of De Chambrai and Desgodetz, who count from the axis of the column, because the relations between the heights and projections of the parts are more readily discoverable, and whenever a cornice or entablature is to be executed without a column, which frequently happens, it requires no additional time or labour, as the trouble of deducting

<sup>1</sup> De Tuscanis rationibus ædium sacrarum. Lib. iv. c. 7. [ED.]

from each dimension, the semi-diameter of the column is saved.

Scamozzi, that his bases might be of the same height in all the orders, has given to the Tuscan one, exclusive of the cincture, half a diameter : but I have rather chosen to imitate Vignola and Palladio, who in this order have deviated from the general rule, for as the Tuscan base is composed of two members only, instead of six, which constitute the other bases, it becomes much too clumsy when the same general proportion is observed.

The Tuscan order admits of no ornaments of any kind ; on the contrary, it is sometimes customary to represent, on the shaft of its column, rustic cinctures, as at the Palace Pitti in Florence, that of the Luxembourg in Paris, York Stairs in London, and many other buildings of note. This practice, though frequent, and to be found in the works of many celebrated architects, is not always excusable, and should be indulged with caution, as it hides the natural figure of the column, alters its proportions, and affects the simplicity of the whole composition. There are few examples of these bandages in the remains of antiquity, and in general it will be advisable to avoid them in all large designs, reserving the rustic work for the intercolumniations, where it may be employed with great propriety, to produce an opposition which will help to render the aspect of the whole composition distinct and striking.

But in smaller works, of which the parts, being few, are easily comprehended, they may be sometimes tolerated, sometimes even recommended, as they serve to diversify the forms, are productive of strong contrasts, and contribute very considerably to the masculine bold aspect

of the composition. Le Clerc<sup>1</sup> thinks them proper in gates of citadels and prisons, of which the entrances should be terrific, and they are likewise fit for gates to gardens or parks, for grottos, fountains, and baths, where elegance of form and neatness of workmanship would be out of character. Delorme, who was exceeding fond of these cinctures, has employed them in several parts of the Thuilleries, covered with arms, cyphers, and other enrichments; but this seems absurd, for they can never be considered in any other light than as parts, which, to avoid expense and trouble, were left unfinished. We likewise find in different parts of the Louvre, vermiculated rustics, of which the tracts represent flowers de luce, and other regular figures,—a practice still more unnatural than the forementioned, though Monsieur Daviler<sup>2</sup> very gravely tells us that it should always be done with propriety, and express a relation to the owner of the structure; that is,

<sup>1</sup> "Traité d'Architecture" Ordre Toscan. "Des Architectes assez considerez ont quelquefois cerclé la Tige de plusieurs ceintures de Bossage, comme on en voit au Palais de Luxembourg, et autres lieux de distinction; mais ces sortes d'ornemens rustiques ne sont point du tout à imiter, si ce n'est à des portes de citadelles ou de Prison, pour rendre leur entrée affreuse et desagréable.—Si néanmoins on peut souffrir ces sortes d'Ornemens rustiques en quelques endroits, ce ne doit être que sur des Colonnes Toscanes, ou tout au plus sur les Doriques, et jamais sur les autres Colonnes plus délicates particulièrement quand elles sont cannelées." [ED.]

<sup>2</sup> "Cours d'Architecture qui comprend les ordres de Vignole," &c. par A. C. Daviler, 2 vols. 4to. La Haye, 1730. Tom. i. page 9.

Aug. Char. Daviler, born 1653, died 1700, was a native of Paris. He was elected by the French Academy one of their travelling students, at an early age, and took his departure from Marseilles with Desgodetz and the celebrated Vaillant. The ship in which they sailed was captured by Corsairs, and carried into Algiers. His captivity lasted sixteen months, during which he designed and executed a mosque at Tunis, for the barbarians. Besides the work above-mentioned, he translated Scammozzi. See Mizizia. [ED.]

the figures should represent his arms, his crest, motto, cypher, and so forth, as if worms were draughtsmen and understood heraldry.

In the plates of designs for gates, doors, and windows, and likewise in those of different compositions, at the end of the book, are given several designs of rustic columns, and other rustic work; all collected from buildings of note in different parts of Europe; and for the manner of executing them, as it cannot well be described, the student is referred to various parts of Somerset Place, to the Horse Guards, the Treasury, the Doric entrance of the King's Mews, the gate of Burlington House, &c.: in all which, the different kinds of rustication are managed with taste and command of the chissel.

De Chambray, in the introduction to his parallel of ancient and modern architecture, treats the Tuscan order with great contempt, and banishes it to the country, as unworthy a place, either in temples or palaces; but in the second part of the same work, he is more indulgent, for though he rejects the entablature, the column is taken into favor, "and compared to a queen seated on a throne, surrounded with all the treasures of fame, and distributing honors to her minions, while other columns only seem to be servants and slaves of the buildings they support."

The remainder of this passage, too long to be here inserted at full length, is calculated to degrade and totally to exclude from buildings, the Tuscan order, but by a different mode of employing and dressing the column, to exalt its consequence, increase its majesty and beauty, so as to stand an advantageous comparison with any of the rest. He therefore wishes, in imitation of the ancient architects, to consecrate the Tuscan column to the com-

memoration of great men and their glorious actions, instancing Trajan's column, one of the proudest monuments of Roman splendor, which is of that order,—was erected by the senate and people of Rome, in acknowledgement of his services, and has contributed more to immortalize that emperor than the united pens of all historians. He farther instances the Antonine column, likewise erected at Rome, on a similar occasion, in honor of Antoninus Pius, and another of the same sort at Constantinople, raised to the emperor Theodosius, after his victory over the Scythians ; both which prove, by their resemblance to the Trajan column, that this sort of appropriation, recommended by him, had passed into a rule among the ancient masters of the art.

I shall not here dispute the justness of Mr. De Chambray's remarks, but may venture to affirm that not only the Tuscan column, but the whole order, as represented in the annexed design, which being in fact the production of Vignola and Scamozzi, I may praise without the imputation of vanity, is extremely beautiful,—a useful, even necessary gradation in the art, and for its purposes, inferior to none of the rest.

The Tuscan order, as it conveys ideas of strength and rustic simplicity, is very proper for rural purposes, and may be employed in farm-houses, in barns, and sheds for implements of husbandry, in stables, maneges, and dog-kennels, in greenhouses, grottos, and fountains, in gates of parks and gardens, and generally wherever magnificence is not required and expense is to be avoided. Serlio recommends the use thereof in prisons, arsenals, treasuries, sea-ports and gates of fortified places ; and Le Clerc



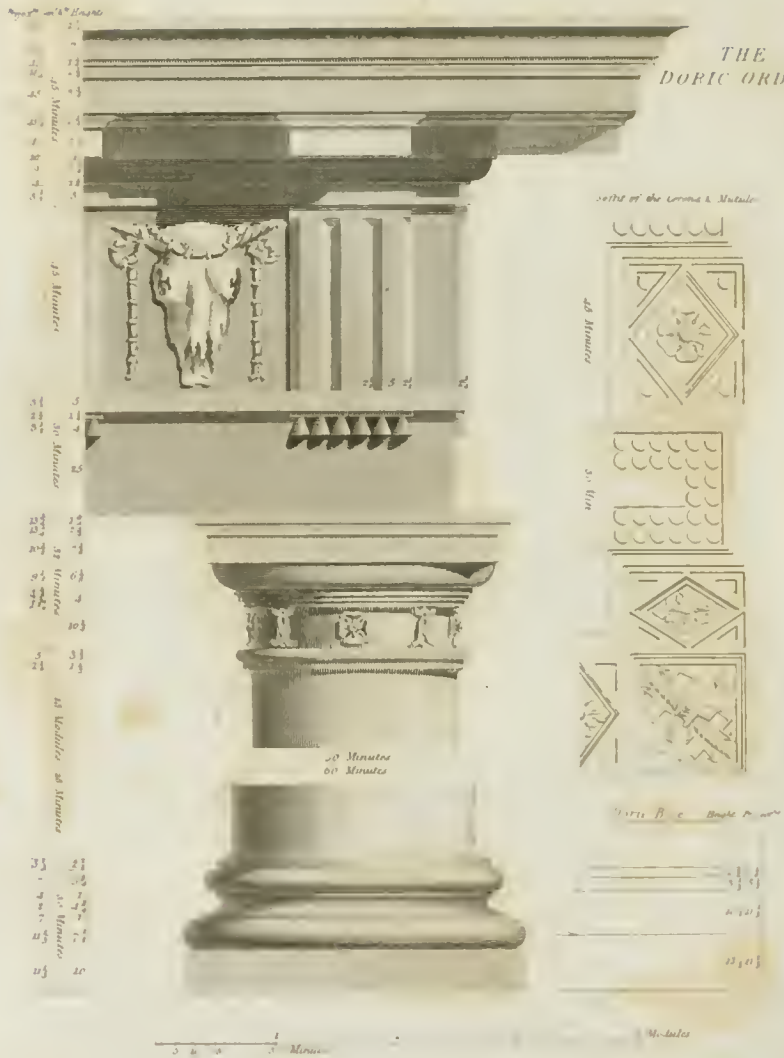
observes<sup>1</sup>, that though the Tuscan order as treated by Vitruvius, by Palladio, and some others, ought to be entirely rejected, yet according to the composition of Vignola, there is a beauty in its simplicity which recommends it to notice, and entitles it to a place both in private and public buildings, as in colonades and porticos surrounding squares or markets, in granaries or storehouses, and even in royal palaces, to adorn the lower apartments, offices, stables, and other places, where strength and simplicity are required, and where richer, or more delicate orders would be improper.

In conformity to the doctrine and practice before-mentioned, seven diameters, or fourteen modules, have been given to the height of the Tuscan column, a proportion very proper for rural or military works, where an appearance of extraordinary solidity is required; but in town buildings, intended for civil purposes, or in interior decorations, the height of the column may be fourteen and a half, or even fifteen modules, as Scamozzi makes it; which augmentation may be entirely in the shaft, without changing any measures either of the base or capital. Nor need the entablature be altered, for as it is composed of few parts, it will be sufficiently bold, although its height be somewhat less than one quarter of the height of the column.

<sup>1</sup> *Traité d'Architecture*, Art. v. Edit. La Haye, 1714, p. 10. [ED.]



THE  
DORIC ORDER



## OF THE DORIC ORDER.

IN the parallel are given three profiles of the Doric order ; one of which is taken from the theatre of Marcellus, and the other two are copied by Pirro Ligorio, from various fragments of antiquity in and near Rome. Vignola's second Doric profile bears a near resemblance to the most beautiful of these, and was not improbably collected from the same antique which Ligorio copied, though it must be owned that Vignola has, in his composition, far exceeded the original, having omitted the many trivial insignificant mouldings with which that is overloaded, and in various other respects improved both its form and proportions.

This profile of Vignola's, being composed in a greater style, and in a manner more characteristic of the order, than any other, I have chosen for my model, having, in the general form and proportions, strictly adhered to the original, though in particular members I have not scrupled to vary, when observation taught me they might be improved<sup>1</sup>.

Vignola, as appears by the preface to his rules, supposed that the graceful and pleasing aspect of Architectonic objects, was occasioned by the harmony and simplicity of the relations existing between their parts, and in composing his profiles he constantly regulates his measures by these simple affinities, imagining the deviations

<sup>1</sup> The chief alteration is in the cornice. See subsequent note. [ED.]

from them in his antique models, to proceed rather from the inaccurate execution of the workmen, than from any premeditated design in the contriver. To this notion may be ascribed many little defects in the proportions of his mouldings and minuter members, which, though trifling in themselves, are yet, from the smallness of the parts where they happen to be, of consequence, and easily perceivable by a judicious eye. These I have therefore endeavoured to correct, not only in this, but in others of his orders, which from their conformity to the best antiques, I have in the course of this work chosen to imitate<sup>1</sup>.

It has already been observed that the real relations subsisting between dissimilar figures have no connection with the apparent, the form and situation of the object viewed, ever altering the affinity, and it is a truth too evident to require demonstration. No one will deny, for instance, that the ovolo in the annexed Doric cornice<sup>2</sup>,

<sup>1</sup> The author on general principles differs here, not only from Vignola, but from a very large portion of later architects, amongst whom will be found perhaps as intelligent an architect, and one as alive to proportion, as the world ever saw, viz. Sir Christopher Wren, under whose banners, though he in some matters was deficient in good taste, I am not fearful of appearing. See note at page 36. Messer Jacopo Barozzi's preface is too long for insertion here, but the view with which he determined to ascertain the relative proportions of the orders, for his own private use, will explain the whole of his system, and shew that he well knew his *mestiere*. "Per potermi appoggiare con fermezza maggiore, mi son proposto innanzi quelli ornamenti antichi delli cinque ordini, quali nelle anticaglie di Roma si vedono, e questi tutti insieme considerandoli, e con diligenti misure esaminandoli, ho trovato quelli, che al giudizio commune appajono più belli, e con più grazia si appresentano agl'occhi nostri; questi ancora avere certa corrispondenza, e proporzione di numeri insieme meno intrigata, anzi ciascun minimo membro, misurare li maggiori in tante lor parti appunto," &c. [ED.]

<sup>2</sup> Pl. Doric Order.



viewed in its proper elevation, will appear much larger than the capital of the triglyph, under and contiguous to it, though they are in reality nearly of the same dimensions; and if the same ovolo were placed as much below the level of the spectator's eye, as it is in the present case above, it is likewise evident that it would appear considerably lower than any flat member of the same height. These things being so, a strict attachment to harmonic relations seems entirely out of the question, since what is really in perfect harmony, may in appearance produce the most jarring discord<sup>1</sup>.

Perfect proportion in architecture, if considered only with regard to the relations between the different objects in a composition, and as it merely relates to the pleasure of the sight, seems to consist in this,—that those parts which are either principal or essential, should be contrived to catch the eye successively from the most considerable

<sup>1</sup> The argument used by the author does not hold. It is indeed true that in the abstract, "the real relations subsisting between dissimilar figures have no connection with the apparent," but it must be remembered that the parts of an order, however dissimilar *inter se*, are still parts of one whole; that each of them ought to have some relation to that whole, and that there must, to make the whole pleasing, be some relation or proportion existing throughout; whether the proportions should be arithmetical, geometrical, harmonical, or sesquialteral, it is needless to discuss in this place. It is, however, quite certain, that many of the celebrated and most beautiful structures of this metropolis, are designed in sesquialteral proportions; among them the tower and spire of Bow Church may be named without fear of contradiction. It is singular, that the author, to fortify his opinion, should take the ovolo above the Doric triglyph, to argue upon and prove his assertion, because the ovolo is known to be improper, except when placed above the level of the eye of the spectator; or if used below, otherwise than as a crowning member. Who, for instance, could substitute an inverted ovolo, and this is putting the point *pari casu*, for the inverted cyma recta, above the plinth of a pedestal? See note, p. 29. [ED.]

to the least, according to their degrees of importance in the composition, and impress their images on the mind, before it is affected by any of the subservient members ; yet, that these should be so conditioned as not to be entirely absorbed, but be capable of raising distinct ideas likewise, and such as may be adequate to the purposes for which these parts are designed.

The different figures and situations of the parts may, in some degree, contribute toward this effect ; for simple forms will operate more speedily than those that are complicated, and such as project will be sooner perceived than such as are more retired ; but dimension seems to be the predominant quality, or that which acts most powerfully on the sense, and this, it is apprehended, can only be discovered by experience, at least to any degree of accuracy. When therefore a number of parts, arranged in a particular manner, and under particular dimensions, excites, in the generality of judicious spectators, a pleasing sensation, it will be prudent on every occasion, where the same circumstances subsist, to observe exactly the same arrangement and proportions, notwithstanding they may in themselves appear irregular and unconnected.

In composing the orders and other decorations which are contained in the present publication, this method has constantly been observed, the author having himself, with that view, measured with the utmost accuracy, and not without some danger, many ancient and modern celebrated buildings, both at Rome and in other parts of Europe, strictly copying such things as appeared to be perfect, and carefully correcting others which seemed in any degree faulty ; relying therein not alone on his own judgment in doubtful cases, but much on the opinion and advice of se-

veral learned ingenious artists of different nations, with whom he had the advantage of being intimately connected when abroad.

Sensible he is that the extraordinary degree of accuracy which has been aimed at in these compositions is of little consequence to the generality of spectators, who see in the gross and feel by the lump. Nevertheless, as in poesy, music, painting, and indeed in all arts, there are delicacies which, though they escape the vulgar notice, afford uncommon pleasure to persons of enlightened conception; so in architecture this kind of perfection is the source of secondary pleasures, less forcible perhaps, but not always less delightful, than the first. These may be compared to those excited by the energy or graces of language in poetry; by the shakes, swells, inflections, and other artifices of the instrument or voice, in music, which give sentiment and expression to the performance; or in painting, by a judicious choice and artful disposition of the objects, a nice discrimination of the passions, an elegant taste of design, and a spirited masterly touch of the pencil. To all but local colour and general resemblance, the unskilful are commonly blind; but the correct eye and ripened judgment derive their chief pleasure from that which the ignorant rarely perceive, and seldom or ever taste.

It may perhaps be objected that the proportions here established, though proper and good on one occasion, may on many others be defective; but this objection will, I flatter myself, have little weight, when it is remembered that the situation of capitals and entablatures with respect to the order of which they are parts, is constantly the same, and the points of view more or less distant, according to the size or elevation of the order; and that, conse-

quently, the apparent magnitudes of all their parts, will always have very nearly the same proportion to each other, even though they should be exalted to a second or third story.

With regard to bases indeed, their being placed on pedestals, or immediately on the ground, will occasion some little difference in their appearance; and when they are raised to a second story, their figure and apparent proportions will be considerably altered. Nevertheless it doth not seem necessary, in either of these cases, to vary their dimensions; for in the former of the two, the alteration would be trifling, and in the latter, the object being far removed from the eye, the spectator will rather be occupied in considering the general mass, than in examining its parts, which, on account of their distance, cannot be distinctly perceptible.

The height of the Doric column, including its capital and base, is sixteen modules, and the height of the entablature, four modules; the latter of which being divided into eight parts, two of them are given to the architrave, three to the frize, and the remaining three to the cornice.

In most of the antiques, the Doric column is executed without a base. Vitruvius likewise makes it without one; the base, according to that author, having been first employed in the Ionic order, to imitate the sandal or covering of a woman's foot. Scamozzi blames this practice<sup>1</sup>, and most of the moderns have been of his opinion, the greatest part of them having employed the Attic base

<sup>1</sup> Lib. vi. c. 6. "Oltre che ad alcune Colonne, nè egli, (Vitruvio) nè altri, non fanno le Basi alla Dorica, e così le Colonne rimangono spedate; tutte cose, che contravengono alla ragione, che lo vuole, e all' opere c'hanno fatto gli antichi più lodati."

[ED.]

in this order. Monsieur De Chambrai, however, whose blind attachment to the antique is, on many occasions, sufficiently evident, argues vehemently against this practice, which, as the order is formed upon the model of a strong man, who is constantly represented bare-footed, is, according to him, very improper ; and “though,” says he, “the custom of employing a base in contempt of all ancient authority, has by some unaccountable and false notions of beauty prevailed, yet I doubt not but the purer eye, when apprised of this error, will easily be undeceived, and as what is merely plausible will, when examined, appear to be false, so apparent beauties, when not founded in reason, will of course be deemed extravagant<sup>1</sup>.”

Le Clerc’s remarks on this passage are very judicious, and as they may serve to destroy a notion which, soon after our Athenian discoveries, about thirty years ago, was much too prevalent among us, and might, perhaps, in some future hour of extravagance, prevail again, I shall, for the benefit of such as are unacquainted with the original, translate the whole passage. “In the most ancient monuments of this order,” says he, “the columns are without bases, for which it is difficult to assign any satisfactory reason. Monsieur De Chambrai, in his parallel, is of the same opinion with Vitruvius, and maintains that the Doric column being composed upon the model of a naked, strong, and muscular man, resembling a Hercules, should have no base,—pretending that the base to a column is the same as a shoe to a man. But I must own, I

<sup>1</sup> Parallèle, Part i. c. 2.

[ED.]



cannot consider a column without a base in comparing it to a man, but I am, at the same time, struck with the idea of a person without feet rather than without shoes ; for which reason I am inclinable to believe either that the architects of antiquity had not yet thought of employing bases to their columns, or that they omitted them in order to leave the pavement clear ; the angles and projection of bases being stumbling-blocks to passengers, and so much the more troublesome as the architects of those times frequently placed their columns very near each other, so that had they been made with bases, the passages between them would have been extremely narrow and inconvenient. And it was doubtless for the same reason that Vitruvius made the plinth of his Tuscan column round,—that order, according to his construction, being particularly adapted to servile and commercial purposes, where conveniency is preferable to beauty. However this be, persons of good taste will grant that a base not only gives a graceful turn to the column, but is likewise of real use, serving to keep it firm on its plan, and that if columns without bases are now set aside, it is a mark of the wisdom of our architects, rather than an indication of their being governed by prejudice, as some adorers of antiquity would insinuate”<sup>1</sup>.

In imitation of Palladio and all the modern architects, except Vignola, I have made use of the Attic base in this order, and it certainly is the most beautiful of any, though for variety’s sake, when the Doric and Ionic orders are employed together, the base invented by Vignola, of which

<sup>1</sup> Le Clerc, *Traité d’Architecture*, Art. v. p. 12. [ED.]

a profile is annexed, may sometimes be used. Bernini has employed it in the colonades of St. Peter's, and it has been successfully applied in many other buildings.

The ancients sometimes made the shaft of the Doric column prismatic, as appears by a passage in the fourth book of Vitruvius; and at other times they adorned it with a particular kind of shallow flutings, described from the centre of a square, no interval or fillet being left between them. Of this sort, there are now some columns to be seen in the temples of Pæstum, near Naples, in different parts of Sicily, and in the church of St. Peter in Catenis, at Rome. The first of these manners has not, I believe, been imitated by any of the modern masters; nor is the second very frequent: Scamozzi blames it for its want of solidity<sup>1</sup>; the projecting angles between the flutings being easily broken, and, if the material be soft, very subject to moulder.

Vitruvius gives to the height of the Doric capital one module<sup>2</sup>; and all the moderns, except Alberti<sup>3</sup>, have followed his example. Nevertheless, as it is of the same kind with the Tuscan, they should both bear nearly the same proportion to the heights of their respective columns, and consequently, the Doric capital ought to be more than one module, which it accordingly is, both at the Coliseum, and in the theatre of Marcellus: being in the former of these buildings, upwards of thirty-eight minutes, and in the latter thirty-three minutes high.

In the design here offered, I have made the height of the whole capital thirty-two minutes, and in the form and

<sup>1</sup> Parte Seconda, Lib. vi. c. 11.

[ED.]

<sup>2</sup> De Ratione Doricâ, Lib. iv. c. 3.

[ED.]

<sup>3</sup> De Re Ædificatoriâ, Lib. vii. c. 8.

[ED.]

dimensions of the particular members, I have deviated but little, from the profile of the theatre of Marcellus. The frize, or neck, is enriched with husks and roses, as in Palladio's design, and as it has been executed by Sangallo<sup>1</sup>, at the Farnese Palace in Rome, and by Cigoli<sup>2</sup>, in the Cortile of the Strozzi at Florence, as well as in several buildings of note in this metropolis. The projection of these husks and flowers, must not exceed that of the upper cincture of the column.

The architrave is one module in height, and composed only of one fascia and a fillet, as at the theatre of Marcellus: the drops are conical, as they are in all the antiques; not pyramidal, as they are improperly made by most of our English workmen: they are supposed to represent drops of water draining from the triglyph, and consequently they should be cones, or parts of cones, not pyramids.

The frize and the cornice, are each of them one module and a half in height: the metope is square, and enriched with a bull's skull, adorned with garlands of beads, in imitation of those on the temple of Jupiter

<sup>1</sup> Antonio Sangallo, born in the Florentine territory, died 1546. The Farnese Palace, as high as the great cornice, is a noble monument of his splendid talents. When the building was so far complete, Cardinal Farnese was raised to the holy chair, and being desirous of crowning it with the grandest cornice which could be designed by the architects of the age, he invited them to a competition.—Michel Angelo bore off the laurels, and the cornice remains a surprising effort of his more than wonderful genius. Sangallo was in his day one of the architects of the fabric of St. Peter's, and in that situation had the honor of being a colleague of Raffaello d'Urbino.

[ED.]

<sup>2</sup> Luigi Cigoli a Florentine architect, born 1559, died 1613. This artist designed the pedestal for the statue of Henry IV. as it formerly stood, on the Pont Neuf at Paris.

[ED.]

Tonans, at the foot of the capitol. In some antique fragments, and in a greater number of modern buildings, the metopes are alternately enriched with these ox-skulls, and with pateras ; but they may be filled with any other ornaments, of good forms ; and frequently with greater propriety. Thus, in military structures, heads of Medusa, or of the Furies, thunderbolts, and other symbols of horror, may be introduced : likewise helmets, daggers, garlands of laurel or oak, and crowns of various kinds ; such as those used among the Romans, and given as rewards for different military achievements : but spears, swords, quivers, bows, cuirasses, shields, and the like, must be avoided : because the real dimensions of these things are too considerable to find admittance in such small compartments : and representations in miniature, always carry with them an idea of triviality, carefully to be avoided in architecture, as in all other arts. In sacred buildings, cherubs, chalices, and garlands of palm or olive, may be employed ; likewise doves, or other symbols of moral virtues. And in private houses, crests or badges of dignity, may sometimes be suffered ; though seldom : and indeed never, when they are of such stiff, insipid forms, as stars, garters, modern crowns, coronets, mitres, truncheons, and similar graceless objects : the ill effects of which may be seen at the Treasury, in St. James's Park, and in many other places.

Too much variety in the ornaments of the metopes, must be avoided ; lest the unity of the composition should be destroyed. It is best never to introduce more than two different representations, which should not consist of above one, or at most two objects each ; of simple forms, and not overcharged with ornaments. In the dis-

position of these, care must be taken to place them with symmetry; those on the right, in correspondence with those on the left. Wherefore, when a triglyph happens to be in the middle of a front, it becomes necessary to couple the middle ones, by filling the two metopes, on each side of the central triglyph, with the same sort of ornaments; as is done at the gate of Burlington House in Piccadilly; distributing the rest alternately, throughout the composition, as usual. It is likewise to be observed, that ornaments in metopes, are not to project so much as they do at Bow Church, or at General Wade's house in Burlington-gardens; where, from their great relief, they are far more striking than the triglyphs; which ought to predominate, as being essential, and principal parts in the composition. Palladio in his Basilica of Vicenza, has given to the most elevated parts of the ox-skulls and pateras, with which the metopes are filled, very little more projection, than that of the triglyph; and in this, he has copied the ancients, who seldom or never, gave more projection to any ornament, than that of the frame or border, in which it was inclosed: as appears by those inimitable fragments in the Villa Medici, and many others in different parts of Rome, and elsewhere. The channels of the triglyph on their plan, commonly form a right angle; but, to give them more effect, a narrow square groove may be cut in the inner angle, from top to bottom; and quite into the solid of the frieze.

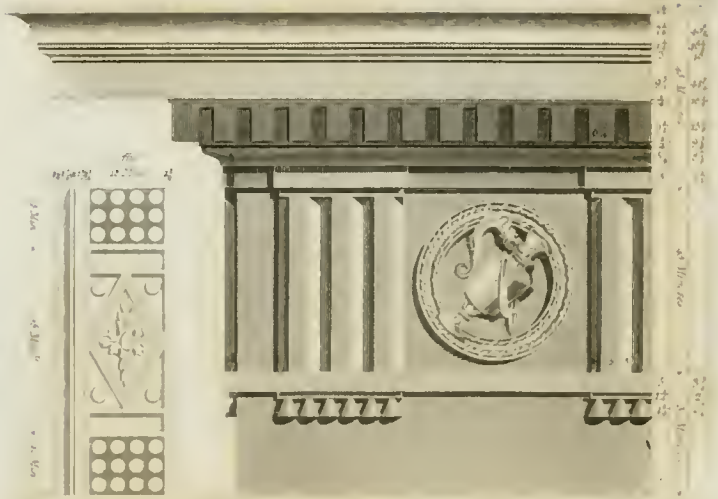
In the cornice, I have deviated very little from my original<sup>1</sup>. Le Clerc, who in his Doric profile has imitated

<sup>1</sup> Palladio, Scamozzi, Alberti, Vignola and Viola, have each placed two fasciæ in the Doric architrave—whilst Serlio, Barbaro, Cataneo, and our author, have only one.—Alberti seems to have been the first of the moderns





*Doric Entablature, Imitated from the Theatre of Marcellus*



*Doric Entablature of Palladio as executed in the Basilica at Vicenza*



that of Vignola, makes the mutules as broad as the capital of the triglyph: Mr. Gibbs has followed his example; and they have been executed in that manner, on a couple of doors to houses on the north side of Lincoln's Inn-fields. But Vignola's method is preferable, who makes them no broader than the triglyph; as it is more sightly, and more conformable to the carpenter's art: in which, the width of the rafter, never exceeds the width of the beam or joist, it stands upon. The ornaments of the soffit, are nearly the same as those of Vignola. They should be entirely sunk up, wrought in the solid of the corona, and never drop down lower than its soffit. There is no necessity for cutting them deep: in most of Palladio's buildings, they do not enter above two minutes, into the corona; and that is quite sufficient.

Vignola's other Doric profile<sup>1</sup>, is in imitation of that of the theatre of Marcellus; in it he has very judiciously pointed out, and in some measure, corrected the faults of the original: but reverence for the antique, has made him rather too sparing of his amendments. I have given a design of this profile<sup>2</sup>, with such farther corrections as appeared necessary; the most considerable of them, consisting in the enlargement of the dentils, which are neither in the antique model, nor in Vignola's profile,

who used modillions, which certainly improve the profile very much. I am inclined—upon a comparison of Sir W.'s profile with all the rest—to give the preference to that of Vignola, which, with the exception of continuing the margin which encloses the mutules on the soffit of the modillions to the re-entering angles, as given by the author, I think much more complete and beautiful. Vignola's profile is the 9th plate in Stampani's Edition.

<sup>1</sup> Plate 10, Stampani Edit.

<sup>2</sup> Pl. Doric Entablatures.

[ED.]

[ED.]

sufficiently conspicuous, to hold their due place in the composition.

At the theatre of Marcellus, the ornaments of the soffit are not in a horizontal position, but hang down towards the front of the corona; which, as it appears by Vitruvius, was a common practice among the ancients; and done to imitate the inclination of the rafters. Palladio, and Vignola, have both adopted this particularity; which, Daviler supposes to have been first used, in order to make the projection of the entablature, appear more considerable<sup>1</sup>. To me it has an exceeding disagreeable appearance; the whole soffit seems in a falling state: and so far is it from producing the effect which Daviler supposes, that it actually makes, as it evidently must, the projection seem less than in reality it is.

Vignola's two Doric entablatures, says Daviler, are both of them so elegantly composed, that it is scarcely possible to determine, which of them ought to have the preference<sup>2</sup>. The first, which is entirely antique, is the lightest, and consequently properest for interior decorations, or objects intended for near inspection; the other, composed by Vignola himself, from various fragments of antiquity, being bolder, and consisting of larger parts, seems better calculated for outside works, and places where the point of view is either distant or unlimited. On polygonal plans, however, the mutule cornice must be avoided; because the soffits of the angular mutules, would form irregular and very disagreeable figures: neither

<sup>1</sup> De l'ordre Dorique, Vol. i. p. 34. "Ce qui augmente l'apparence de la Saillie, et ce qui avec la mouchette pendante et le Canal refouillé sous le devant du Larmier rend le profil plus gigantesque et plus noble." [ED.]

<sup>2</sup> Ibid. Vol. i. p. 32.

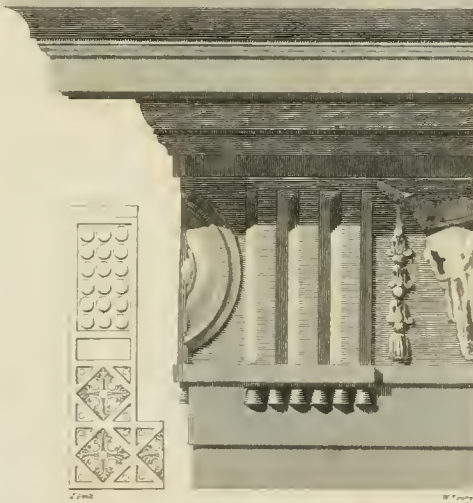
[ED.]

should it be employed in concaves of small dimensions, for the same reason; nor in places where frequent breaks are requisite; it being extremely difficult, often impossible, to prevent the mutules from penetrating, and mutilating each other, in various unsightly manners. And wherever this cornice is used on a convex surface, the sides of the mutules must be made parallel; for it would be both disagreeable and unnatural, to see them broader, and consequently heavier in front, than where they spring out of the mutule band.

Palladio's Doric entablature, is likewise very beautiful: I mean as it is executed in the Basilica of Vicenza, where it differs widely from the profile in his book<sup>1</sup>, and is far preferable thereto<sup>2</sup>. In the same plate with Vignola's

<sup>1</sup> Pl. Doric Entablatures.

<sup>2</sup> The author's plate referred to in the preceding note, will be found to



differ widely from the profile which is here inserted. The Editor's first



dentil entablature, there is a design of it, accurately copied from that building; which may serve as one instance of many, to show how little the measures of his book are to be relied upon.

Of all the entablatures, the Doric is most difficult to distribute, on account of the large intervals between the centres of the triglyphs, which neither admit of increase, or diminution, without injuring the symmetry and regular beauty of the composition. These constantly confine the composer to intercolumniations, divisible by two modules and a half; entirely exclude coupled columns; and produce spaces, which, in general, are either too wide or too narrow for his purposes.

To obviate these difficulties, the triglyphs have often been omitted, and the entablature made plain; as at the Coliseum in Rome, the colonnades of St. Peter's, of the

intention was to have corrected the plate, but as he professes to give the plates of Sir W. C. precisely similar to those of the three first Editions of the work, he preferred the insertion in this note of a correct representation of the entablature which he made on his examination of the building while at Vicenza. The Doric profile which Palladio exhibits in his first book, is that artist's general idea of what the order should be—of course, in execution he varied it as taste and circumstances induced him. But in respect of the example before us, if the reader turn to his third book, and compare the plate therein with the profile in the preceding page, he will see no great cause for complaint on the part of our author. On the contrary, allowing for the block engraving of that age not being quite so well managed as now, he will find the profiles singularly correspondent. It must be manifest to every one the least acquainted with the subject, that Sir W.'s guttæ in the external angle of the soffit of the corona are misplaced, and an abuse of which our great master Palladio never could have been guilty. The substitution, too, of the patera for the ox-skull in the metope adjoining the angle, is also absurd—as in that case it would be necessary to *miter* it on the quoin of the frieze. The profile at the Chiericato palace is nearly the same as the above. [ED.]

Vatican, and in many other buildings, both at home and abroad. This indeed, is an easy expedient : but while it robs the order of its principal characteristic distinction, leaves it poor, and very little superior to the Tuscan, the remedy seems desperate, and should never be employed but as a last resource<sup>1</sup>.

The ancients employed the Doric, in temples dedicated to Minerva, to Mars, and to Hercules ; whose grave and manly dispositions, suited well with the character of this order. Serlio<sup>2</sup>, says it is proper for churches dedicated to Jesus Christ, to St. Paul, St. Peter, or any other Saints, remarkable for their fortitude, in exposing their lives, and suffering for the Christian faith. Le Clerc, recommends the use of it, in all kinds of military buildings ; as arsenals, gates of fortified places, guard rooms, and similar structures<sup>3</sup>. It may likewise be employed in the houses of generals, or other martial men ; in mausoleums erected to their memory, or in triumphal bridges and arches, built to celebrate their victories.

I have made the height of the Doric column, sixteen modules ; which, in buildings where majesty, or grandeur are required, is a proper proportion : but in others, it may

<sup>1</sup> Jacopo Tatti, better known by the name of Sansovino, from having been a scholar of Andrea Cantuoci da Monte *Sansovino*, gave out the following problem to puzzle the architects of Italy.—*What means must be adopted for the purpose of making the angular metope of the Doric order exactly one half of the breadth of the other metopes?* They all had a tilt at the question, but without success. Sansovino, Columbus like, solved it by lengthening the frieze just so much as was wanting to make up the breadth sought, so that it overhung the upper part of the shaft of his columns. A very silly expedient. Sansovino was nevertheless an architect of considerable talent and reputation, and an intimate friend of the celebrated Pietro Aretino. He was born in 1479, and died in 1570. [ED.]

<sup>2</sup> Lib. iv. c. 6. [ED.]

<sup>3</sup> Des differens Ordres de Colonnes, Art. v. p. 11. [ED.]

be somewhat more slender. Thus, Vitruvius<sup>1</sup> makes the Doric column in porticos, higher by half a diameter, than in temples; and most of the modern architects, have on some occasions, followed his example. In private houses therefore, it may be  $16\frac{1}{3}$ ,  $16\frac{1}{2}$ , or  $16\frac{2}{3}$  modules high; in interior decorations, even seventeen modules, and sometimes perhaps a trifle more: which increase in the height, may be added entirely to the shaft, as in the Tuscan order, without changing either the base or capital. The entablature too, may remain unaltered in all the aforesaid cases; for it will be sufficiently bold, without alteration.

<sup>1</sup> Lib. iii. c. 2.

[ED.]







## OF THE IONIC ORDER.

AMONGST the ancients, the form of the Ionic profile, appears to have been more positively determined than that of any other order; for in all the antiques at Rome, the temple of Concord excepted, it is exactly the same and conformable to the description Vitruvius has given thereof.

The modern artists have likewise been more unanimous in their opinions upon the subject; all of them, excepting Palladio and his imitators, having employed the dentil cornice, and the other parts of the profile, nearly as they are found in the Coliseum, the temple of Fortune, and the theatre of Marcellus.

In Palladio's works, we meet with three different Ionic entablatures; all of them very beautiful. The first is the true antique, which he has made use of at the palace of the Porti; and in several doors and windows of the Thiene, and Valmarana palaces, in Vicenza. The second, is a very judicious imitation of the entablature in the temple of Concord; and is executed by him in the upper arcade of the Basilica, in the same city. The third, which is an invention of his own; being the same with that in his book; he has employed with some small difference, at the Chiericato palace<sup>1</sup>, at the rotunda of Marchese Capra<sup>2</sup>,

<sup>1</sup> In the City of Vicenza.

[ED.]

<sup>2</sup> Not quite a mile southward of Vicenza.

[ED.]

and in various others of his buildings in the Vicentine, or at Venice.

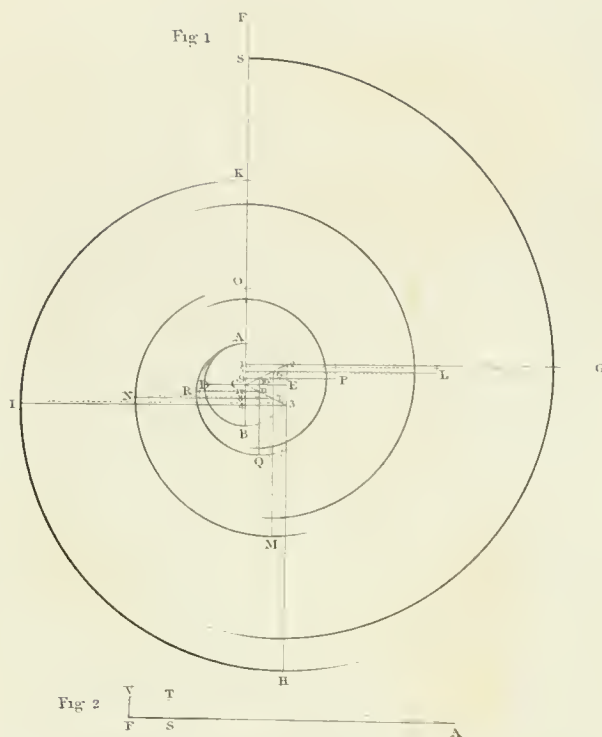
In the first plate of the Ionic order, there is a design of the antique profile, collected by me, from different antiquities at Rome. The height of the column is eighteen modules, and that of the entablature, four modules and a half, or one quarter of the height of the column, as in the other orders, which is a trifle less than in any of the regular antique Ionics. The base is Attic, as in all the antiquities; and the shaft of the column may either be plain or fluted, with twenty-four, or with twenty flutings only, as at the temple of Fortune, of which, the plan should be a little more than semi-circular, as it is at the temple of Jupiter Tonans, and at the forum of Nerva, because then they are more distinctly marked. The fillet, or interval between the flutes, should not be broader than one-third of their width, nor narrower than one quarter thereof. The ornaments of the capital, are to correspond with the flutes of the shaft<sup>1</sup>, and there must be an ove or a dart above the middle of each flute. The volutes are to be traced according to Goldman's method<sup>2</sup>, which is the best. I have given a design of it, with an exact description upon the plate. Perrault prefers Delorme's method of describing it<sup>3</sup>; yet certainly it is not so perfect; for

<sup>1</sup> See page 30.

[ED.]

<sup>2</sup> Nicholas Goldman, a native of Breslaw in Silesia, born 1623, died 1665, was a mathematician of some reputation. His chief works are—“*Elementa Architecturæ Militaris*,” 8vo. 1643.—“*De usu Proportionarii Circuli*,” “*De Stylometricis*,” 1662; and a Treatise on Civil Architecture, published by Sturm in 1696, with many Engravings. [ED.]

<sup>3</sup> “*Architecture de Philibert Delorme*,” Tom. I. Liv. v. c. 27. “*Des mesures du chapiteau Ionique, et la façon comme l'on doit faire ses volutes*.” [ED.]



### Goldman's Volute Described.

Fig 1 Draw the Cathetus  $FC$  whose length must be half a Meid. and from the point  $C$  describe the Eye or the Volute  $AEBD$ , of which the Diameter is to be  $3\frac{1}{2}$  meid. divide it into four equal Sectors by the Diameters  $AB, DE$ , Bisect the Radii  $CA, CB$  in 1 and 3, and on the line 1 A Construct a Square 1234 from the Centre  $C$ , to the Angles 23 draw  $\frac{1}{4}$  Diagonals  $C2, C3$ , and divide the side of the Square 1A into Six equal parts at 5, 9, C 12, 8, then through the points 5, 9, 12, 8 draw the lines 56, 9, 10, 12, 11, 8, 7, parallel to the Diameter  $ED$  which will cut the Diagonals in 6, 7, 10, 11 and  $\frac{1}{4}$  points 12, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 will be the centres of the Volute. From the first Centre 1 with the Interval  $1F$ , describe  $\frac{1}{4}$  Quadrant  $FG$ , from the second Centre 2, with the Interval  $2G$  describe the Quadrant  $GH$  and continuing the same operation from all the twelve centres, the Contour of the Volute will be completed.

Fig 2 The Centres for describing the fillet are found in this manner. Construct a Triangle of which  $\frac{1}{4}$  side  $AF$  is equal to the part of the Cathetus contained between  $A, F$ , and the side  $FV$  equal to  $C1$ , on the side  $AF$  place  $\frac{1}{4}$  distance  $FS$  from  $F$  towards  $A$ , equal to  $FS$  the breadth of the fillet and through the point  $S$  draw the line  $ST$ , which will be to  $C1$  in the same proportion as  $AS$  is to  $AF$ , place this line on each side of the Centre  $C$  on the Diameter of the Eye  $AB$ , divide it into three equal parts, and through the points of division draw lines parallel to the Diameter  $ED$ , which will cut the Diagonals  $C2, C3$ , and you will have twelve new Centres, from whence the interior Contour of  $\frac{1}{4}$  fillet may be described, in the same manner as the exterior one was from the first Centres.



in Goldman's, the circular portions that compose the volute, have their radii at their junction, in the same straight line, so that they meet without forming an angle; whereas, in that of Delorme, the radii never coincide and consequently no two of the curves can join without forming an angle. The space, in Delorme's volute between the first quadrants, in the first and second revolution is of the same breadth throughout; both the quadrants being described from the same centre: but in Goldman's, the space between the revolutions diminishes regularly from the very first. Moreover, Delorme has given no directions for describing the inner spiral, which determines the breadth of the fillet, and which, in his design, is nearly of the same breadth from first to last; but Goldman has taught the manner of describing it, so as to diminish gradually, with the same accuracy as the outward spiral<sup>1</sup>.

Palladio's volute, differing but little from that of Delorme<sup>2</sup>, has nearly the same defects: and though Mr.

<sup>1</sup> The author must have misunderstood Perrault, "l'Architecture de Vitruve," &c. 2nd Edit. Fol. Paris, 1684, who, in page 93, note 35, differs in some points from both Goldman and Delorme. In another note, 41, page 94, he agrees with Goldman on the correction of a passage in the text of Vitruvius. I cannot help thinking that the volute which Perrault, page 95, has produced, is superior in *tournure* to that which our author has given, and the Frenchman has evolved it by an ingenious reading of the text of Vitruvius, aided by the correction of the German. Philibert Delorme's is clumsy, and it is difficult to conceive how the author could have imagined that Perrault was indebted to him. Goldman's volute becomes too thin in the second revolution. [ED.]

<sup>2</sup> Palladio's volute appears to me that which an artist would turn—the other seems fabricated by a boor. Let the student compare them, it will be instructive and advantageous to him. [ED.]



Gibbs has in some measure amended it, yet his likewise is faulty in the breadth of the fillet, which is equal through the greatest part of the first revolution.

Vignola and Scamozzi, Serlio, Alberti, and others have, in their architraves, imitated those of the theatre of Marcellus, and of the Coliseum; having composed them of three fascias distinguished from each other, only by small projections. This, has but an indifferent effect; the separations so faintly marked, are not sufficiently striking; and the architrave is left too destitute of ornaments, for the rest of the profile: a defect most striking, whenever the mouldings of the profile are enriched.

On the other hand, Palladio's and Delorme's architraves appear too rich; being likewise composed of three fascias, separated by mouldings. I have therefore in this particular, chosen to imitate the profile of the temple of Antoninus and Faustina, where there are only two fascias, separated from each other by a moulding.

The three parts of the entablature, bear the same proportion to each other in this, as in the Tuscan order: the frize is plain, as being most suitable to the simplicity of the rest of the composition; and the cornice is almost an exact copy from Vignola's design, in which there is a purity of form, a grandeur of stile, and close conformity to the most approved antiques, not to be found in the profiles of his competitors.

If it be required to reduce this entablature, to two ninths of the height of the column, (which, on most occasions, is a proportion preferable to that of one quarter; particularly, where the eye has been habituated to contemplate diminutive objects) it may easily be done; by





making the module for the entablature, less by one ninth, than the semi-diameter of the column; afterwards dividing it as usual, and observing the same dimensions as are figured in the design. The distribution of the dentil band will, in such case, answer pretty nearly in all the regular intercolumniations; and in the outer angle there will be a dentil, as there is in the temple of Fortune, at Rome.

In interior decorations, where much delicacy is required, the height of the entablature may be reduced even to one fifth of the column, by observing the same method, and making the module only four fifths of the semi-diameter.

Of Palladio's profiles, that imitated from the temple of Concord, appears to me the best: its height is equal to one-fifth of the height of the column. The design which I have given of it, is closely copied from the Basilica, at Vicenza: but it will be more perfect, if the frize be made flat, and its height augmented, so as to equal that of the architrave; by which means, the proportion of the entablature to the column, will be better; for the relation of one to five, is, generally speaking, too small. In the cornice it will likewise be well to add, between the corona and fillet, under the cyma, an ogee of the same dimension with that over the modillions. Thus all the parts will be equally rich, and the upper cyma be better supported. This, Scamozzi has done in his profile: though in other respects, his Ionic entablature may be considered as a copy from Palladio; the fillet, being thus sustained by the ogee, may be diminished a trifle.

Palladio's other profile, I have copied from the rotunda

of Capra<sup>1</sup>; its height is likewise one fifth of the column. The frize, as in the former design, is low and swelled: but it will be better to raise it to the same height with the architrave, and keep it upright as before directed; for the swell gives it a clumsy form, and appearing a continuity of the same undulations which compose the architrave and cornice, serves to render the outline of the whole entablature confused and much too abundant in curves. The frize when so formed, conveys the idea of a piece of timber, used without being hewn; as was the practice of ruder times among the Greeks, and cannot with propriety be introduced in a finished work.

In the antique, there are few examples of these swelled frizes. Palladio probably took his hint, from the temple of Bacchus, near Rome, where the swelled frize has been used in a Composite order: or perhaps, from the Basilica of Antoninus, where it has been employed in a Corinthian: with little success at the last, and with much less at the first of these places; for as the columns are there insulated, and the profile is marked at the four angles, the deformity becomes so much the more conspicuous; and, notwithstanding Palladio's partiality to this form of frize, which so frequently recurs in most of his works; it seldom or never can be introduced with success, but on doors or windows, where the profile of the architrave is not marked under it: there indeed, the swell forms a good contrast with the upright jambs, and has the farther advantage of contracting the spread of the cornice, which, in narrow intercolumniations, is very convenient; and in most cases,

<sup>1</sup> Villa del Marchese Capra above mentioned. This villa, at Vicenza, is familiarly called *La Rotonda*. [ED.]



may prevent the licentious practice, of making the frize and cornice no wider than the aperture of the door or window, and supporting them on each side with a sort of scroll, as at the Sorbonne in Paris, and at the Mansion House in this city.

Palladio, in both these profiles, has enriched the soffit of the corona with roses, which are here omitted, as in most cases they ought to be. However, when the column is fluted, and the rest of the composition much adorned, they may, and should be, introduced; care being taken to proportion the pannels, and other parts surrounding them, in the same manner as if the order were Corinthian or Composite.

The antique Ionic capital differs from any of the others; its front and side faces are not alike. This particularity, occasions great difficulty, wherever there are breaks in the entablature; or where the decoration is continued in flank, as well as in front: for either, all the capitals in the flank must have the baluster side outward, or the angular capitals will have a different appearance from the rest; neither of which is admissible. The architect of the temple of Fortune at Rome<sup>1</sup>, has fallen upon an expedient, which in some degree, remedies the defect. In that building, the corner capitals have their angular volutes in an oblique position, inclining equally to the front and side, and offering volute faces both ways. Wherever persons are violently attached to the antique, or furiously bent on rejecting all modern inventions, however excellent, this is the only mean to gratify them; but when such is not the case, the angular capital invented

<sup>1</sup> This is however far from a pure example. [ED.]

by Scamozzi<sup>1</sup>, or imitated and improved by him, from the temple of Concord, or borrowed from some modern compositions extant in his time, ought to be employed; for the distorted figure of the antique capital, with one volute straight and the other twisted, is very perceptible, and far from being pleasing to the eye.

Annexed is a design of Scamozzi's capital, and another of a very beautiful one, executed in St. Peter's, of the Vatican; probably composed by Michael Angelo. Similar capitals may also be seen in the church of the Roman college, and in various other buildings at Rome.

In this order, I have employed the Attic base. Of the antique base described by Vitruvius, and used by Vignola and Philibert Delorme, in their Ionic orders, and by Sir Christopher Wren, in some parts of St. Paul's, I think there is no example among the antiques; and being universally esteemed a very imperfect production, I have not even given a design of it.

As the Doric order is particularly affected in churches or temples, dedicated to male saints; so the Ionic is principally used in such as are consecrated to females, of the maternal state. It is likewise employed in courts of justice, in libraries, colleges, seminaries, and other structures having relation to arts or letters; in private houses, and in palaces; to adorn the women's apartments; and, says Le Clerc<sup>2</sup>, in all places dedicated to peace and tranquillity. The ancients employed it in temples sacred to

<sup>1</sup> This is no invention of Scamozzi—See Stuart's Athens, Temple on the Ilissus, and of Minerva Polias. [ED.]

<sup>2</sup> Art. v. p. 14—Des differens Ordres de Colonnes. [ED.]

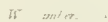
Juno, to Bacchus, to Diana, and other deities whose dispositions held a medium, between the severe and the effeminate<sup>1</sup>.

<sup>1</sup> Vitruvius, Lib. i. c. 2—"Junoni, Dianæ, Libero patri cæterisque Diis qui eâdem sunt similitudine, si ædes Ionicæ construerentur, habita erit ratio mediocritatis, quod et ab severo more Doricorum et a teneritate Corinthiorum, temperabitur earum institutio proprietatis." [ED.]

## OF THE COMPOSITE ORDER.

STRICTLY speaking, the ancients had but four orders ; the Composite was not considered by them as a distinct production. Vitruvius expressly tells us, Book IV. chap. 1, that on Corinthian columns, other capitals of various kinds were employed, which nevertheless ought not to change the names of the columns, because their proportions remained still the same <sup>1</sup>.

<sup>1</sup> On which passage Perrault, in his Translation of Vitruvius, adds the following note:—"Cecy s'entend à mon avis du Chapiteau de l'Ordre Composite qui est fait de l'assemblage des parties des autres Chapiteaux, comme de celle de l'Ionique dont il emprunte l'Echine et les volutes, et de celles du Corinthien dont il a les feuillages. Ceux qui prétendent avec Philander que Vitruve n'a point parlé de l'Ordre Composite, se fondent sur ce qu'il a dit que la diversité des ornemens du chapiteau, ne change point l'espece de la colonne, comme si la difference spécifique des colonnes consistoit dans la proportion de leur hauteur, à comparaison de leur grosseur : mais cette raison ne doit point empêcher qu'il ne soit vray de dire que Vitruve a traité de l'Ordre Composite aussi-bien que du Corinthien, puisque selon Vitruve l'Ordre Corinthien n'est different de l'Ionique que par le chapiteau, et qu'il est vray que le seul changement des ornemens du chapiteau peut faire un Ordre different, bien que la proportion de toute la colonne ne soit en rien changée : car les Ordres Composites qui nous restent des Anciens, tels que sont ceux de l'Arc de Titus et de celui de Veronne, n'ont rien dans leurs colonnes qui soit different de l'Ordre Corinthien que les ornemens du chapiteau. Cependant Philander dit que l'Ordre Composite n'a esté introduit que long temps après Vitruve ; bien que l'on tiennne que le Baptistere de Constantin qui est d' Ordre Composite, a esté basti des ruines d'Edifices très-anciens, et que le Temple de la Concorde dont on voit encore des restes à Rome, a esté fait par Camillus qui vivoit longtemps avant Vitruve : Or les colonnes de ce Temple tiennent de l'Ionique et du Dorique, ce qui les peut faire passer pour Composites : si ce n'est que Philander entende par Ordre Composite un certain Ordre réglé, qui est celui qu'on appelle autrement Italique, et non pas tout ce qui participe de plusieurs autres Ordres : ce qui fait que quelques-uns nomment ces







The moderns, however, have ranked the Composite with the four orders mentioned by Vitruvius ; having, among the great number of different Composite capitals to be met with in the remains of antiquity, chosen for their model, that which has been used in the triumphal arches in the temple of Bacchus, and at the baths of Dioclesian : rather, I believe, as agreeing most with the description of Vitruvius, who observes that these capitals were composed of the Ionic, Doric, and Corinthian, than from any preference in point of beauty to many others.

Neither doth it appear, that the ancients affected any particular form of entablature to this order : sometimes they made the cornice entirely plain, as in the temple of Bacchus ; at others, enriched with dentils, and differing very little from the Ionic, as in the arch of Septimius Severus : and in the arch of Titus, there are both dentils and modillions, the whole form of the profile being the same with that of the Corinthian, as it is executed in most of the antiques at Rome and elsewhere.

The modern architects, have varied more in this, than in any other of the orders. Abandoned, as De Chambray<sup>1</sup> observes, by their guide Vitruvius, and left entirely at large, they have all taken different paths, each following the bent of his own particular fancy. Among them, Serlio has been least successful ; having chosen for the model of his entablature, that of the fourth order of the Coliseum : a composition too clumsy, even for a Tuscan order. Delorme, however, has followed his example ;

Ordres *Composez*, qui peuvent estre infinis, et les distinguent du *Composite*, qui est un Ordre fixé, et qui a une figure et des proportions certaines et établies dans un grand nombre de fameux Edifices." [ED.]

<sup>1</sup> Parallele—Part ii. c. 4.

[ED.]

and mistaken the columns of the fourth order of the Coliseum, which are Corinthian, for Composite.

Palladio, in his profile, has imitated the cornice of the frontispiece of Nero, and corrected its defects with much judgment. His architrave is likewise taken from the same building, but he has omitted its beautiful frize, and substituted in its place a swelled one, similar to that of the Basilica of Antoninus. His whole entablature is too low, being only one fifth of the column, and it is remarkable that though he has made the column more delicate than in the Corinthian order, yet his entablature is made far more massive, being composed of fewer and much larger parts. In the design given on the second plate of the Composite order, Palladio's measures have been closely observed; but if the frize were augmented, so as to raise the entablature to two ninths of the column, made upright, and enriched with ornaments, it would be more perfect, and might be employed with success in works of large dimensions, which require to be seen from a considerable distance; but for interior decorations, or in places where much delicacy is required, the composition is somewhat too massive.

Palladio's capital and base, are imitations from the arch of Titus. The latter of them is designed without a plinth, as it is executed in the temple of Vesta at Tivoli, and joined to the cornice of the pedestal by a slope, which not only has a bad effect, but is in itself defective, because the base is thus divested of its principal member, and rendered disproportionate <sup>1</sup>.

<sup>1</sup> Where the column rises from a deep plain pedestal without cornice or base, the practice which our author condemns, is very far from being offensive or disagreeable. [ED.]

Vignola's Composite has nothing in it remarkable. The architrave differs but little from that of the frontispiece of Nero, and the cornice is nearly the same with that of his Ionic order, the principal difference consisting in the transposition of some mouldings, and enlargement of the dentils ; both which seem rather alterations for the worse than improvements <sup>1</sup>.

Scamozzi's entablature being, like Palladio's, only one fifth of the column and much divided, has a trifling appearance. The cornice however is, upon the whole, well composed, and in a great measure imitated from that of the third order of the Coliseum ; the capital is much like Palladio's, and the base is Attic, enriched with astragals, as at the Basilica of Antoninus.

The design which I have given in the first plate of the Composite order, is an invention of my own ; in which I have attempted to avoid the faults, and unite the perfections, of those abovementioned : how far with success is left to the reader's determination, and at any rate, recourse may still be had to Palladio, Scamozzi, or Vignola, as heretofore. The height of the column is twenty modules, that of the entablature five ; the base is Attic, and its measures are the same as in the Doric or Ionic orders, but as the module is less, all its parts are of course proportionably more delicate. The shaft is enriched with flutings, which may either be to the number of twenty or of twenty-four, as on the Ionic column ; for there is no rea-

<sup>1</sup> I nevertheless prefer Vignola's as well as Scamozzi's capitals to the profile which our author has given ; that of the former is far more elegant in its form as well as in the details. But Vignola's entablature is not in *tone* with his capital ; the want of modillions renders its aspect too meagre and plain.

[ED.]

son why, in different orders, their number should either be augmented or diminished ; the module being less, the flutes will likewise be less, and correspond exactly with the character of the rest of the composition.

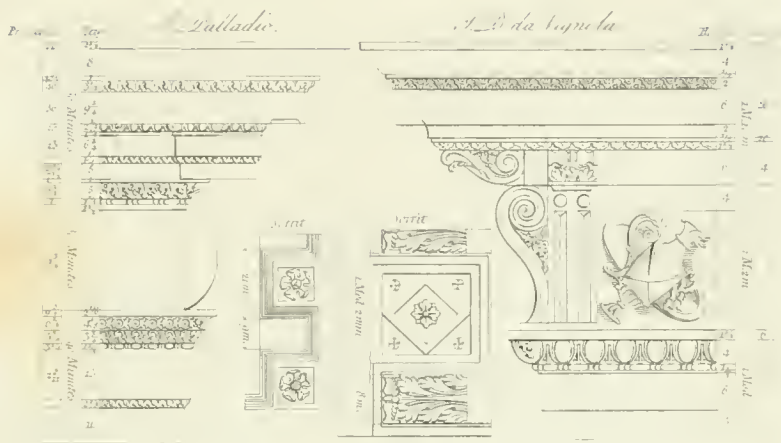
The capital is of the kind which all the moderns have employed in this order, being enriched with leaves of the acanthus, as all the antique capitals of this sort are. With regard to the method of tracing it, few directions will suffice, for the designs are exactly drawn and figured. The curvatures of the abacus are described from the summits of equilateral triangles ; the projection of the volutes is determined by a line drawn from the extremity of the astragal to the extremity of a horn of the abacus ; and the projection of the leaves is determined by another line drawn parallel to that from the fillet, under the astragal.

The manner of executing both these and all other enriched capitals in this city, is, generally speaking, bad. I do not, however, mean to accuse our English workmen of incapacity ; many of them are excellent, and in neatness of execution, out-do, perhaps, those of any other country, —but, sometimes from the parsimony of their employers, and in some degree, perhaps, for want of thorough skill and facility in design, their performances are often insipid, without intention or effect, and by no means expressive either of the taste or intelligence of the performer.

Many even of our greatest architects have too much neglected the detail ; having employed their attention wholly on the general disposition of their compositions. This neglect, though authorised by great examples, ought by no means to be imitated. It is the business of the architect to attend to the minutest objects, as well as to the most considerable. If the entire execution of the fabric



# Composite Entablatures & Capitula



Flora



Mars



Apollo



Juno Ceres



Venus



Jupiter



be left to his direction, the faults that are committed will, of course, be stated to his account, and therefore it will be prudent in him to select the ablest workmen, and to furnish them with proper models and precise instructions, in which he will shew the extent of his capacity, and distinguish himself from the common herd of those who, without due qualifications, assume the title of architects. The most masterly disposition, incorrectly executed, can only be considered as a sketch in painting, or as an excellent piece of music miserably murdered by village fiddlers, equally destitute of taste and powers of execution.

Care must be taken in Composite, as well as in Corinthian capitals, that the feet of the lower leaves do not project beyond the upper part of the shaft of the column, as at St. Carlo in the Corso<sup>1</sup> at Rome, and at the Banqueting-House in London; for nothing can be uglier. Neither are these leaves as they mount, to bend forwards, as in many of the antiques, and in some modern buildings, because they then hide a considerable part of the upper row of leaves, and give a stunted disagreeable form to the whole capital. The different divisions of the acanthus leaf, and bunches of olive or parsley which compose the total of each leaf, must be firmly marked, and massed in a very distinct manner; the stems that spring from between the upper leaves are to be kept low upon the vase of the capital, while rising between the leaves, then spring gradually forwards, to form the different volutes; and the ornaments, which sometimes are

<sup>1</sup> St. Carlo in the Corso was built at the expense of the people of Lombardy about 1612, on the designs of Onorio Longhi and Pietro da Cortona. The chapel in the western transept, by Paolo Posi, is one of the most magnificent in Rome.

[ED.]

used to adorn the sides of the angular volutes, are never to project beyond the fillets between which they are confined. These are all the directions that well can be given in writing, but those who would excel in ornamental works of this kind or any other, must consult the foliages and flowers of nature, the buildings, ancient or modern, in which they have been executed with care and judgment. The Ionic, Composite, and Corinthian capitals to be seen in various parts of Somerset Place, were copied from models executed under my direction at Rome, and imitated, both in point of forms and manner of workmanship, from the choicest antique originals. They may serve as guides to such as have had no opportunity of examining the buildings from which these models were collected.

The parts of the entablature bear the same proportion to each other as in the Ionic and Tuscan orders. The architrave is nearly of the same form with those of Palladio and Vignola, and that of the Basilica of Antoninus. The frize is enriched with foliages, in imitation of those on the frize of Nero's frontispiece, of which the most prominent parts should never project more than doth the uppermost moulding of the architrave under them.

The cornice is imitated from Scamozzi, and differs from the Corinthian only in the modillions, which are square, and composed of two fascias. The soffit of the intervals between the dentils must be hollowed upwards behind the little fillet in front, as they are in most of the antiques, which occasions a dark shade that marks the dentil more distinctly; and the same method must be observed in the Ionic and Corinthian orders, for the same reason. The roses in the soffit of the corona are not to project beyond

its horizontal surface, and care must be taken not to vary them so much as at St. Peter's of the Vatican, because the unity of the composition suffers thereby; the modillions or dentils might, with almost as much propriety, be varied. It will be proper, therefore, in small compositions, to make them all alike, as they are in most of the antiques; that so they may not strike nor occupy the attention of the beholder as objects for distinct contemplation, but as parts of one great whole. In larger compositions, they may be of two kinds, but similar in outline and dimension, which occasions more variety, yet without confusion; for then the images succeed each other so rapidly, and are, from their similitude, so instantaneously comprehended, that the third impression takes place before the first is in any degree obliterated; so that nearly the same effect is produced as by a continued succession of the same object.

But though this variety be practised, and is to a certain degree allowable in small objects which the eye peruses at a glance, or in such as being merely accessory, may or may not be introduced, and do not affect the general outline or bent of the composition, yet it is by no means to be tolerated in columns and other principal or essential parts, which, from the number of their constituent points, are not conveyed to the mind at once, either with ease or perfect clearness, and therefore, if varied, cannot fail of exciting confused ideas.

In the fourth book of Palladio we find, among other ancient temples, one, of which the portico consists of four Corinthian columns and two pilasters. The pilasters are fluted in a perpendicular direction; two of the columns are fluted spirally, and the other two have the shafts co-



vered with laurel leaves,—a variety absurd as unpleasing, which totally destroys the general effect of the composition, and conveys no idea but that of a structure made up of discordant fragments, as they happened to come in the builder's way<sup>1</sup>.

The Romans used the Composite order more frequently in their triumphal arches than in any other buildings; meaning, as Serlio supposes<sup>2</sup>, to express their dominion over those nations that invented the orders of which this is composed. It may, says Le Clerc<sup>3</sup>, be used with propriety wherever elegance and magnificence are to be united, but it is more particularly adapted to buildings designed to commemorate signal events, or celebrate the virtues and achievements of conquerors and legislators, because the capitals and other ornaments may be composed of emblems and of allusive representations, agreeable to the custom of the ancients, as appears by very many fragments of capitals and other members of architecture, scattered about in different parts of Rome and elsewhere. Some of these are represented in the second plate of the Composite order, and more may be found in the works of Montano<sup>4</sup>, Le Clerc, Piranesi, and others,

<sup>1</sup> This is the small temple at Trevi, between Foligno and Spoleto. Palladio thus apologizes for its *bizzarrie*. “Gli Antichi in simil sorte di edificij, e massime ne i piccioli, posero grandissima diligenza nel polire ciascuna parte, e far loro tutti quegli ornamenti, che fossero possibili, e che stessero bene; ma nelle fabbriche grandi come Anfiteatri, e simili, polirono solamente alcune particelle, lasciando il rimanente rozo per schifare la spesa,” &c. Lib. iv. c. 25. [ED.]

<sup>2</sup> Libro iii. page 88, Venice Edit. of 1619. [ED.]

<sup>3</sup> *Traité d'Architecture*. Art. v. page 14. [ED.]

<sup>4</sup> Montano (Giov. Bat.). “*Li cinque Libri di Architettura*.” Fol. Roma, 1691. There was an edit. of this book in 1684. [ED.]

of whose works the reader will find a catalogue in the *ABECEDARIO pittorico*<sup>1</sup>.

The Composite entablature may be reduced to two-ninths of the column, which, to avoid fractions, I shall call four modules and a half, by making the module only nine-tenths of the semi-diameter, and observing the same measures as are figured in the design, and there then will be a dentil in the outward angle, as in the Ionic order. It may likewise, if required, be reduced to one-fifth, by making the module four-fifths of the semi-diameter: though, in cases where it may be necessary to diminish so much, it will always be better to employ the Ionic cornice, which, being composed of fewer parts, will still retain an air of grandeur, notwithstanding the smallness of the general mass.

Most authors give to the Composite order the last place, as being last invented, and a compound, which, of course, ought to be preceded by all the simples. I have, however, followed Scamozzi's arrangement, his appearing to me the most natural; for his orders succeed each other according to their degree of strength, and in the progression that must absolutely be observed, whenever they are to be employed together.

<sup>1</sup> Orlandini (Fr. Pellegr. Ant.). *Abecedario pittorico*, nel quale sono descritte le vite degli antichissimi pittori, scultori ed Architetti, &c. 4to. Venezia, 1753.

[ED.]

## OF THE CORINTHIAN ORDER.

THE three columns in the Campo Vaccino<sup>1</sup>, supposed remains of the temple of Jupiter Stator, are generally allowed to be the most perfect models of the Corinthian order amongst the antiques at Rome. Palladio, in his fourth book, where he gives the whole profile at large, acknowledges that he never had seen any work better executed, or more delicately finished; that its parts are beautifully formed, well-proportioned, and skilfully combined; all which last qualities are certainly signified by his *Benissimo intesi*.

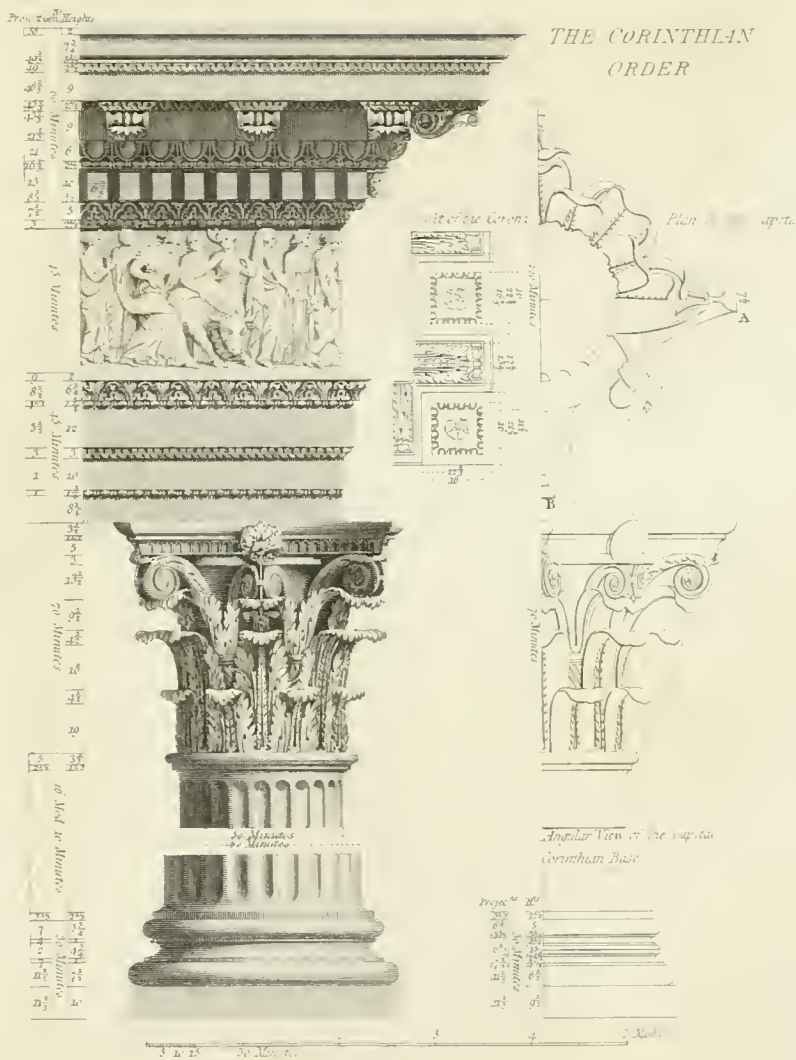
With these favorable sentiments, it is extraordinary that, in his design of the Corinthian order, he should so very considerably deviate from this excellent original as scarcely to leave the smallest shadow of resemblance.

Vignola, in his Corinthian profile, has chiefly imitated the abovementioned fragment, and the interior order of the Pantheon, another very perfect model. His composition is uncommonly beautiful, and, without dispute, superior to that of any other master; he having artfully collected all the perfections of his originals, and formed a whole far preferable to either of them.

The design which I have given differs but little from that of Vignola<sup>2</sup>. The column is twenty modules high,

<sup>1</sup> As this order has received the admiration of ages, the Editor has thought proper to give an additional plate of it. It will be useful to compare its profile with that of our author, whose exemplification of the Corinthian is certainly inferior to those of his other orders. [ED.]

<sup>2</sup> However small the difference which our author has made, I think he

<sup>7</sup> *vision del.*18 *Thamniotis nua*

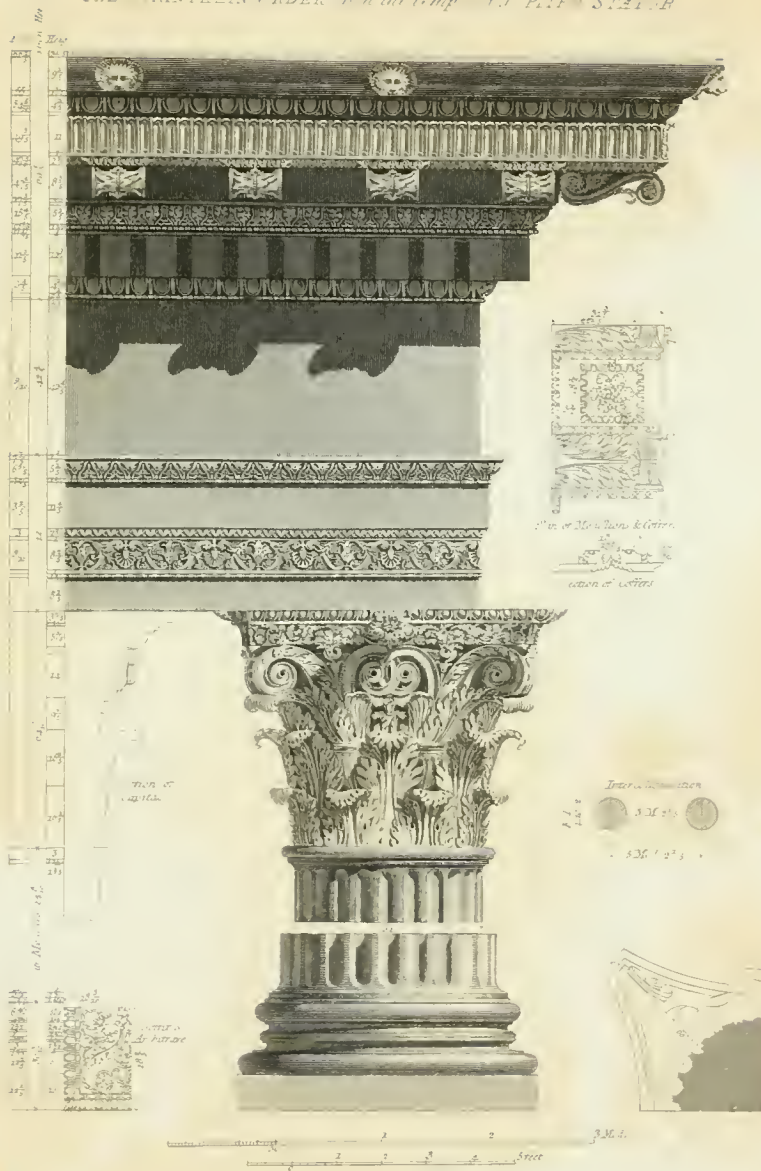
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THE CORINTHIAN ORDER on the temple of JUPITER at STABIAE





and the entablature five ; which proportions, are a medium between those of the Pantheon, and of the three columns. The base of the column, may be either Attic or Corinthian ; both are beautiful. Palladio and Scamozzi have employed the Attic base enriched with astragals ; but so frequent a repetition of the same semi-circular forms in junction, has a very indifferent effect ; as may be observed at the church of St. Martin in the Fields, at the Bank, and in various other buildings of this city, in which the profiles and forms of Palladio, good, bad, or indifferent, have indiscriminately been employed.

If the entablature be enriched, the shaft of the column should be fluted, provided it be not composed of variegated marble ; for a diversity of colours renders even smooth surfaces confused, and ornaments of sculpture only serve to make the confusion greater. The flutings may be filled to one third of their height with cablings, as on the inside order of the Pantheon ; which strengthen the lower part of the column, and make it less liable to damage. But when the columns are not within reach, nor subject to be hurt by passengers, the cables are better omitted, as the general hue of the shaft will then be the same throughout, and seem of a piece ; which, when a part of the flute is filled, and the other part left empty, is not the case ; for the shaft then appears divided, and is less calculated to produce a great effect.

In some very rich buildings, the cablings are composed of reeds, husks, spiral-twisted ribands, flowers, and various other ornaments. At the Thuilleries in Paris, there are some Ionic columns exquisitely wrought in this

has ruined Vignola's profile. The additional height of capital is decidedly for the worse.

[ED.]

manner; one of them by Jean Gougeon's<sup>1</sup> own hand, and the rest under his immediate inspection.

It is however, far better to reserve such niceties for interior decorations. In exterior compositions, whatever doth not contribute to the forcible effect of the whole structure, is in a great measure useless, sometimes even detrimental; and an expense, which might more judiciously be employed, where it would be more attentively considered. In general, it may be laid down as a maxim, that excessive ornaments, though they may, and often do, increase the magnificence of a building, almost always destroy, more or less, the grandeur of its effect. Parts in themselves large, formed and disposed to receive broad masses, or strong oppositions of light and shade, must necessarily excite great ideas; but when these parts are broken into a number of small divisions, and their surfaces so varied, as to catch a thousand spotty impressions of light, demi-tints, and darkness, the whole will, of course, form a confused appearance of trifling objects, which divide the attention, and are utterly incapable of exciting any powerful emotions whatever.

The capital is enriched with olive leaves, as are almost all the antiques at Rome, of this order; the acanthus being seldom employed, but in the Composite<sup>2</sup>. De Cor-

<sup>1</sup> Jean Gougeon, a French sculptor and architect in the reign of Francis I., was an artist of very superior talents, and occasionally employed himself in modelling. Being a Protestant, he was one of the unfortunate sufferers in the horrid massacre on St. Bartholomew's day, 1572. [ED.]

<sup>2</sup> The Acanthus, Brancorsina, Bear's paw, Ἀκάνθος, a creeping flexible plant, whose leaves are wider than those of the common lettuce, and of considerable length. Its root bears some resemblance to a bear's fore paw; hence, in Italian, it has received the name of Brancorsina. Its *habitat* is in damp situations, but it may be raised in any garden. There are two species—one, which is prickly and jagged, resembling a

demoy, however, prefers the acanthus; and observes that the flexible sprigs, which accompany the leaves of that plant, may more naturally be supposed to form the contour of the volutes, than the stiff branches of a laurel, or an olive tree. “Strange it is, says he, that we soon cease to esteem what is natural; nature and reason must always be violated, and thus a confused jumble of little pointed leaves of an olive, or a laurel, is preferred to the simple and graceful outline of the acanthus.”

De Cordemoy's observation is, strictly speaking, just; yet to variety, something must be sacrificed, some liberties taken; and both the ancient as well as modern sculptors, have, by uniting several olive, laurel, or parsley leaves together, to form distinct bunches, separated by filaments between which they seem to grow, contrived to compose leaves, different in appearance from the acanthus indeed, yet, neither more confused nor less graceful than that.

thistle—this is the shorter species, and from its thorny appearance, is properly the Acanthus from *ἄκανθα*, a thorn. The other sort is cultivated, and has a smooth leaf, and is the plant of which Virgil speaks—

“ ——— aut flexi tacuisssem vimen acanthi.”

Georg. Lib. iv. 123.

It was used for medicinal purposes.—See Pliny, *Lib. ii. c. 22*. And is the species which was adapted by the early architects to the decoration of the Corinthian capital—and in other ornamental foliage, as we find in *Virg. Ec. iii. 44*. Edit. Heyn.

“ Et nobis idem Alcimedon duo pocula fecit,  
Et molli circum est ansas amplexus Acantho.”

Propertius, *l. iii. eleg. 7. v. 14*—and Virgil again, *Æn. i. 649*, &c.

“ Et circumtextum croceo velamen Acantho.”

There was a tree also which bore the name of Acanthus—found chiefly in Egypt. [ED.]



With respect to the manner of tracing and working this capital, the designs, with what has been said on the same subject in the Composite order, will serve as a sufficient explanation.

The divisions of the entablature bear the same proportion to each other, as in the Tuscan, Ionic, and Composite orders. The frieze is enriched with a bas relief, composed from various fragments in the Villa Medici at Rome<sup>1</sup>. The parts and ornaments of the cornice, are all regularly disposed, and perpendicularly over each other: the coffers in the soffit of the corona are square, and the borders round them equal on all sides, as they are in the arch of Titus, and as Palladio has made them; a precaution neglected by Vignola, notwithstanding his usual regularity.

The ancients frequently employed the Ionic entablature in the Corinthian order, as appears by many of their buildings; and sometimes, according to Vitruvius, even the Doric; though of the latter practice, there is not now, that I know of, any example extant. The same author observes, that the Greeks in their works, never employed the dentils under the modillions, because the rafters, which are represented by the dentils, could never in reality be placed under the beams or joists, which are represented by the modillions. However this may be, we are certain that the Romans were not so very scrupulous; for in their most esteemed works, such as the

<sup>1</sup> The basso relievo which the author has selected to decorate his frieze, is very ill chosen for the purpose. It is so overloaded and insubordinate to the whole, that a glance is sufficient to condemn it. The great talents of Messrs. Lowry and Moses have, however, in the plate to this, made it much more supportable than it is in the original editions. [ED.]

temple of Jupiter Stator, the forum of Nerva, the temple of Jupiter Tonans, and several others, we find the dentils placed under the modillions. These examples will sufficiently authorise the same practice. The origin or reason of things of this nature is remote, and known to but few ; while the general effect of a composition, is obvious to all. If deviating, therefore, from what is little known and less felt, will eminently contribute towards the perfection of that which all see and all approve, it cannot justly be censured.

This liberty, however, of deviating from the origin or reason of things, was by the ancients, and must by us, be exercised with great caution, as it opens a wide door to whim and extravagance, and leaves a latitude to the composer, which often betrays and hurries him into ridiculous absurdities. Bernini sometimes quitted the beaten road with judgment ; but Borromini<sup>1</sup>, first his scholar, and at length his rival, in attempting to conquer by novelty, and quitting the ancient rules, was submerged in an ocean of extravagance. Thus, says the author of his life, from being among the first men of his time for abilities and extent of genius, Borromini sunk to a level with the last, by a ridiculous application of his talents.

I do not know who first introduced among us the favorite ornament of festoons standing up like arches, instead of hanging down as nature directs ; nor do I recollect the name of him who, in the church of St. Romolo

<sup>1</sup> Francesco Borromini was born in 1599—he studied architecture under Carlo Maderno. So jealous was he of the fame and reputation of Bernini, that he is said to have stabbed himself in Rome, 1667. It is, however, rather strange that such a cause should have led him to so desperate an act, because, from the number of his edifices, he must have enjoyed considerable employment in his profession. [ED.]

at Florence, has, for the sake of variety, placed the capitals at the feet of his columns : but select these facts, as absurd instances, among others, of the length to which innovators may carry any system unrestrained by rules, and subject to no other laws than the crude momentary effusions of a vitiated fancy. Things evidently absurd, no time nor authority can sanctify.

When the modillion cornice is employed on large concave surfaces, the sides of the modillions and coffers of the soffit, should tend towards the centre of the curve, as in the Pantheon : but when the concave is small, it will be better to direct them towards the opposite point in the circumference, that the contraction may be less perceptible, and the parts dependent thereon suffer less deviation from their natural form. The same rules must be observed with regard to dentils, to the abacus and bases of columns or pilasters, and likewise to the flanks of the pilaster itself. But on a convex surface, the sides of all these should be parallel to each other, for it would be unnatural, and very disagreeable to see them narrowest where they spring out of the cornice, diverging as they advance forwards, forming sharp angles, and a sort of mutilated triangular plan, with enlarged solids and diminished intervals : all calculated to destroy the usual proportions and beauty of the composition.

The Corinthian entablature may be reduced to two ninths, or one fifth of the height of the column, by the same rules as are given in the Ionic and Composite orders : but where it becomes necessary, or is judged expedient, to make the entablature so small as one fifth, it will, I apprehend, be best to substitute the Ionic entablature, as Palladio has done in the Peristyle of his Olympic Theatre

at Vicenza, and in many others of his buildings : or else to retrench the dentils of the cornice, as in one of Serlio's, and in Scamozzi's profiles ; the part of the cornice under the modillion band, remaining then composed of only the ovolo and ogee, separated by a fillet, as in the temples of Trevi and Scisi in Umbria, mentioned in Palladio's fourth book.

The Corinthian order is proper for all buildings, where elegance, gaiety, and magnificence are required. The ancients employed it in temples dedicated to Venus, to Flora, Proserpine, and the nymphs of fountains; because the flowers, foliage, and volutes, with which it is adorned, seemed well adapted to the delicacy and elegance of such deities<sup>1</sup>. Being the most splendid of all the orders, it is extremely proper for the decoration of palaces, public squares, or galleries and arcades surrounding them; for churches dedicated to the Virgin Mary, or to other virgin saints: and on account of its rich, gay, and graceful appearance, it may with propriety be used in theatres, in ball or banqueting rooms, and in all places consecrated to festive mirth, or convivial recreation.

<sup>1</sup> “ Veneri, Floræ, Proserpinæ, fontium Nymphis, Corinthio genere constitutæ, aptas videbuntur habere proprietates, quod his Diis propter tenebritatem, graciliora et florida, foliisque et volutis ornata opera facta, augere videbuntur justum decorem.” Vitruvius, Lib. i. c. 2.

## OF PILASTERS.

PILASTERS are, I believe, a Roman invention, and certainly an improvement. The Greeks employed *antæ*<sup>1</sup> in their temples, to receive the architraves where they entered upon the walls of the cell. These, though they were in one direction of equal diameter with the columns of the front, were in flank extravagantly thin in proportion to their height, and neither their bases nor capitals bore any resemblance to those of the columns they accompanied. The Roman artists disgusted, probably, with the meagre aspect of these *antæ*, and the want of accord in their bases and capitals, substituted pilasters in their places, which being proportioned and decorated in the same manner with the columns, are certainly more seemly, and preserve the unity of the composition much better.

Pilasters differ from columns in their plan only, which is square, as that of the column is round. Their bases, capitals, and entablatures have the same parts, with all the same heights and projections as those of columns, and they are distinguished in the same manner, by the names of Tuscan, Doric, Ionic, Composite, and Corinthian.

Of the two, the column is, doubtless, most perfect. Nevertheless, there are occasions in which pilasters may

<sup>1</sup> One of the most objectionable practices of the day, is the servile imitation of the Greek *antæ*. It is quite inconsistent with any regard to the primitive types from which the Grecian architecture is supposed to have originated. Added to this, their application in such very thin laminae against the walls as could be pointed to in some Pseudo-Grecian buildings about the metropolis, produces a remarkably silly and sheepish effect.

[ED.]



# *Plans and Elevations of Pilaster Capitals.*



Fig 1



Fig 3



Fig 2



Fig 1

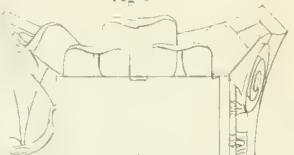


Fig 3

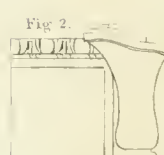
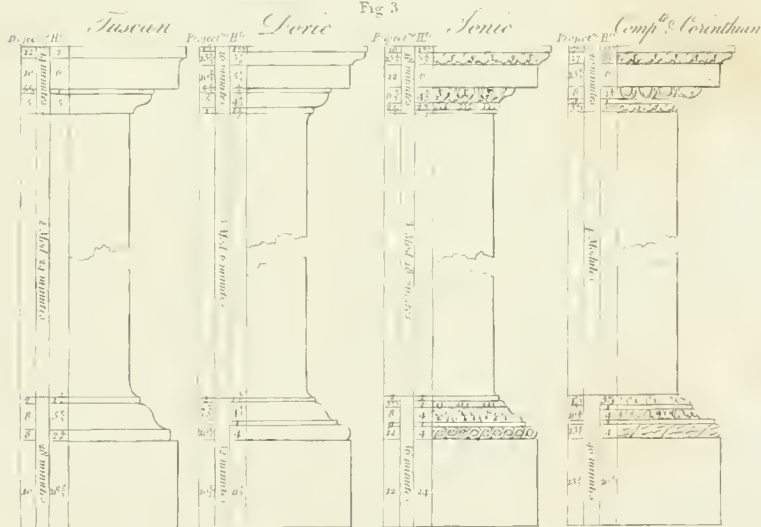


Fig 2



## *Pedestals for the Orders.*



be employed with great propriety ; and some, where they are, on various accounts, even preferable to columns.

I am not ignorant that several authors are of a different opinion : a certain French Jesuit <sup>1</sup> in particular, who some thirty years ago, first published an essay on architecture, which from its plausibility, force, and elegance of diction, went through several editions, and operated very powerfully on the superficial part of European connoisseurs. He inveighs vehemently against pilasters, as against almost every other architectonic form but such as were imitated by the first builders in stone, from the primitive wooden huts ; as if, in the whole catalogue of arts, architecture should be the only one confined to its pristine simplicity, and secluded from any deviation or improvement whatever.

To pilasters the essayist objects, because they are, in his opinion, nothing better than bad representations of columns. Their angles, says he, indicate the formal stiffness of art, and are a striking deviation from the simplicity of nature ; their projections, sharp and inconvenient, offend and confine the eye, and their surfaces without roundness, give to the whole order a flat air : they are not susceptible of diminution, one of the most pleasing properties of columns ; they are never necessary, and to sum up the whole, he hates them : his aversion was first innate, but has since been confirmed by the study of architecture.

Concerning the reverend father's inborn aversion, much need not be said, and several others of his objections, as they consist more of words than meaning, seem not to

<sup>1</sup> The Abbé Laugier.

[ED.]

require any refutation ; but to assert that pilasters are not susceptible of diminution, shews very little acquaintance either with books of architecture or with buildings. There are many instances, in the remains of antiquity, of their being diminished, particularly when accompanying columns ; they are so, in the temple of Mars the avenger, in the frontispiece of Nero, in the portico of Septimius Severus, and in the arch of Constantine, all at Rome. Scamozzi<sup>1</sup> always gave to his pilasters the same diminution as to his columns ; Palladio has diminished them in the church of the Redentore at Venice, and in many others of his buildings ; as Inigo Jones<sup>2</sup> has likewise done in

<sup>1</sup> He says, *Parte Seconda Lib. sesto, Cap. ii.* “ I Pilastri ancor essi tengono una certa simiglianza con le Colonne, ma pero sono quadrilateri, ad imitazione de gli alberi squadrati.” [ED.]

<sup>2</sup> This justly celebrated English architect was the son of Ignatius Jones, a clothworker, and was born in the vicinity of St. Paul's, about 1572. He is said to have been apprenticed to a joiner, but that he remained long in such fetters is not probable, from the circumstance of his early skill in landscape painting, of which a specimen is, I believe, still to be seen in Chiswick House. It is not settled who had the honor of being his patron ; some place it to the account of the Earl of Arundel, others to that of William, Earl of Pembroke. At the expense, however, of one of these, he visited Italy, in which country he spent much of his time at Venice. From Venice he passed into Denmark, on the invitation of Christian IV. In 1606 he returned to his native country, in the suite of the king of Denmark, whose sister James I. had married. Mr. Seward observes that the first of his works in England was the interior of the church of St. Catherine Cree in Leadenhall Street. Soon after his arrival, he was appointed architect to the queen, and was also in the service of Prince Henry ; to these he gave so much satisfaction, that the king granted him the reversion of Surveyor-General. On the death of Prince Henry in 1612, Jones visited Italy a second time, where he remained until the office just mentioned fell to him. His liberality and disinterestedness on this occasion deserve to be recorded. Finding the office greatly in debt, he not only served without pay till the embarrassments were removed, but prevailed upon his fellow officers to do the like,—by which expedient the debt was soon cleared. He

many of his, particularly at the Banqueting-House at Whitehall.

And if we go back to the origin of things, and consider pilasters, either as representing the ends of partition walls, or trunks of trees reduced to the diameter of the round trunks which they accompany, but left square for greater strength, the reason for diminishing them will, in either case, be strong and evident.

It is likewise an error to assert that pilasters are never necessary, but that columns will at all times answer the same end, for, at the angles of all buildings, they are evidently necessary both for solidity and beauty,—because

wrote, by desire of the king, an account of Stonehenge, in 1620, in which year he was appointed one of the Commissioners for repairing St. Paul's Cathedral in London. On the death of James, he was continued in his situation by Charles I., for whom he executed the Banqueting-House, barely the fiftieth part of a palace at Whitehall, the designs for which had been made in the previous reign. In June 1633, the order was issued for the reparation of St. Paul's; on which Jones was, immediately afterwards, employed. During the reign of Charles I. Jones gave many proofs of his genius and fancy, in the machinery and designs for the scenic representations of masques and interludes, then so much in fashion,—Ben Jonson was usually the poet on these occasions. In 1614 these great men had a misunderstanding, which led the last named to lampoon Inigo under the character of Lantern Leatherhead, a hobby-horse seller, in his “Bartholomew Fair.” The rupture, after much coarse and virulent satire on the part of the poet, ended only with his death. About 1640 our architect fell into trouble on account of the times, for, during the usurpation, he was obliged to pay 545*l.*; being the composition for his estate, as a malignant. Jones was restored to his post by Charles II. but it was then little more than an empty title. Grief, it is supposed, occasioned by the calamity of his former master, put a period to his existence July 21, 1652. He was interred in the chancel of St. Bennet's, Paul's Wharf, London. His works are too well known to need an enumeration here: suffice it to say, that he was the father of pure architecture in this country. Several of his buildings may be seen in Campbell's *Vitruvius Britannicus*. His principal designs were published by Kent, fol. 1727, some of his lesser designs fol. 1744; and



the angular support having a greater weight to bear than any of the rest, ought to be so much the stronger ; so that its diameter must either be increased, or its plan altered from a circle to a square. The latter of which is certainly the most reasonable expedient on several accounts, but chiefly as it obviates a very striking defect, occasioned by employing columns at the angles of a building, which is that the angle of the entablature is left

others were also published by Mr. Ware. The Water Front of Old Somerset House, here inserted, has lately been indifferently copied in this



metropolis. Inigo Jones left a copy of Palladio, the Venice Edit. of 1601, with notes on the margin, in his own hand writing. He seems to have carried this copy about with him on his travels, from the notes being dated. The book, which has been badly preserved, is in the Library at Worcester College ; from it was traced a copy of the autograph of Jones, a facsimile of which is subjoined. See Note, page 24.

*Inigo Jones*  
1 march 1618

[ED.]

hanging in the air without any support ; a sight very disagreeable in some oblique views, and in itself very unsolid.

It is indeed customary in porches and other detached compositions to employ columns at the angles, and it is judicious so to do, for of two defects the least is to be preferred. And although father Laugier, the writer whose objections I have just now cited, could see no reason for rejecting detached pilasters when engaged ones were suffered, yet there is a very substantial reason, which is, that a detached pilaster, in some oblique views, appears thicker than it does in front, nearly in the ratio of seven to five, and consequently if, when seen in front, it appears well proportioned in itself, and with regard to the columns it accompanies, it never can appear so when viewed upon the angle ; as may be observed in the colonades of the great court at Burlington-House in Piccadilly, and at the porch of St. George's Church, near Hanover-Square.

Engaged pilasters are employed in churches, galleries, halls, and other interior decorations, to save room, for as they seldom project beyond the solid of the walls more than one quarter of their diameter, they do not occupy near so much space even as engaged columns. They are likewise employed in exterior decorations ; sometimes alone, instead of columns, on account of their being less expensive, as at the Duke of Queensbury's House in Burlington Gardens, General Wade's House in the same place, and in many other buildings here in London ; at other times, they accompany columns, being placed behind them to support the springing of the architraves, as in the Pantheon at Rome, and in the porch of St. Martin

in the Fields, Westminster; or on the same line with them, to fortify the angles, as in the portico of Septimius Severus at Rome, and in the church of St. Laurence of the Jewry in London. Blondel says<sup>1</sup>, they may likewise be employed instead of columns, detached, to form peristyles and porticos, but there is no instance of this, that I remember, in all the remains of antiquity; neither has any modern architect, I believe, been so destitute of taste as to put it in practice.

When pilasters are used alone, as principal in the composition, they should project one quarter of their diameter beyond the walls, as Scamozzi<sup>2</sup> teaches, and as they do at the Banqueting-House, Whitehall, which gives them a sufficient boldness, and, in the Corinthian and Composite orders, is likewise most regular,—because the stems of the volutes, and the small leaves in flank of the capital, are then cut exactly through their middles. But if the cornice of the windows should be continued in the inter-pilaster, as is sometimes usual, or if there should be a cornice to mark the separation between the principal and second story, as at the Mansion-House of London, or large impost of arches, the projection must, in such cases, be increased, provided it is not otherwise sufficient to stop the most prominent parts of these decorations; it being

<sup>1</sup> “On peut les mettre au lieu des rondes dans les portiques, dans les peristyles,” &c. Blondel, *Cours d'Architecture*, Liv. viii. chap. i.<sup>er</sup> [ED.]

<sup>2</sup> “I pilastri per regola generale quando saranno da se soli appoggiati alle mura deono uscire la quarta parte della loro larghezza, perche così fanno bello aspetto, e capiscono anco gli aggetti de gli ornamenti delle Porte, e Finestre, e Nicchi, ò Tabernacoli, che fussero trà essi; le quali non deono mai sopra avanzare al diritto di fuori d' essi Pilastri; e di questo vizio si hanno molto schiffato gli Antichi.” Scamozzi, *Parte Seconda*, Lib. vi. c. 11. [ED.]

very disagreeable to see several of the uppermost mouldings of an impost or cornice cut away perpendicularly, in order to make room for the pilaster, while the cornice or impost on each side projects considerably beyond it, as has been done at St. Peter's of the Vatican, as well as in several other buildings of Rome, and other towns of Italy. Mutilations are, on all occasions, studiously to be avoided, as being destructive of perfection, and strong indications either of inattention or ignorance in the composer.

When pilasters are placed behind columns, and very near them, they need not project above one-eighth of their diameter, or even less, excepting there should be imposts or continued cornices in the inter-pilaster; in which case what has been said above must be attended to. But if they be far behind the columns, as in porticos, porches, and peristyles, they should project one-sixth of their diameter at least; and when they are on a line with the columns, their projection is to be regulated by that of the columns, and consequently, it never can be less than a semi-diameter, even when the columns are engaged as much as possible. This extraordinary projection, however, will occasion no very great deformity, as the largest apparent breadth of the pilaster will exceed the least only in the ratio of eleven to ten, or thereabouts. But if columns be detached, the angular pilaster should always be coupled with a column, to hide its inner flank, as in the portico of Burlington-House; because the pilasters will, otherwise, appear disproportionate when seen from the point of view proper for the whole building; especially if the fabric be small, and the point of view near.

It is sometimes customary to execute pilasters without any diminution; in the antiques there are several instances

thereof, as well as of the contrary practice, and Palladio, Vignola, Inigo Jones, and many of the greatest architects, have frequently done so. Nevertheless, it is certain that diminished pilasters are, on many accounts, much preferable. Their is more variety in their form; their capitals are better proportioned, both in the whole and in their parts, particularly in the Composite and Corinthian orders; and the irregularities occasioned by the passage of the architraves, from diminished columns to undiminished pilasters, are thereby avoided; as are likewise the difficulties of regularly distributing the modillions and other parts of the entablature, either when the pilasters are alone, or accompanied with columns.

Another disagreeable effect of undiminished pilasters is likewise obviated by rejecting them. Indeed I am at a loss to account for it, and, as it is diametrically opposite to a received law in optics, I imagined it might be the result of some defect in my own sight, till by enquiry, I found others were affected in the same manner. It is this; the top of the shaft always appears broader than the bottom; as any one may observe by casting a glance on the pilasters of St. Paul's, of St. George's, Hanover Square, or any others that are not diminished. The author of *l'Esprit des Beaux Arts* accounts for a similar effect in a manner more subtle, I believe, than true. He makes it to be the result of a nice comparison between the real and the apparent distance, which, to me, seems to have little, or rather no share at all in it. An ingenious writer<sup>1</sup> of our own country observes, that the senses strongly affected in some one manner, cannot quickly change their

<sup>1</sup> See Burke's Enquiry into the Origin of our Ideas of the Sublime and Beautiful.



tenor, or adapt themselves to other things, but continue in their old channel until the strength of the first mover decays. This being admitted, it is not improbable that the capital, which is immediately above the shaft, being considerably broader and certainly the first attractive object, may have an influence on the apparent upper breadth of the shaft, and occasion the effect abovementioned. Perhaps, too, the light may in some measure contribute thereto, it being stronger at the foot of the shaft than towards its top.

The shafts of pilasters are sometimes adorned with flutings in the same manner as those of columns, the plan of which may be a trifle above a semi-circle, and they must be to the number of seven on each face, which makes them nearly of the same size with those of the columns. The interval between them must be either one-third or one-fourth of the flute in breadth, and when the pilaster is placed on the pavement, or liable to be broken by the touch of passengers, the angle may be rounded off, in the form of an astragal; between which and the adjoining flute, there must be a fillet or interval of the same size with the rest, as in the porch of the Pantheon at Rome.

The flutes may, like those of columns, be filled with cablings to one-third of their height, either plain, and shaped like an astragal, or enriched, according as the rest of the composition is simple or much adorned. Scamozzi<sup>1</sup> is of opinion that there should be no flutings on the sides of engaged pilasters, but only in front, and, whenever cornices or imposts are continued home to the pilaster, this should particularly be attended to, that the different

<sup>1</sup> “Nè mai si deono cannellare i Pilastrì ne' loro fianchi, che escono fuori delle murà.” Scamozzi, *Parte Seconda, Lib. vi. c. 11.* [ED.]

mouldings of these members by entering into the cavities of the flutes, may not be cut off in irregular and disagreeable forms. But if the flanks of the pilaster are entirely free, it may be as well to enrich them in the same manner as the front, provided the flutes can be so distributed as to have a fillet or interval adjoining to the wall; which is always necessary to mark the true shape of the pilaster distinctly.

The capitals of Tuscan or Doric pilasters are profiled in the same manner as those of the respective columns; but in the capitals of the other orders, there are some trifling differences to be observed. In the antique Ionic capital, the extraordinary projection of the ovolo makes it necessary, either to bend it inwards considerably towards the extremities, that it may pass behind the volutes, or instead of keeping the volutes flat in front, as they commonly are in the antique, to twist them outwards till they give room for the passage of the ovolo. Le Clerc<sup>1</sup> thinks the latter of these expedients, the best, and that the artifice may not be too striking, the projection of the ovolo may be considerably diminished, as in the annexed design<sup>2</sup>, which, as the moulding can be seen in front only, will occasion no disagreeable effect.

The same difficulty subsists with regard to the passage of the ovolo behind the angular Ionic volutes. Le Clerc<sup>3</sup>, therefore, advises to open or spread the volutes sufficiently to leave room for the ovolo to pass behind them, as in the design<sup>4</sup> annexed; which may easily be done, if

<sup>1</sup> *Traité d'Architecture*, Section troisième.

[ED].

<sup>2</sup> Pl. of Pilasters, fig. 2.

<sup>3</sup> *Traité d'Architecture*, Section troisième.

[ED].

<sup>4</sup> Pl. of Pilasters, fig. 1.

the projection of the ovolo is diminished. Inigo Jones has, in the Banqueting House, made the two sides of the volutes parallel to each other, according to Scamozzi's manner, and at the same time has continued the ovolo in a straight line under them; so that the volutes have an enormous projection, which, added to the other faults of these capitals, renders the whole composition unusually defective and exceedingly ugly.

What has been said with regard to the passage of the ovolo behind the volutes in the Ionic order, is likewise to be remembered in the Composite; and in the Corinthian the lip or edge of the vase or basket may be bent a little inwards towards its extremities, by which means it will easily pass behind the volutes. The leaves in the Corinthian and Composite capitals must not project beyond the top of the shaft, as they do at St. Carlo in the Corso at Rome, and at the Banqueting-House, Whitehall; but the diameter of the capital must be exactly the same as that of the top of the shaft. And to make out the thickness of the small bottom leaves, their edges may be bent a trifle outwards, and the large angular leaves may be directed inwards, in their approach towards them, as in the annexed design<sup>1</sup>, and as they are executed in the church of the Roman College at Rome. Where the small leaves have a considerable thickness, though the diameter of the capital is exactly the same as that of the shaft, in each front of the Composite or Corinthian pilaster-capital, there must be two small leaves, with one entire and two half large ones. They must be either of olive, acanthus, parsley, or laurel, massed, divided, and wrought in

<sup>1</sup> Pl. of Pilasters, fig. 3.

the same manner as those of the columns are, the only difference being that they will be somewhat broader.

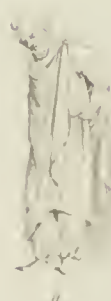
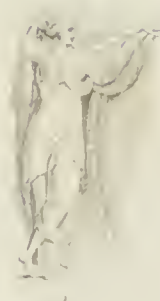
The employing half, or other parts of pilasters that meet, and, as it were, penetrate each other in inward or outward angles, should, as much as possible, be avoided, because it generally occasions several irregularities in the entablatures, and sometimes in the capitals also. Particular care must be taken never to introduce more than one of these breaks in the same place, for more can never be necessary. In many of the churches at Rome, we see half a dozen of them together, which produces a long series of undulated capitals and bases and a number of mutilated parts in the entablature, than which nothing can be more confused or disagreeable.

Instead of pilasters, it is sometimes customary to employ columns that penetrate each other in the inward angle. There are several instances of this at Paris, particularly about the Louvre, but it is a practice universally condemned, and the bad effect thereof may be seen on the front of the Royal Exchange towards Cornhill, and within the Banqueting-House at Whitehall.





*Persians and Caryatides.*



## OF PERSIANS AND CARYATIDES.

BESIDES columns and pilasters, it is sometimes customary to employ representations of the human figure, to support entablatures in buildings. The male figures are called Persians, Telamones, or Atlantides, and the females Caryans or Caryatides. The origin of this custom, Vitruvius<sup>1</sup> tells us, is as follows.

The inhabitants of Carya, a city of the Peloponnesus, having joined the Persians in a war against the rest of the Greeks, and that war being terminated by the defeat of the Persians, the Greeks commenced hostilities against the Caryates, took their city, demolished it, and putting all the males to the sword, carried the females into captivity; and to treat them with still greater ignominy, they forbade the ladies to divest themselves of their robes, or any of their ornaments; that so, they might not only be once led in triumph, but in a manner suffer the mortification of a triumph all their lives after, by appearing constantly in the same dress as on the triumphal day. And further, as an everlasting testimony of the punishment inflicted on the Caryates, and to inform posterity what had been the nature of their chastisement; the architects of that time, instead of columns, employed the representations of these women, to support the entablatures of their public buildings.

The Lacedæmonians did the same thing after the battle of Platea, erecting with the spoils taken from the enemy

<sup>1</sup> Lib. i. cap. 1.

- a gallery, which they called Persian ; wherein statues, in the form of captive Persians, with their usual dresses, supported the arches, intending thereby to punish that nation in such a manner, as its pride had merited, and to leave posterity a monument of the valour and victories of the Lacedæmonians.

The introduction of figures of men and animals to support burthens in buildings or otherwise, had certainly an earlier origin than that ascribed to it by Vitruvius. It seems to have been a very early and favourite idea among several people of the remotest antiquity. Homer mentions the practice in the seventh book of the *Odyssey*<sup>1</sup>, and I think, in one or more other places of his poems. Hiram's molten sea<sup>2</sup>, was supported by twelve bulls, and on the walls of the oracle he placed alternate cherubim and palm trees, supporting wreaths of flowers, and probably the cieling. In the sepulchre of King Osymandyas, which, as Diodorus Siculus relates, was ten furlongs in circuit ; there was a stone hall, forming a space of four hundred feet every way, of which the roof instead of pillars was supported by animals, each of a single stone, and twenty-four feet high, being carved in the ancient Egyptian manner. The roof was also entirely of stone, composed

<sup>1</sup> Χρῦσται δ' ἄρα κῆροι ἑὺδμήτων ἐπὶ βαμῶν  
 ἔστασαν, αἰδομένας δαίδας μετὰ χερσὶν ἔχοντες  
 φαίνοντες νύκτας κατὰ δώματα δαιτυμόνεσσι.

*Odys.* H. v. 100. [ED.]

<sup>2</sup> “ And he made a molten sea, ten cubits from the one brim to the other ; it was round all about, and his height was five cubits, and a line of thirty cubits did compass it round about. It stood upon twelve oxen, three looking towards the north, and three looking towards the west, and three looking towards the south, and three looking towards the east : and the sea was set above upon them, and all their hinder parts were inward.”—  
 1 Kings, vii. 23, 25. [ED.]

of stones twelve feet square ; the whole being coloured to represent an azure sky, bespangled with stars. Of the number or natures of these animals, nothing is said ; but if the whole space was covered, more than one thousand would have been requisite to support the roof, and more than a thousand stones to form it. In several Indian buildings too, supposed to be of great antiquity, may be observed figures of men and animals supporting the roofs, after the manner described in the sepulchre of Osymandyas ; particularly in that cut in the solid rock near Bombay, usually called the Elephanta<sup>1</sup>.

Among the antiquities at Rome, there are various fragments of male figures, which, from their attitudes, and some ornaments about them, may be conjectured to have served as supports to the entablatures of buildings : but there are no remains of any female statues of that kind, excepting the three Graces supporting an urn, in the Villa Borghese. Pliny<sup>2</sup> makes mention of some by the hand of Praxiteles, which in his time, were in the library of Asinius Pollio at Rome ; and of other female figures in the Pantheon, where, although the structure was enriched with several works of Diogenes the Athenian, they were held in much esteem : they seem to have been cut in

<sup>1</sup> For an account of the origin of the use of Caryatides, see the "Examination of the Elements of Beauty in Grecian Architecture, with a brief Investigation of its Origin, Progress, and Perfection," prefixed to this edition page 53.

[ED.]

<sup>2</sup> "Romæ Praxitelis opera sunt, Flora, Triptolemus, Ceres in hortis Servilii : Boni Eventus, et Bonæ Fortunæ simulachra in Capitolio : item et Mænades, et quas Thyadas vocant, et *Caryatidas* : et Sileni, in Pollionis Asinii monumentis, et Apollo et Neptunus."—Plin. Lib. xxxvi. cap. 4. Our author has made, therefore, a mistake in the ownership of the Caryatides here mentioned by Pliny.

[ED.]

basso or alto relievo, to have been placed over the columns, and were probably, as Fontana conjectures, employed to adorn the Attic, and support its cornice.

Among the antiquities of Athens, published by Mr. Le Roy<sup>1</sup>, there are five Caryatides supporting an entablature, contiguous to the temple of Erectheus. They bear a considerable resemblance to those celebrated ones of Jean Gougeon<sup>2</sup>, in the Swiss Guard Room of the Louvre at Paris; of one of which, there is a representation, fig. 8, plate of Caryatides. Speaking of these figures, Monsieur Le Roy expresses himself in the following manner. "The history of the Caryatic order, says he, is so curious, that almost all authors have quoted it; but though we are well informed of its origin, yet we have hitherto learnt nothing of the proportions observed therein by the ancients. Vitruvius is silent upon the subject, there is no monument of that order at Rome, and the only ancient example perhaps, existing in Europe, which is that here given, has hitherto remained unnoticed. The four figures standing in front, resemble each other entirely, excepting, that the two to the right have the right leg foremost, and the two to the left, the left leg; in order to symmetrise more perfectly. They are crowned with capitals, upon which is placed the entablature, remarkable by a suppression of the frieze, a peculiarity which the ancients, perhaps, usually practised to characterize this order.

"The general mass of the entablature is very high; it exceeds a third of the height of the figures, and it would

<sup>1</sup> Of course the reader would not refer to Le Roy's book if he wished to see an approximation to a likeness. Fortunately for this country, one of these statues is at the British Museum. Representations of them are to be found in the antiquities of Athens, by Stuart and Revett. [ED.]

<sup>2</sup> See note *suprà*, page 224. [ED.]



be difficult to ascribe a reason for this excess, were it not considered that a full dressed woman, which these represent, forms a shape more in the proportion of a very short Doric column, than of an elegant Ionic one; which probably induced the architect to enlarge his entablature, to prevent its appearing too slight for the figures. Be this as it may, the profile of the entablature is very perfect. The dentils in the cornice shew it to be Ionic, and there are on the upper fascia, an ornament consisting of little rounds, like nail heads, which has not been introduced in any of the other orders.

“ But that which is most excellent in this building, is doubtless the Caryatides themselves. There are now only five left of the six originally there; they are of a beautiful design, with drapery in the style of that of the Flora in the Farnesian Palace at Rome.”

I perfectly agree with M. Le Roy as to the beauty of the figures, but whatever might have been the architect's inducement to enlarge his entablature, he certainly has done it to a monstrous excess; it seems calculated to crush the figures to atoms, and all that, in my humble idea, can either be said of the profile of the cornice, or the clumsy capitals on which the entablature stands, is, that far from deserving to be admired, they would scarcely be tolerated any where but in a traveller's book; and it seems very extraordinary that Monsieur Le Roy, who is himself a man of excellent taste, should applaud what in his own judgment he must condemn.

Jean Gougeon, in his beautiful composition at the Louvre abovementioned, has far surpassed this Greek specimen of the Caryatic order. His figures, which are twelve feet high, and of exquisite workmanship, stand on

bases one sixth of that height ; on their heads are capitals of the Doric order, of which the shape and proportion serve to decorate, but not to overload the head ; the capitals support a tribune, forming the entablature, which consists of architrave, frize, and cornice. It is richly decorated of the Ionic order, and measures one quarter of the height of the figures, including the bases on which they stand. By introducing these bases, the sculptor has artfully contrived to diminish the height, and consequently the bulk of his figures ; and by a regular division of his entablature, he has rendered it light, and at the same time that it is truly proportioned to the figures by which it is supported.

It is not customary now, as formerly, says Le Clerc<sup>1</sup>, to represent Caryatides, with attributes of slavery and servitude. Such characters are too injurious to the Fair. On the contrary, they are at present considered as the richest, most valued ornaments of buildings, and represented under the figures of Prudence, Wisdom, Justice, Temperance, &c.

Freart de Chambray<sup>2</sup> blames this practice, which he considers as the effect of inadvertency in the architects who first introduced it ; observing, that if they had sufficiently reflected on the text of Vitruvius, with regard to the origin of Caryatides, they would have perceived the impropriety of employing the representations of saints and angels, loaded like slaves, with cornices and other heavy burdens ; and likewise, that of employing the Caryatic order promiscuously, in all sorts of buildings, particularly

<sup>1</sup> *Traité de l'Architecture*, sect. 4.

[ED.]

<sup>2</sup> *Parallèle*.

[ED.]

in sacred structures, which are the houses of God, and asylums of mercy, where vengeance and slavery ought never to appear.

On the other hand Blondel observes<sup>1</sup>, that though this remark be just, if the origin of these ornaments be rigorously attended to; yet to serve in any shape in the house of God, and in particular at the altar, has always appeared in the minds of the prophets and saints so glorious and great, that not only men, but angels ought to esteem it a happiness; and that consequently it can be no indication of disrespect, to employ their representations, in offices which they themselves would execute with pleasure.

The ancients, says the same author, made frequent use of Caryatic and Persian figures, and delighted in diversifying them in a thousand manners. The modern artists have followed their example, and there is a great variety of compositions of this kind to be met with in different parts of Europe; of some of which, designs are exhibited in the annexed plate, and others may be invented and adapted to different purposes with great propriety, provided the figures introduced be analogous to the subject, as Mr. Ware<sup>2</sup> observes; and seem at least a necessary part in the composition. Thus, says Le Clerc<sup>3</sup>, if they

<sup>1</sup> Cours D'Architecture, Livre viii. c. 7, Seconde Partie. Latterly the daughters of Pandrosus have been copied with great accuracy, and employed moreover as *appliquées* to a Christian Church in the Metropolis. They have found admirers, even so exhibited. [ED.]

<sup>2</sup> Isaac Ware, Esquire, of his Majesty's Board of Works, the author of a book entitled "A Complete Body of Architecture," fol. London, 1756, a work of sterling merit, which, strange to say, seems little sought after in the present day. It relates to the practical, as well as the theoretical and decorative, part of the art, and there is no doubt, was of infinite service to our author in his compilation of the work now before the reader. Mr. Ware translated the Works of Palladio. Folio, London, s. a. [ED.]

<sup>3</sup> Traité de l'Architecture. [ED.]

are employed to support the covering of a throne, they may be represented under the figures and symbols of heroic virtues ; if to adorn a sacred building, they must have an affinity to religion, and when they are placed in banquetting rooms, ball rooms, or other apartments of recreation, they must be of kinds proper to inspire mirth and promote festivity.

In composing them, particular care must be taken to avoid indecent attitudes, distorted features, and all kinds of monstrous or horrid productions, of which there are such frequent instances in the works of our northern predecessors. On the contrary, the attitudes must be simple and graceful ; the countenances, though varied, always pleasing, and strongly marked with the expression peculiar to the occasion, or the object represented. There must be no variety in the general form or outline, of the different figures employed in the same composition, and but little flutter in the draperies, which ought to sit close to the bodies of the figures, with folds contrived to express distinctly, both their action and shape. Le Clerc observes, that they should always have their legs close together, and the arms close to the body or head, that so they may have, as much as possible, the shape of columns, whose office they are to perform<sup>1</sup> ; and it may be added, that for the same reason, their attitudes should be as nearly perpendicular as can conveniently be, without giving a stiff constrained air to the figures.

The same author observes, that Caryatides ought always to be of a moderate size ; lest, being too large, they should appear hideous in the eyes of the fair sex ; and indeed, as these figures are generally represented in endearing

<sup>1</sup> *Traité de l'Architecture*. Ware also gives the same advice. [ED.]

offices, and under the forms of amiable and benevolent beings, the caution seems very proper. It will therefore be judicious never to make them much larger than the human stature.

But male figures may, on the contrary, be of any size, the larger the better; as they will then be fitter to strike with awe and astonishment. There are few nobler thoughts, in the remains of antiquity, than Inigo Jones's <sup>1</sup> Persian Court; the effect of which, if properly executed, would have been surprising and great in the highest degree.

Male figures may be introduced with propriety in arsenals or galleries of armour, in guard rooms, and other military places, where they should represent the figures of captives, or else of martial virtues; such as Strength, Valour, Wisdom, Prudence, Fortitude, and the like. Their entablature must be Doric, and bear the same proportion to them, as to columns of the same height; and the proper entablatures for Caryatides will be either Ionic or Corinthian, according as the character of the figures is more or less delicate.

Persian or Caryatic figures ought never to be employed

<sup>1</sup> In the design for the great palace at Whitehall. The court in question was proposed to be a circle whose diameter was 210 feet, bounded on the ground story by an open arcade, the piers between the arches of which were decorated by Persians on plinths, carrying an appropriate entablature. The upper story, which extended over the void created by the arcade below, was ornamented between the windows with Caryatides, with capitals on their heads of the Corinthian order, carrying an entablature of that order, the whole surmounted by a balustrade. An architect may be permitted to regret the hypocritical and puritanical vagaries of those days, that led to a frustration of the design of building a palace here, which would have thrown all the present palaces of Europe into the back ground. See Inigo Jones's Designs, published by Kent, fol. 1727. [ED.]



to support the same entablature with columns ; for figures of men or women, as high as columns, are considerably more bulky ; and when they are of an uncommon size, convey an idea of greatness, that entirely destroys the effect of the columns, by making them appear very trifling. Neither should they be placed upon columns, as they are in the court of the Old Louvre at Paris, for the same reasons.

Palladio, sensible of this inconvenience, yet willing to introduce a specimen of Persian figures, has in the Valmarana Palace at Vicenza, divided the large Composite pilasters which decorate the front, into five parts ; three of which he has given to a diminutive Corinthian order, squeezed into the inter-pilasters, and feebly sustaining the extremities of the fabric, while the remaining two parts are at the angles, occupied by figures on pedestals, as diminutive as the aforesaid Corinthian order, and introduced with as little propriety, more especially as they are made to support the ends of an enormous bulky Composite entablature, of which the height surpasses two-thirds of that of the figures themselves.

It is sometimes customary to employ Terms, instead of Caryatides or Persians, to support the entablatures of gates, monuments, chimney-pieces, and such like compositions. These figures owe their origin to the stones used by the ancients to mark the limits of each particular person's possessions. Numa Pompilius, to render these inviolable, and prevent encroachments, erected the Terminus into a deity, instituted festivals and sacrifices to his honour, and built a temple on the Tarpeian Mount, which he dedicated to him, and in which he was represented under the figure of a stone.

In process of time, however, the God Terminus was represented with a human head, placed on a post or stone, shaped like an inverted obelisk ; which being on particular solemnities adorned with garlands, composed altogether a very pleasing form ; to the imitation of which, may with great probability be attributed the introduction of these ornaments into building, where they have been varied into a great diversity of shapes. I have occasionally, in the course of this work, given some designs of them ; and many others may be invented, and adapted to the particular purposes for which they shall be intended.

In consideration of their origin, the Termini are proper ornaments in gardens and in fields, where the upper part of them may represent Jupiter, who, in the remoter ages of antiquity, was protector of boundaries ; or some of the rural deities, as Pan, Flora, Pomona, Vertumnus, Ceres, Priapus, Faunus, Sylvanus, Nymphs and Satyrs. Mr. Ware<sup>1</sup> recommends the use of them as boundaries to counties, where they may be enriched with ornaments allusive to the produce, manufacture, and commerce of each respective county.

The three first figures in the annexed plate of Persians and Caryatides, are copied from Candelabra, in St. Peter's of the Vatican. They are cast from models of Michael Angelo Buonaroti, and repaired either by himself or doubtless under his direction, for the workmanship is very perfect. Figure 2 may be employed in buildings, but the others are more proper for the angles of covered ceilings, or other such ornamental works, being not unlike some introduced by the Caracci, in the Farne-

<sup>1</sup> In his "Complete Body of Architecture," page 250. [ED.]

sian ceilings at Rome. No. 4 is a copy of one of the figures that surround the choir in the cathedral of Milan, which are the work of Andrea Biffi, a celebrated Milanese sculptor. No. 5 is executed in the Judgment-Hall of the Stadt-House of Amsterdam, by Artus Quellinus. No. 6 is an admired work of Michael Angelo, now in the Villa Ludovisi at Rome. No. 7 is in part by the same hand, and executed from the waist upwards, in the monument of Pope Julius the Second, in the church of St. Peter ad Vincula<sup>1</sup>, at Rome. No. 8 is one of those executed by Jean Gougeon, in the Swiss Guard-Room of the Old-Louvre, at Paris, as has before been mentioned. No. 9 and 10 are taken from paintings of Daniel da Volterra, in the church of the Trinità dei Monti, at Rome. No. 11 is a figure in basso rilievo, on the Goldsmiths' arch at Rome; and No. 12 is copied from an original design of Polidoro da Caravaggio, now in my possession.

<sup>1</sup> Originally built by Baccio Pintelli, by order of Julius II. but altered to its present state by Francesco Fontana, in 1705. [ED.]













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